NOTE TO USERS

DO EMPLOYEE STOCK OPTIONS ENCOURAGE CORPORATE TAX SHELTERS?

Courtney H. Edwards

A dissertation submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements of the degree of Doctor of Philosophy in the Department of Accounting.

Chapel Hill
2005

Approved by

Chairman: Douglas A. Shackelford

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ABSTRACT

COURTNEY H. EDWARDS: Do Employee Stock Options Encourage Corporate Tax Shelters?
(Under the direction of Douglas A. Shackelford)

Using a sample of companies that have invested in bank-owned life insurance ("BOLI"), this paper documents a positive relation between BOLI and the portion of managers' compensation comprised of employee stock options. Using BOLI as a proxy for the overall tax sheltering activity of the sample firms, the results suggest that stock options generally encourage managers to invest in corporate tax shelters. Further, motivated by recent theoretical analysis, the paper considers whether the relation between options and tax shelters is dependent upon the underlying governance characteristics of the sample companies. After segregating the sample based on various measures of governance quality, the results consistently fail to support a statistically significant difference in the relation between options and BOLI for well-governed firms, relative to poorly-governed firms.

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CHAPTER 1

INTRODUCTION

It is widely believed that the nineties were stage to unprecedented growth in corporate tax shelter activity.[1] In 1999, the Treasury Department published a "white paper" attempting to document and quantify this growth by reference to the widening gap between net income reported in the financial statements ("book income") and income reported to the tax authorities ("tax income") and the accompanying decline in corporate tax receipts. Years later, however, commentators acknowledge that "[t]here remains a large and unresolved debate over just how large and significant these types of generally hidden transactions have become."[2] Part of the problem is that shelters are not only difficult to define, they are equally difficult to identify and to quantify. This makes empirical analysis challenging at best. For example, Deborah Schenk, Editor-in-Chief of *Tax Law Review*, notes that "[t]wo highly-regarded economists are unable to verify Treasury's assertion that the use of tax shelters is accelerating... [A]lthough [a distinguished group academics and practitioners] appear to concur that there is a problem and [that] it is caused by something labeled a 'tax shelter,' there is no clear consensus on how to identify it when they see it."[3,4] As a result, there is a dearth of knowledge on the

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[1] See for example, Bankman (1999), Sullivan (1999a, 1999b, 2000a) and U.S. Treasury (1999), "When Shelters Aren't Aboveboard; IRS, Hill Step Up Efforts as Improper Corporate Tax Shelters Mushroom," Albert B. Crenshaw, Washington Post (Nov, 23, 1999); "The Hustling of X-Rated Shelters," Janet Novak and Laura Saunders, Forbes (Dec. 14, 1998).

[2] "Defining Tax Shelters and Tax Arbitrage," Gene Steuerle. 95 Tax Notes 1249 (May 20, 2002).

[3] 55 *Tax L. Rev.* 125 (2002).

topic of corporate tax shelters, and the goal of this paper is to contribute to our limited knowledge by exploring how employee stock options may affect managers' demand for tax shelters.

In order to achieve this goal, detailed information on an actual tax shelter transaction is used to identify sample firms. Using information from annual regulatory filings, a sample of bank holding companies ("BHCs") that have invested in bank-owned life insurance ("BOLI") is identified. As described below, while it is difficult, if not impossible, to obtain transaction-level data for most other shelters using publicly available information, banks with substantial BOLI investments are required to disclose this information on the face of their regulatory reports. As a result, BOLI data provide a unique and near ideal experimental setting for examining tax shelters.

BOLI is insurance purchased by a bank covering the lives of a group of employees, where the bank is the beneficiary of the policy. The bank pays non-deductible premiums to an insurance company, in exchange for receiving tax-exempt investment returns over the life of the policies and tax-exempt death benefits upon the death of covered employees. Although the premium payments are non-deductible, if the bank funds these premiums with debt, the interest on this debt is typically deductible. Thus, BOLI provides an opportunity for banks to generate tax-exempt earnings using tax-deductible financing, a classic tax-arbitrage strategy that can transform even a pre-tax loss into an after-tax profit.

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[4] Nonetheless, Joseph Bankman has formulated one working definition: "a tax motivated transaction unrelated to a taxpayer's normal business operations that under a literal reading of some relevant legal authority produces a loss for tax purposes in excess of any economic loss in a manner inconsistent with legislative intent or purpose" (Bankman 2004).

The effect on the bank's bottom-line earnings is reportedly substantial. According to an employee benefits consulting publication, "BOLI is providing double-digit tax rate reductions for many banks that have aggressively adopted BOLI programs."[5] This tax-planning opportunity apparently has not gone unnoticed by banks. One BOLI broker indicated that 90 percent of all large banks, and 60 percent of all community banks, owned BOLI in 2004. As discussed in Appendix A, data limitations make it impossible to confirm this assertion directly. However, regulatory reports indicate that *at least* 34 percent of all BHCs owned BOLI in one or more years from 1994 to 2004, and that the incidence of BOLI rose steadily throughout this period -- from 2.4 percent of all BHCs in 1994, to 41 percent in 2004. Moreover, the average BOLI investment increased steadily over this same period. In 1994, BHCs that invested in BOLI held BOLI assets representing 1.0 percent of total assets and 4.5 percent of total securities on average. By 2004, however, the average investment in BOLI had grown to 1.7 percent of total assets and 11.5 percent of total securities. Thus, BOLI has grown in both prevalence and economic significance through time, and there is little evidence to suggest a reversal of these trends in the near future.

Although the Joint Committee on Taxation and the Office of Management and Budget have reported that BOLI will cost the Treasury between $7.3 billion and $13 billion for the period 2004 through 2008, the banking and insurance industries have repeatedly (and successfully) defended BOLI's legitimacy based on the assertion that it is used to fund rising employee benefit costs. Consequently, BOLI continues to provide Congressionally-sanctioned sheltering opportunities to banks, although remarkably

[5] "The BOLI Balance Beam," BENCHMARK (www.Benchmark.com), Spring 2001.

similar tax planning strategies inside and outside the banking industry have long since been abolished.

Using BOLI as a proxy for the overall tax sheltering activity of BHCs, this paper explores whether stock options encourage corporate tax shelters. Employee stock options are often cited as useful mechanisms for aligning the potentially divergent interests of shareholders and managers, thereby encouraging managers to make decisions that maximize shareholder wealth. As noted in Hall and Murphy (2003), options are thought to achieve this end by either focusing managers' attention on stock price and/or by encouraging managers to accept risky investments (e.g., Jensen and Meckling 1976; Smith and Stulz 1985). There is limited empirical evidence to support either of these incentive alignment propositions (e.g., Agrawal and Mandelker 1987; Rajgopal and Shevlin 2001; Ryan and Wiggins 2002; Hanlon et al. 2003, 2004).

If shareholders value the tax benefits generated from transactions such as BOLI, options may play a role in encouraging managers to invest in tax shelters (because options focus managers' attention on stock price and/or lead them to accept risky, albeit value-maximizing, investments). The incentive alignment theory therefore suggests a positive relation between stock options and shelters. Such a positive relation, in turn, supports the possibility that the well-documented growth in option compensation may have contributed to a rise in corporate tax sheltering activity throughout the 1990s.

The only empirical analysis of the relation between options and shelters to date, however, presents evidence consistent with an overall *negative* relation (Desai and Dharmapala ("DD," 2004)). DD present a theoretical justification for their seemingly counterintuitive findings, and based on this, posit that the relation between options and

shelters depends partially upon the underlying governance structure of the firm. Specifically, DD predict a more positive (or less negative) relation between options and shelters for well-governed firms relative to poorly-governed firms. Consistent with this prediction, they continue to find a significantly negative relation between options and shelters for a subset of poorly-governed firms, but find no relation between options and shelters for a subset of well-governed firms. Given this limited evidence, it remains unclear whether options encourage, discourage, or have no effect on managers' willingness to engage in tax shelters. The goal of this paper is to provide additional insight into this issue.

The univariate results indicate that BHCs that invested in BOLI at some point during the sample period (i.e., "BOLI BHCs") do not differ significantly from other BHCs in terms of size (as measured by total assets), leverage (as measured by debt over total assets), or profitability (as measured by earnings before tax over total assets). In addition, BOLI BHCs do not appear to compensate their managers more heavily using stock options relative to other BHCs. On the other hand, BOLI BHCs generate a smaller portion of their income from foreign sources and are characterized by significantly *lower* per-employee compensation and benefit costs. Motivated by this latter finding, additional multivariate analysis indicates an insignificant relation between BOLI use and compensation costs among BOLI BHCs. Although not conclusive, these results are noteworthy in light of industry claims that BOLI enables BHCs to fund additional employee benefit expenditures.

Initial multivariate tests assume linearity and indicate an insignificant relation between stock option compensation and BOLI investment. However, when a non-linear

specification is considered (i.e., when a squared option variable is included as an additional independent variable), the results indicate a positive and significant relation between stock option compensation and BOLI investment. Thus, consistent with the incentive alignment theory, options appear to encourage managers to engage in BOLI, albeit at a decreasing rate. Moreover, to the extent that BOLI effectively serves as a proxy for banks' overall willingness to engage in sheltering activity, the results more generally indicate that options encourage managers to engage in tax shelters. Although this result is at odds with DD's evidence of a negative overall relation between options and shelters, the analysis has yet to consider DD's theoretical prediction that governance affects the relation between options and BOLI.

To more explicitly test DD's theory, BHCs are categorized as either well-governed or poorly-governed based on values of G from the Gompers, Ishii and Metrick (2003) database. Initial findings continue to support a significantly positive relation between options and shelters, but indicate an insignificant difference in this relation based on governance quality. Moreover, a battery of sensitivity tests are likewise unable to support a significant role for governance in the relation between options and shelters in this setting. This conclusion is counter to DD's, and as a result, the question of how governance may affect managers' willingness to engage in tax shelters in response to option incentives remains an issue for future research.

This paper contributes to the literature for a number of important reasons. First, it is one of only two papers to measure tax shelters using an actual transaction, and is the first paper to identify a relatively large sample of shelter-users with such transaction-level

data.[6] Second, it presents evidence *in*consistent with assertions by BOLI proponents that BOLI is used to fund additional employee benefits, and thus may have important policy implications. Third, it is the first paper to document a positive link between stock options and shelters, a result that supports a possible connection between the presumed simultaneous growth in options and shelters throughout the 1990s. Finally, it provides evidence relevant to a nascent theory linking incentive compensation, sheltering, and corporate governance, and thus provides additional insights into the aggressive tax behavior of corporations.

The paper is organized as follows: Chapter 2 reviews the relevant literature and develops the hypotheses; Chapter 3 describes BOLI in more detail; Chapter 4 discusses the overall prevalence and magnitude of BOLI; Chapter 5 presents the empirical analysis; Chapter 6 concludes the paper.

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[6] Graham and Tucker (2005) use court documents to gather detailed data on 44 disputed transactions, including 16 transfer pricing disputes that were litigated by taxpayers during a 40-year period. In contrast, this paper identifies at least 1,034 BHCs that invested in BOLI during an 11-year period.

CHAPTER 2

HYPOTHESIS DEVELOPMENT

The corporate tax shelter literature is relatively sparse and originated with attempts to document the magnitude of shelter growth over the past decade. In one of the early papers, Desai (2002) uses macro-level data to assess the potential causes of the growing gap between book and tax income. His findings suggest that increases in option compensation account for a large portion of the gap, but that a growing separation between book and tax income remains consistent with an increase in shelter use. Manzon and Plesko (2002) compute the spread between book and tax income for a broad sample of firms and find that although the size of the spread has grown over time, the ability of a set of independent variables to explain it has not changed. The authors interpret this as *in*consistent with a significant growth in tax sheltering activity over the sample period. Despite these incongruent results, the general consensus remains that shelters experienced tremendous growth throughout the 1990s.[7]

During this same period, a well-documented rise in the prevalence and magnitude of stock option compensation was noted. For example, Sullivan (2002) estimates that corporate tax savings from stock options increased from $12 billion, in 1997, to $56 billion in 2000. Consistent with this, Desai (2002) estimates that the value of option grants (exercises) for companies included in the Execucomp database increased from $8.7 billion ($14 billion), in 1992, to $199 billion ($106 billion) in 2000. While

[7] For example, see footnote 1.

simultaneous growth in shelters and options alone does not imply a causal relation, it does invite inquiries into possible links.

Agency theory provides one possible link. Starting with Jensen and Meckling (1976), agency theory suggests that equity-based compensation ties managers' wealth to share price, and therefore helps align manager and shareholder interests.[8] Consistent with this, Hanlon, Rajgopal and Shevlin (2003) find that the value of stock option grants to firms' top five executives is positively and significantly associated with future operating earnings.

Similarly, Smith and Shultz (1985) posit that options align manager and shareholder interests by encouraging risk-averse managers to undertake risky projects on behalf of risk-neutral shareholders. Recent empirical studies document results consistent with this proposition. For example, Hanlon, Rajgopal and Shevlin (2004) find a positive association between stock return volatility (their measure of manager risk-taking) and option risk-incentives. Similarly, Rajgopal and Shevlin (2002) find evidence that options incentivize managers of oil and gas companies to engage in risky exploration activities. Furthermore, Ryan and Wiggins (2002) find a positive relation between R&D investment activity and option compensation, while Nam, Ottoo and Thornton (2003) find that firms with higher option risk-incentives have higher leverage ratios and invest more heavily in R&D.

[8] Note that, in order for incentive compensation to be relevant in this setting, managers and shareholders must have divergent interests with respect to the decision to invest in tax shelters. These divergent interests could stem from additional costs that the manager alone must bear. For example, where substantial planning and effort are involved in putting a shelter into place and/or where managers fear job and/or reputation loss if the shelter is exposed as illegal (or as merely unsavory), managers may need additional incentives to engage in these transactions. In this setting, options may provide this additional incentive.

Regardless of whether options focus managers' attention on stock price and/or encourage managers to invest in risky projects, if shareholders value the tax benefits associated with tax shelters, then the incentive alignment theory above suggests a positive relation between stock options and sheltering.[9] DD specifically examine the relation between incentive compensation and tax shelters by developing a model that links the two activities. According to their model, managers reap the benefits of improved earnings performance based on the extent to which their compensation is comprised of incentive compensation (e.g., option compensation). Consistent with the agency theory reviewed above, under certain conditions an increase in option compensation should lead to an increase in sheltering activity, as managers strive to decrease taxes, improve earnings, and enhance manager and shareholder wealth.[10] Hypothesis 1 summarizes this "incentive alignment" effect as follows:

Hypothesis 1: An increase in stock option compensation leads to a corresponding increase in tax sheltering activity.

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[9] This paper assumes that, *ceteris paribus,* shareholders place a positive value of the tax savings from tax shelters. Alternatively, shareholders may view shelters as nefarious, inappropriate, and/or potentially illegal investment opportunities. From this perspective, if shelters are sufficiently hidden in the financial statements, options may encourage managers to seek the tax benefits of tax shelters because options *fixate* managers' attention on stock price and/or lead them to accept *excessively* risky investments (see Hall and Murphy 2003). Thus, a positive relation between options and shelters is consistent with either of these two shareholder views of shelters.

[10] Consistent with the assumption that shareholders value the tax benefits associated with tax shelters, Desai and Dharmapala (2005) find a positive relation between Tobin's q (their measure of firm value) and a shelter proxy, but only for well-governed firms. The authors interpret these results as consistent with shareholders of poorly-governed firms recognizing that sheltering increases diversion opportunities and therefore discount the otherwise positive value assigned to tax shelters.

DD's empirical evidence, however, supports a *negative* relation between options and shelters, stemming from an interaction between tax sheltering and corporate governance as originally modeled in Desai, Dyck and Zingales ("DDZ," 2003).[11,12] A key assumption in the DDZ model is that tax shelters give rise to opaque financial structures, which diminishes outsiders' ability to control insiders, and which in turn facilitates misappropriation (i.e., rent diversion) by managers. Stated more generally, DDZ posit that increases (decreases) in sheltering make diversion less (more) costly, which leads to a complementary relation between sheltering and diversion.[13]

DD also model managers' sheltering and diversion choices in response to increases in incentive compensation. As noted earlier, DD expect incentive compensation and shelters to be positively related when certain conditions hold, particularly in the absence of a complementary relation between diversion and sheltering.

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[11] The possibility of a negative relation between stock options and shelters is also suggested by Graham, Lang and Shackelford (2003), who find that option-intensive firms (i.e., the NASDAQ 100) appear to substitute the tax benefits of debt with those of stock options. Graham and Tucker (2005) similarly find that firms appear to trade-off the tax benefits of debt and tax shelters. By extension, it is possible that firms also trade-off the benefits of stock options with those of tax shelters. However, this possibility is not considered given the unlikelihood that the average BHC is facing tax benefit exhaustion. For example, the average effective tax rate ("ETR," defined as tax provision over earnings before tax) for the sample of BHCs (See Tables 1 and 4) is 34 percent, thus indicating that this group of companies may face a relatively heavy tax burden. Additionally, the overall tax benefit from stock options appears to be relatively insignificant in the banking industry. Of the three banks included in Graham, Lang and Shackelford's sample (none of which were in the option-intensive NASDAQ 100 sample), the ratio of estimated stock option deduction to earnings before tax was between 1 percent and 3 percent, as compared to an average of 20 percent for the S&P 100 overall. Consistent with this, Todd Davenport reports that expensing options will reduce the typical large bank's earnings per share by 3 percent, as compared to 7 percent for an average S&P 500 company. (*American Banker*; April 16, 2004.)

[12] In addition, Himmelberg, Hubbard and Palia (1999), using pre-1990s data, are unable to document the positive link between managerial equity ownership and firm performance hypothesized by Jensen and Meckling (1976). Also using pre-1990s data, Houston and James (1995) do not find a relation between risk-taking and equity-based compensation within the banking industry.

[13] For example, DDZ describe managers of a Russian oil company that used third-party intermediaries to channel profits to separate offshore entities that the managers personally owned, thus diverting company resources, while at the same time "sheltering" profits from Russian tax. In addition, DDZ anecdotally point to recent indictments of executives at Tyco and Enron, situations in which the use of tax sheltering vehicles may have enabled managers to profit personally.

If sheltering and diversion are complementary, they reason, then as incentive compensation drives managers to divert less, there should be an accompanying *decline* in sheltering activity, an indirect effect that offsets, and potentially overwhelms, the otherwise positive relation between incentive compensation and shelters. The authors posit that this offset will be more pronounced for firms characterized by higher initial levels of rent diversion (i.e., poorly-governed firms).

In other words, if managers are given more stock options, they will be more inclined to maximize earnings and share price. One way they can do this is by diverting (i.e., "stealing") less from the firm. Another way is by sheltering more. If there is no relation between stealing and sheltering, then increases in options should lead to both a decrease in stealing and an increase in sheltering. If, however, stealing less makes sheltering more costly, increases in options should simultaneously encourage managers to shelter, in order to maximize after-tax earnings (the "direct effect"), as well as discourage managers from sheltering, as shelters become more costly (the "indirect effect"). This suggests an ambiguous overall relation between options and shelters because it is unclear which of these two opposing effects will dominate. According to DD, however, the negative indirect effect should be more pronounced for firms with higher initial levels of stealing than for those with lower levels. Since managers of poorly-governed firms presumably have more opportunities to steal than do managers of well-governed firms, DD expect the indirect effect to be more pronounced for poorly-governed firms. As a result, they predict a more positive (or less negative) relation between options and sheltering for well-governed firms than for poorly-governed firms.

DD's initial empirical results indicate an overall *negative* relation between options and tax shelters, which suggests that the negative indirect effect overwhelms the positive direct effect options have on sheltering. As further evidence, DD divide their sample into two groups based on governance quality and find a significantly negative relation between options and sheltering for the subset of poorly-governed firms, but an insignificant relation for the subset of well-governed firms. Thus, consistent with their predictions, the relation between options and shelters is *less negative* for well-governed firms than for poorly-governed firms. Although further analysis suggests that this difference is insignificant, they interpret these results as support for the existence of a complementary relation between sheltering and diversion. This analysis compels Hypothesis 2 (a restatement of DD's primary hypothesis) below:

Hypothesis 2: An increase in stock option compensation has a more positive (less negative) effect on the tax sheltering activity of well-governed firms than it does on the tax sheltering activity of poorly-governed firms.

CHAPTER 3

BANK-OWNED LIFE INSURANCE

This paper departs from prior research by employing a tax shelter measure based on an actual, disclosed transaction: bank-owned life insurance ("BOLI"). In order to describe BOLI, it is useful to first describe the more general, corporate-owned life insurance ("COLI"). COLI, in its most basic form, is insurance purchased by a company on the lives of employees, where the company, and not the employee, is the beneficiary of the policy. COLI has its roots in keyman life insurance, which companies have used for decades as protection against the untimely loss of a top executive. COLI is considered permanent life insurance, meaning that it includes a term insurance element (which provides for a specific benefit to be paid upon death of the insured) and an investment component (often referred to as cash surrender value ("CSV")). Over the life of the COLI policy, the insurance company credits the CSV with a percentage return. Upon the death of an insured individual (i.e., the employee), the beneficiary (i.e., the company) collects the death benefits along with the accumulated CSV associated with the policy (i.e., "inside build-up"). Both the death benefits and the inside build-up of CSV are excluded from the beneficiary's taxable income if the policy is held until the death of the insured. However, the company may access the policy's CSV during the insured's lifetime without triggering immediate taxation by borrowing against the policy.

Prior to the Tax Reform Act of 1986 ("TRA86"), interest on loans against insurance policies was fully deductible. Thus, companies were able to generate tax-

exempt income using tax-deductible financing -- a simple tax arbitrage that generated profits because of a lack of symmetrical tax treatment.[14]

In response to perceived abuse involving the excessive leveraging of COLI policies, TRA86 disallowed interest deductions to the extent that the loans exceeded $50,000 per insured. Coincident with the enactment of TRA86, states were loosening their definitions of "insurable interest," for purposes of determining whom a company could insure, to include employees other than "key" persons. The confluence of the loosening of state insurance regulations and the tightening of the deductibility of interest spawned a new, broad-based leveraged COLI ("BBLCOLI"), which maximized corporate interest deductions despite the $50,000 loan limitation, by expanding the number of employees covered.[15] Some companies took this concept to the extreme, by insuring every employee, full- and part-time, and by maintaining the coverage even after the employee had left the company.[16]

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[14] FASB Technical Bulletin No. 85-4 governs the financial reporting treatment for purchases of life insurance and requires companies to report CSV, net of any outstanding loans, as an "other asset." In addition, the return on CSV (i.e., the inside build-in for the current period), net of premiums expense, is recorded as income or expense. FAS 109 details the calculation of the tax provision for financial reporting purposes and indicates that the excess of CSV over premiums paid gives rise to a permanent difference if the policy is expected to be held until the death of the insured.

[15] It is important to note that although this paper makes a special point to distinguish BBLCOLI from COLI, almost all references to COLI in the business press and elsewhere refer to some variation of the BBLCOLI described herein.

[16] BBLCOLI has often been referred to as "janitors'" or "dead peasants'" insurance and was the subject of a series of *Wall Street Journal* articles demonizing its use. See, e.g., "Valued Employees: Worker Dies, Firm Profits – Why? – Many Companies Insure Staff, Yielding Benefits on Taxes, Bottom Line – Where to Put Dead Peasants," (April 19, 2002); "Death Benefit: How Corporations Built Finance Tool Out of Life Insurance – Firms Homed in on Tax Breaks with Coverage on the Lives of Millions of Employees – The Payout following Sept. 11," (Dec. 30, 2002); "Tax Advantages of Life Insurance Help Lift Income," (Dec. 30, 2002); "Janitors' Insurance – Profiting When Employees Die: Workers' Lives: Best Tax Break? – Insurance on Employees Will Cost Tax payers $1.9 Billion a Year in Lost Revenue, Budget Says," (Feb. 19, 2003). See also, "Better off Dead?," *U.S. News and World Report*, (May 6, 2002); "Peasant Insurance's a Corporate Sham," *The Atlanta Journal Constitution* (Jan. 30, 2003); Deal of a Lifetime: How America's Biggest Corporations are Cashing in on Your Mortality (Corporate-Owned Life Insurance)," *Newsweek* (Oct. 23, 1995).

For example, in 1993 Winn-Dixie Stores purchased life insurance from AIG on all 36,191 of its full-time employees (later increased to 55,740 full- and part-time employees insured). Winn-Dixie was required to pay annual premiums in excess of $100 million, most of which were credited toward the policies' CSV. Simultaneous with this, Winn-Dixie borrowed back the bulk of this amount from AIG, such that the net investment was relatively negligible. Each year, AIG would credit Winn-Dixie with a 10.66 percent return on its CSV (tax-exempt) and would charge Winn-Dixie interest of 11.06 percent (tax-deductible) on the outstanding loan balance. Over the projected 60-year life of the COLI investment, the cumulative net effect of these cash flows was a pretax net loss of $682 million, but an after-tax profit of more than $2 billion.[17]

In direct response to this new perceived abuse, the Health Insurance Portability and Accountability Act of 1996 ("HIPAA") included a provision that disallowed the deduction of *all* interest on loans against life insurance policies covering employees (except on a maximum of 20 "key" persons) and appears to have been the death knell for BBLCOLI.[18] Furthermore, in response to IRS challenge, the courts have denounced pre-HIPAA BBLCOLI programs, such as Winn-Dixie's, as tax-abusive transactions that lacked "economic substance," and thus have disallowed the interest deductions related to these policies as well. In sum, despite its literal adherence to the letter of then applicable law, the IRS, Congress and the courts concluded that BBLCOLI was nevertheless a tax shelter.

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[17] See *Winn-Dixie Stores Inc. v. Commissioner*, 113 T.C. 254 (1999), *aff'd* 254 F.3d 1313, (11th Cir. 2001), *cert. denied* 535 U.S. 986 (2002).

[18] BBLCOLI came to Congress' attention in 1995 when Ken Keis, Chief of Staff of the Joint Tax Committee, anonymously received a brown envelope with a list of COLI purchasers and a description of the tax-saving potential of these transactions.

In response, the insurance industry shifted its marketing focus to another version of this tax arbitrage strategy, BOLI. Bank-owned life insurance, as the name implies, is basically COLI owned by a bank. Because banks have unique access to borrowed funds (e.g., banks take deposits and borrow on the federal funds market as part of their normal operations, and enjoy subsidized borrowing rates vis-à-vis non-financial companies), they do not need to appeal to the insurance company to fund their investment in BOLI. As a consequence, banks are uniquely well-suited to take advantage of the tax arbitrage opportunities associated with BBLCOLI without running afoul of the interest disallowance rules.[19] As a result, in the midst of a precipitous decline in BBLCOLI activity, BOLI use has surged. For example, 12.2 percent of all BHCs reported total CSV of $2.5 billion in 1994. By 2004, 61 percent of all BHCs reported owning nearly $54 billion CSV. The actual prevalence and economic significance of BOLI, however, is likely far greater than these numbers suggest because banks and BHCs are not always required to disclose CSV, as discussed in Appendix A.[20]

The ability of banks to generate tax-exempt earnings with tax deductible interest from indirect borrowings is not a new concept. Prior to 1983, banks were able to fully deduct interest incurred to finance the purchase of tax-exempt obligations (generally, municipal bonds) without limitation. Beginning in 1983, however, this tax arbitrage

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[19] Consistent with this, Lee Sheppard asserts that "[t]hough corporate-owned life insurance (COLI) has been killed off by Congress and the courts, bank-owned life insurance (BOLI) is still around because financial intermediaries do not need to borrow against the policy itself to achieve arbitrage." 86 *Tax Notes* 887 (Feb. 14, 2000).

[20] Consistent with this assertion, The Todd Organization, an employee benefits consulting group comprised of Northwestern Mutual Life Insurance Company agents, states that "[m]ost of the largest financial institutions in the nation have used BOLI for many years. More recently thousands of banks and thrifts as well as community banks throughout the country have purchased BOLI to help finance benefit costs." This is likewise consistent with a statement from a BOLI broker who indicated that about 90 percent of large banks, and 60 percent of smaller banks, owned BOLI in 2004.

opportunity was restricted in stages, until the Tax Reform Act of 1986 eliminated the deduction for interest expense "allocable" to tax-exempt interest income, using a *pro rata* formula based on the ratio of tax-exempt obligations to total assets.[21] In 1998 and 1999, the Clinton Administration's budgets included proposals to apply a similar *pro rata* disallowance rule to BOLI, but these proposals never made it into a final bill, much less the law.[22] As a result, BOLI allows banks to replicate the tax benefits of municipal bond arbitrage, despite the 1986 law change specifically eliminating these benefits.

The economic significance of BOLI is reportedly substantial. For example, the Joint Committee on Taxation estimates that forgone tax revenues from BOLI are $7.3 billion for the period 2004 through 2008. The Office of Management and Budget estimates the revenue loss to be $13 billion over the same period. Finally, federal revenue estimators estimate the revenue loss from BOLI to be over $1 billion a year.[23] By way of comparison, the aggregate one-year federal tax savings for all BHCs reporting CSV in 2004, assuming a 35% tax rate, is estimated to be $843 million.[24]

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[21] This disallowance only applied to obligations purchased after the effective date of the legislation (August 7, 1986). In addition, there remains a minor exception for interest expense associated with "qualified tax-exempt obligations," which are basically municipal bonds (other than private activity bonds) issued by "qualified small issuers" (i.e., issuers who do not issue more than $10,000,000 in bonds annually). For more details on municipal bond arbitrage, see Erickson, Goolsbee and Maydew (2003).

[22] More recently, H.R. 2251," COLI Best Practices Act of 2005" and S.R. 219,"National Employee Savings and Trust Equity Guarantee Act of 2005" include provisions that would tax the death benefits from BOLI unless notice and consent is received from the covered employee. In addition, the benefits would be taxable upon the death of any non-highly compensated employees who left the bank more than 12 months prior to death.

[23] These estimates are reported in the General Accounting Office's report GAO-04-303, which was prepared in conjunction with the Senate Finance Committee hearings on BOLI.

[24] Not all BHCs reporting BOLI also report related BOLI income (i.e., increase in CSV). As a result, BOLI income is first estimated based on the 4.5 percent average return on CSV earned by BHCs reporting both CSV and increase in CSV. Tax savings are then computed as the actual or estimated increase in CSV times 35%, the top federal tax rate.

While BOLI has its critics, and has consequently has suffered its share of attacks from the media as well as legislators, there are some (mainly bankers and insurers) who defend it as a means to fund the growing cost of employee compensation and benefits.[25,26] For example, during The Senate Finance Committee's 2003 hearings on BOLI, Robert Plybon, President of the Association for Advanced Life Underwriting, testified that "[m]ost often, employers use proceeds from COLI [BOLI] to fund the cost of new or expanded employee benefits."[27] In fact, such claims have led regulators to accept BOLI as "incidental" to banking and therefore as a "safe and sound" banking practice. Despite this, however, there is no regulatory requirement that the funds generated from BOLI be set aside specifically for this purpose or otherwise traced to increases in benefits.[28]

Although BOLI defenders may take issue with this paper's use of BOLI as a proxy for tax sheltering activity, this is not meant as an implication regarding the legality of BOLI. On the contrary, shelters are generally characterized as transactions that meet the letter of the law (as even COLI did until the law was changed in the 1990s).[29] Thus, because of the similarities between BOLI and BBLCOLI, and between BOLI and the

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[25] For examples of media affronts, see: "Many Banks Boost Earnings with Janitors' Life Insurance," *The Wall Street Journal* (April 26, 2002); "Big Banks Quietly Pile Up Janitors' Insurance," *The Wall Street Journal* (May 2, 2002).

[26] For example, a pamphlet published by The Todd Organization (see footnote 20 above), which is representative of many other similar marketing materials, begins with the assertion "BOLI can be an excellent vehicle for financing the cost of employee benefits."

[27] Testimony of Robert Plybon, President, Assoication for Advanced Life Underwriting before The Senate Finance Committee (October 23, 2003 Hearing on Corporate-Owned Life Insurance).

[28] Regulations, however, do limit purchases of BOLI to either the present value of employee benefit costs or 25 percent of Tier 1 capital (a measure of core capital in the banking industry), whichever is lower.

[29] See for example, Bankman's definition of tax shelter in footnote 4 above.

municipal bond arbitrage strategy, and finally because of the availability of BOLI data, BOLI serves as a valuable proxy for a banks' general willingness to engage in corporate tax shelters.[30]

[30] Unlike the case with other tax shelters, the effects of which are typically not directly observable in the financial statements, options should encourage BOLI investment only if managers perceive that shareholders value the tax benefits of BOLI (see footnote 9 above). If shareholders instead view BOLI as an inappropriate tax avoidance technique, and if managers recognize this fact, then options should discourage BOLI investment. For purposes of this paper, however, it is assumed that shareholders value the tax benefits associated with BOLI.

CHAPTER 4

PREVALENCE OF BOLI

The initial sample includes 17,145 firm-year observations (representing 3,041 BHCs) for which financial data from regulatory Form FRY-9C are available in any of the years 1994 to 2004. Of the 3,041 BHCs in this original data set, over half (1,643 BHCs) reported some positive amount of CSV in at least one year during the sample period. (See Appendix A for a description of the reporting requirements of BOLI and the resulting data-gathering procedure employed.) Figure 1 depicts the growth in the percentage of BHCs investing in BOLI each year and reveals that 12 percent of all BHCs (145 BHCs) reported non-zero CSV in 1994. Untabulated statistics indicate that this group of BHCs reported a combined $2.5 billion of CSV. By 2004, the percent of BHCs reporting non-zero CSV had grown to 61 percent (1,302 BHCs), and the total CSV reported equaled nearly $54 billion.

The apparent increase in CSV may have been driven by an increase in the use of keyman life insurance, as opposed to a more broad-based BOLI program. Private discussions with a BOLI-broker indicate that the minimum BOLI investment for a mid-size bank is somewhere between $1 million and $3 million. In contrast, minimum CSV for the full sample of BHCs owning CSV in any year in the sample period is between $6,000 and $68,000, amounts that likely relate to keyman life insurance. In order to address this possibility, only CSV balances in excess of $3 million are considered BOLI investments.

Using this higher CSV cut-off does not diminish the apparent surge in the popularity of BOLI over the sample period. Of the 3,041 BHCs filing regulatory reports between 1994 and 2004, 1,034 BHCs (34 percent) report CSV of greater than $3 million in at least one year during the sample period. As indicated in Figure 1, the percentage of BHCs with CSV greater than $3 million in 1994 was 2.4 percent (29 BHCs). Untabulated statistics reveal that this group of BHCs held combined CSV investments of over $2 billion. By 2004, the percentage of BHCs reporting CSV greater than $3 million had grown to 41 percent (877 BHCs), and the combined investment in CSV for this group of BHCs was over $53 billion. Thus, it appears that BOLI became far more prevalent over the sample period.

Figure 2a depicts the growth in mean and median CSV for only those BHCs reporting CSV greater than $3 million in a given year. It appears that there has been little growth in the median CSV between 1994 ($5.8 million) and 2004 ($7.0 million). At the same time, however, mean CSV rose from $82 million, in 1994, to almost $139 million in 1999, but then dropped to just under $61 million in 2004. Based on this alone, it appears that although the percentage of BHCs investing in BOLI has grown over time, there has been little, if any, overall increase in the magnitude of BOLI investments.

This paints an incomplete picture, however, as indicated in Figure 2b, which shows a steady growth in CSV as a percent of total assets ("CSV/Assets") from a mean (median) of 1.00 percent (.89 percent), in 1994, to 1.66 percent (1.63 percent) in 2004. Similarly, although not represented in Figure 2b, mean (median) CSV as a percent of total securities ("CSV/Securities") grew steadily over the sample period from 2 percent (1.4 percent) in 1994 to over 10 percent (6.1 percent) in 2004. The fact that the mean and

median CSV over this time period appears flat, or declining, in the midst of a monotonic increase in CSV/Assets and CSV/Securities is consistent with the later years including a growing number of first-time BOLI users, as well as anecdotal evidence that BOLI has become increasingly popular among small and mid-size BHCs over time.[31,32]

BOLI also appears to have made an increasingly significant contribution to BHCs' income over the sample period.[33] For example, for those banks reporting CSV greater than $3 million that also reported related BOLI income, the mean (median) ratio of BOLI income to earnings before tax was 2.9 percent (1.4 percent) in 1994. By 2004, the mean (median) ratio had grown to 7.9 percent (5.2 percent). Thus, BOLI income appears to represent an increasing share of BHC earnings. Taken in conjunction, the above evidence suggests that BOLI is economically significant and has grown in both the prevalence as well as the magnitude over the sample period.

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[31] For example, a 2001 BOLI solicitation by Benchmark, a benefits consulting group, states that "[t]he rise in interest in BOLI programs in recent years among community banks may be attributable to the appearance of BOLI products geared for community banks. Initially, insurers were developing products only for larger banks, but since the OCC Bulletin of 1996 and clear direction on compliance, carriers have stepped up with products for community banks . . ." In addition, see footnote 20.

[32] To further explore whether the decrease in mean CSV is being driven in part by more recent entrants into the BOLI market, BHCs that have owned BOLI for less than four years are removed from the analysis (the four year cut-off is chosen because the average BHC has owned BOLI for 3.4 years). Although the increase has not been monotonic, mean CSV for this sample of BHCs rose from $82 million in 1994 to $153 million in 2004, consistent with a general increase in the magnitude of BOLI investment over time.

[33] Because there are separate regulatory reporting requirements for the BOLI asset (i.e., CSV) and BOLI income (i.e., increase in CSV), not all of the BHCs that report CSV over $3 million in a given year also report the related increase in CSV.

CHAPTER 5

EMPIRICAL RESULTS

To analyze the extent to which this growth in BOLI may have been catalyzed in part by contemporaneous growth in stock option compensation, the sample is further reduced to the 779 firm-year observations (114 BHCs) for which stock option data are available from Execucomp. Panel A of Table 1 summarizes descriptive statistics for the sub-sample of 63 BHCs (527 firm-year observations) that report CSV of greater than $3 million in at least one year ("BOLI BHCs"). For comparison, Panel B of Table 1 reports descriptive statistics for the 51 BHCs (252 firm year observations) that never report CSV greater than $3 million ("non-BOLI BHCs").[34]

As reported in Panel A of Table 1, mean (median) assets for BOLI BHCs is over $64 billion ($18 billion) and ranges from $1.2 billion to $1.5 trillion. Untabulated statistics indicate that in 1994 the sample ranged in size from the smallest BHC, with assets of $3 billion, to the largest with assets of almost $169 billion. By 2004, this range had broadened further, with assets ranging from a low of $4.7 billion to a high of nearly $1.5 trillion. Although the true size range is masked by limiting the sample to only those

[34] The vast majority (90 percent) of non-BOLI BHCs never report owning any CSV at all (the remaining 10 percent report CSV of up to $3 million in at least one year). To the extent the somewhat arbitrary cut-off of $3 million is too high, some of the non-BOLI BHCs should more properly be considered BOLI BHCs, and to this extent, the results may be biased against finding significant differences between the two groups.

BOLI BHCs with Execucomp data, it nonetheless appears that BOLI is not restricted to the largest of BHCs.[35]

In addition, Table 1 indicates that BOLI BHCs on average held less than 1.0 percent of total assets as CSV ("CSV/Assets") throughout the sample period. In addition, the sub-sample of BOLI BHCs that also reported income from BOLI (i.e., increase in CSV; "CSVIncome") reported mean (median) CSVIncome of $22.5 million ($3.5 million) and mean (median) CSVIncome as a percent of earnings before tax ("CSVInc/EBT") of 2.3 percent (1.2 percent).[36] The mean (median) tax savings from BOLI can be approximated as 35 percent times CSVIncome, or $7.9 million ($1.2 million). Unreported statistics reveal wide dispersion in the economic significance of these savings compared to overall earnings before tax. Although the mean (median) ratio of tax savings to EBT is 0.8 percent (0.4 percent), this ratio varies from a low of 0 percent to a high of 11.7 percent.

Untabulated statistics confirm the growth in BOLI over the sample period for this sub-sample of BHCs, as mean CSV/Assets grew from .01 percent in 1994 to 1.2 percent in 2004. Panel A also reveals wide-ranging appetites for BOLI investments, with CSV/Assets varying from a low of zero percent to a high of 3.3 percent over the sample period. Unreported annual statistics indicate that this range expanded over the years from a low (high) of zero percent (0.9 percent), in 1994, to a low (high) of 0 percent (3 percent) by 2004.

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[35] For example, mean assets for all BHCs filing regulatory reports each year was $2.9 billion in 1994 and $4.1 billion in 2004. Thus, this sample of Execucomp BHCs basically represents the top 50 percent of the universe of BHCs in terms of size.

[36] See footnote 33.

As indicated in Table 1, BOLI BHCs have lower mean foreign earnings as a percent of interest income ("ForeignInterest" of 1.7 percent for BOLI BHCs versus 4.3 percent for non-BOLI BHCs). To the extent foreign operations reflect heightened sophistication and/or increased opportunities for aggressive tax planning, this finding may seem counter- intuitive.[37] On the other hand, it is consistent with BOLI BHCs having a greater appetite for BOLI, in part, because of reduced opportunities for aggressive international tax planning.

In addition, BOLI BHCs have significantly *lower* compensation costs per employee ("EmployeeCost" of 50.4 for BOLI BHCs verses 60.5 non-BOLI BHCs).[38] Although not conclusive, this finding is particularly interesting given that it runs counter to industry claims that BOLI is a used as a mechanism for funding "new and expanded benefit programs."[39]

The stock option variable (ESOMIX) is the ratio of the Black-Scholes value of options granted to the top five officers of the BHC (Execucomp data item Blk_Valu) to

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[37] Graham and Tucker (2005), for example, find that firms with foreign operations are more likely to engage in tax shelters.

[38] EmployeeCost includes the following: salary, bonuses, incentive compensation, employment and unemployment taxes, contributions to retirement, profit-sharing, pension and other savings plans, premiums on insurance policies (excluding BOLI), medical and other fringe-benefits costs. Despite this preliminary evidence of a negative relation between EmployeeCost and BOLI use, if higher option compensation is associated with higher shelter use, then the inclusion of option expense in EmployeeCost may bias in favor of finding a *positive* relation between EmployeeCost and BOLI use. This is unlikely to be a serious concern, however, because the portion of EmployeeCost represented by stock option expense is relatively small. Specifically, beginning in 2003, BHCs were required to disclose in their regulatory reports the amount of any stock options compensation recorded as an expense. Of the 2,233 BHCs that filed regulatory reports in either 2002 or 2003, less than 10% (218 BHCs) reported having expensed stock options. For those 218 BHCs, stock option expense accounted for 1.9% and 2.3% of EmployeeCost reported in 2003 and 2004, respectively.

[39] See footnote 27.

total compensation for this same group.[40,41] As reported in Panel A of Table 1, BOLI BHCs appear to rely somewhat more heavily upon stock option compensation, with a mean (median) ESOMIX of 31 percent (29 percent), as compared to 29 percent (26 percent) for the non-BOLI BHC group, although the difference between the two means (medians) is insignificant.[42,43]

Table 1 further reveals that the average BOLI BHC does not differ significantly from the average non-BOLI BHC in terms of size (as measured by total assets, "Assets"), leverage (as measured by debt to total assets, "Debt/Assets"), effective tax rates ("ETR"), municipal bond holdings (as measured by municipal bonds to total assets, "Munis/Assets"), or profitability (as measured by earnings before tax over total assets ("ROA")). Because of the reporting requirements described in Appendix A, however, the non-BOLI BHC group may include a number of BOLI BHCs, which biases against

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[40] Total compensation includes the Black-Scholes value of options granted (Execucomp item BLK_VALU), restricted stock (Execucomp item RSTKGRNT), salary (Execucomp item SALARY), and bonus (Execucomp item BONUS).

[41] Note that Execucomp collects compensation data on up to nine executives for a given year. Although few companies actually report more than five executives, to improve comparability, compensation data for executives other than the top five are omitted when deriving ESOMIX. Results are virtually invariant to this modification.

[42] As further evidence of the distinguishing characteristics of BOLI BHCs, a dummy variable equal to 1 for BOLI BHCs and 0 otherwise is regressed on the variables reported in Table 1. Consistent with the univariate results reported above, untabulated results from this logistic analysis indicate a significantly negative relation between BOLI and EmployeeCost and between BOLI and ForeignInterest, and an insignificant relation between BOLI and the remaining variables. When the dependent variable is instead equal to 1 in the first year of BOLI investment and zero otherwise, only the significantly negative relation between BOLI and EmployeeCost remains.

[43] Untabulated statistics reveal that mean ESOMIX for the 114 BOLI and non-BOLI BHCs varies between 19 percent (in 1994) and 40 percent (in 2001) during the sample period. By way of comparison, mean ESOMIX for the universe of non-banking firms in Execucomp for the same period is 35.8 percent, and ranges from 23.4 percent to 43 percent, indicating that on average there is little difference between the reliance on option compensation in the banking industry vis-à-vis the non-banking sector.

finding significant differences between these two subsets of BHCs, including option use, which may explain the lack of significance noted above.

To determine how option compensation relates to BOLI investment, CSV/Assets is modeled as dependent upon ESOMIX. In addition, the log of assets is included to control for size differences, and ROA, ForeignInterest, ETR, Munis/Assets and Debt/Assets are included to capture the tax status of the BHC and the relative benefits of sheltering. Finally, EmployeeCost is included to capture additional incentives to invest in BOLI, and year dummies are added to control for cross-sectional correlation in a given year.

Table 2 reports Pearson and Spearman correlation coefficients for the mean values (over the sample period) of the variables for the sample of 63 BOLI BHCs (527 firm-year observations) for which Execucomp data are available (descriptive statistics are presented in Table 1, Panel A). As expected given the tax benefits associated with BOLI, CSV/Assets is negatively correlated with ETR. Other than this, however, there is no significant correlation between CSV/Assets and any of the other variables, including ESOMIX. When the analysis is instead performed on an annual basis, unreported statistics likewise indicate insignificant correlation between CSV/Asset and ESOMIX in all years.

The initial regression analysis is based on an assumed linear relation between BOLI and option use. The results from this analysis are reported in Table 3, Column A and indicate an insignificant relation between ESOMIX and CSV/Assets.[44] It is possible, however, that the relation between options and shelters is non-linear. To address this

[44] Note that in this and all of the specifications that follow, reported t-values are based on Rogers (1993) standard errors (i.e., White (1980) standard errors that are clustered at the firm level; see Peterson (2005)).

possibility, ESOMIXSQ is included in order to capture potential diminishing effects in the relation between options and BOLI use.

As indicated in Table 3, Column B, when the square of ESOMIX is added to the regression equation, there is a positive and significant coefficient on ESOMIX and a negative and significant coefficient on ESOMIXSQ.[45] Taken together, these results indicate that increases in ESOMIX are associated with increases in BOLI, albeit at a decreasing rate.[46] Thus, consistent with the incentive alignment theory of Hypothesis 1, options appear to increase managers' appetite for BOLI. As a gauge of the economic significance of these coefficients, a one standard deviation increase in ESOMIX will result in an increase of CSV/Asset of 0.002.[47] This increase in ESOMIX is equivalent to a $141 million increase in total dollars invested in BOLI.[48]

While the results in Table 3, Column B, above are consistent with Hypothesis 1, they are inconsistent with DD's finding of an overall negative relation between options and shelters. There are a number of possible explanations for the difference in these results as compared to DD. First, DD include firm fixed effects in their analysis to capture unobserved heterogeneity among firms. When indicator variables for each BHC

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[45] Results are robust to winsorizing and truncating the top and bottom 1% and 5% in terms of both ESOMIX and CSV/Assets.

[46] Based on the specific coefficients on ESOMIX and ESOMIXSQ, the implied value of ESOMIX above which managers will no longer increase their investment in BOLI is 0.37 (i.e., .0154/(.0207*2)).

[47] This value is computed as follows: $0.015*0.203 - 0.0207*(.203)^2$.

[48] This value is computed as follows: 0.002192 * 64,356,711,000 mean assets.

are likewise added to the analysis reported in Table 3, Column B, the coefficient on ESOMIX becomes negative, but highly insignificant (t-value of -0.68).[49]

Second, DD's shelter metric, which is based on the spread between book income and estimated taxable income, may measure shelters less accurately than CSV/Assets. For example, because DD's shelter measure is based upon book income, it may not be fully purged of the effects of earnings management. The effects of earnings management can be either income-increasing or income-decreasing, and generally reverse over time. As a result, the inability to definitively disentangle earnings management and tax sheltering complicates the interpretation of DD's results considerably. In contrast, because CSV/Assets is directly measurable and is based on an actual, identifiable shelter transaction, it is less prone to such measurement error problems.

Third, DD do not consider the possibility of a non-linear relation between options and shelters, which may have biased their results. As noted previously, the negative and significant coefficient on ESOMIXSQ reported in Table 3, Column B indicates that, at least in this setting, shelters are increasing in options at a decreasing rate. When ESOMIXSQ is excluded from the analysis (Table 3, Panel A), the coefficient on ESOMIX becomes insignificantly different from zero.

Finally, bank managers may respond differently to incentive compensation than do managers of non-regulated companies. If so, the findings in Table 3, Panel B may not generalize outside of the banking industry. For example, regulation serves as a unique added layer of corporate governance for BHCs. As a result, this sample of BHCs may

[49] As an alternative to this "within firm" analysis, the change in CSV/Assets is regressed on the change in ESOMIX, along with the control variables and year dummies. Using this approach, the coefficient on the change in ESOMIX is once again negative, but highly insignificant. (t-value of -0.56).

have stronger governance on average than non-regulated firms. In this case, a positive relation between options and shelters for this sample of BHCs and a negative relation for a sample of non-regulated firms can be interpreted as consistent with DD's theoretical prediction of a more positive relation between options and shelters for firms with stronger governance.

Table 3, Column B also reveals a significantly negative relation between CSV/Assets and ETR, which indicates that larger investments in BOLI are associated with lower reported tax burdens, an unsurprising result for a tax-motivated transaction. In addition, the insignificant coefficient on Debt/Assets indicates that BOLI BHCs do not appear to issue new debt to finance their BOLI purchases.[50] Finally, despite claims to the contrary, the insignificant coefficient on EmployeeCost is further evidence that banks do not significantly increase their compensation and benefit expenditures as their investment in BOLI increase.

The remaining analyses consider Hypothesis 2 and the effect of governance on the relation between options and shelters. In order to measure governance, the mean value (over the sample period) of the governance index ("G") from Gompers, Ishii and Metrick (2003) is used.[51] G is an amalgam of firm characteristics taken from the Investors Responsibility Research Center ("IRRC")'s *Corporate Takeover Defenses*, and quantifies firm charter and bylaw provisions (i.e., provisions that protect and/or empower

[50] This is consistent with comments from one BOLI broker who indicated that most BOLI acquisitions are funded via asset substitution. Note that this does not imply that BOLI is not financed with debt. Given the average debt ratio of 91 percent (see Table 1), nearly every asset on a BHC's balance sheet is leveraged.

[51] The mean G value is used, instead of the 1998 value used by DD, in order to prevent survivorship bias and to maximize the sample size. This difference in methodology, however, should not hinder the comparability of this study with DD as indicated by the fact that the 1998 G is over 97 percent correlated with the mean value of G for those BHCs for which the 1998 G is available.

management), as well as relevant state anti-takeover laws. This additional data requirement reduces the sample size to 741 firm-year observations (105 BHCs).

Table 4 presents descriptive statistics for this sample of BHCs, which includes 60 BOLI BHCs (510 firm-year observations) and 45 non-BOLI BHCs (231 firm-year observations). Panel A indicates that BOLI BHCs vary considerably in governance characteristics, with G varying from a low of 2.5 (strong governance) to a high of 15 (weak governance). As noted in Panel B, non-BOLI BHCs share this characteristic, with G varying from a low of 5 to a high of 16. In addition, the mean (median) G for BOLI BHCs of 10.2 (10.5) is insignificantly different from the mean (median) G for non-BOLI BHCs of 10.2 (11). Descriptive statistics for the remaining variables of interest are similar to those reported in Table 1.[52]

Untabulated correlation coefficients for this sample of BHCs are virtually identical to those reported in Table 2 for the broader sample. In addition, they indicate that mean G is uncorrelated with any of the other variables when averaged over time. When the analysis is instead performed on an annual basis, there is no consistent correlation between mean G and the other variables except CSV/Assets, which is positively correlated with mean G in each of the last four years (2001-2004) included in the sample period.[53] Because high values of G indicate low governance quality, this

[52] A logistic analysis of a dummy variable equal to 1 for BOLI BHCs, and zero otherwise, confirms a significantly negative relation between BOLI and EmployeeCost, but an insignificant relation between BOLI and the remaining variables. When the dependent variable is instead equal to 1 in the first year of BOLI investment, and zero otherwise, the results are similar.

[53] Core, Guay and Rusticus (2005) document that G is positively correlated with size and negatively correlated with market value and profitability. The inability to document these correlations is likely due to the fact that the sample in this paper is restricted to BHCs, whereas Core, Guay and Rusticus (2005) considered all firms included in the Gompers, Ishii and Metrick (2003) database for which CRSP, Compustat and IBES data are available (resulting in 9,917 firm year observations).

univariate result is consistent with poorly-governed firms engaging in more tax shelters (at least in the later years) relative to their well-governed counterparts. This preliminary evidence could be interpreted as *in*consistent with Hypothesis 2's prediction of a more positive relation between options and shelters for well-governed firms, although a more thorough multivariate analysis is required before such conclusions can be drawn.

Table 5, Column A first repeats the basic regression analysis from Table 3, Column B for this slightly smaller sample of BHCs. Not surprisingly, the results are similar to the results using the broader sample. The coefficient on ESOMIX remains positive and significant, and the coefficient on ESOMIXSQ remains negative and significant.

To directly consider Hypothesis 2, and the influence of governance on the relation between ESOMIX and BOLI, the interaction of ESOMIX and WELLGOV, an indicator variable equal to 1 for well-governed firms (i.e., firms with G less than or equal to seven, consistent with DD), is added to the specification. If, consistent with Hypothesis 2, there is a more positive relation between options and BOLI for well-governed BHCs than for poorly-governed BHCs, the coefficient on the interaction between WELLGOV and ESOMIX should be positive. As summarized in Table 5, Column B, the coefficient on ESOMIX remains positive and significant and the coefficient on ESOMIXSQ is negative, but insignificant. Moreover, the coefficient on the interaction of WELLGOV with ESOMIX is positive, but insignificant, indicating that the relation between ESOMIX and BOLI does not differ based on governance quality.

To further explore Hypothesis 2 and the possible role of governance, the sample is divided into well-governed and poorly-governed sub-samples based on the indicator

variable, WELLGOV. This approach permits the intercept, as well as the slope coefficients on each of the control variables, to differ based on governance quality. Regression coefficients for the sample of 77 firm-year observations (8 BHCs) with G <= 7 (i.e., well-governed) and the 433 firm-year observations (52 BHCs) with G > 7 (i.e., poorly-governed) are reported in Columns C and D, respectively. Consistent with DD and Hypothesis 2's prediction of a more positive relation between options and shelters for well-governed firms, the coefficient on ESOMIX for the well-governed sub-sample is higher in magnitude (.025 verses .012) and more significant (t-value of 3.91 verses 1.98) than the coefficient on ESOMIX for the poorly governed sub-sample. As was the case in DD, however, the difference between the two ESOMIX coefficients is insignificant. Thus, consistent with the results reported in Column B, these results indicate that governance quality does not significantly effect how BHCs respond to option incentives, and therefore the results fail to support an underlying, complementary relation between diversion and sheltering.

To assess the robustness of these results, the analysis is repeated using a number of alternative governance measures. There are limited available empirical studies of governance in banking. Results from these studies indicate that governance may be enhanced by having a separate CEO and Chairman (Pi and Timme 1993), a greater proportion of independent directors on the board (Byrd et al. 2001), and/or a larger board size (Adams and Mehran 2005). As a result, the IRRC data items *SEPCHR* (indicating a separate CEO and Chariman), *PCTONBD* (indicating the percent of the non-employee and non-affiliated board members), and *BDSIZE* (indicating the total number of board members) are used to segregate the sample into well-governed and poorly-governed sub-

samples as specifically described in Table 6. In addition, the proportion of the top five executives that serve on the board (as determined using the Execucomp data item *EXEC_DIR*), the proportion of the top five executives that have an interlocking relationship requiring proxy disclosure (as determined using the Execucomp data item *PINTRLOC*), and the number of board meetings (as indicated by IRRC data item *NUMBDMTG*) are also considered.

The coefficients on ESOMIX for the well-governed and poorly-governed sub-samples (as defined using the relevant governance measure described above) are summarized in Table 6. Results using three of the alternative governance measures (i.e., *EXEC_DIR, PINTRLOC, and BDSIZE*) are consistent with those reported in Columns C and D of Table 5. Specifically, the coefficients on ESOMIX for the well-governed sub-samples are positive and significant, whereas the coefficients on ESOMIX for the poorly governed sub-sample are insignificantly difference from zero. Once again, while this finding is consistent with Hypothesis 2's prediction of a more positive relation between options and shelters for well-governed firms, the difference between the ESOMIX coefficients for the two groups of BHCs is insignificantly difference from zero using all three governance measures.

On the other hand, when two alternative governance measures are used (i.e., *PCTONBD* and *SEPCHR*), the coefficients on ESOMIX for the well-governed sub-samples are insignificantly difference from zero, whereas the coefficient on ESOMIX for the poorly-governed sub-samples are both positive and significant. Once again, however, the difference between the ESOMIX coefficients for these two subsets of BHCs is insignificantly difference from zero using either of these governance measures.

Finally, results using two additional governance measures (i.e., a higher value of G and *NUMBDMTG*) indicate an insignificant relation between options and BOLI for both sub-samples of BHCs, and therefore provide no evidence of a role for governance in this setting.

In sum, the above analysis indicates that the sign of the ESOMIX coefficients for well-governed and poorly-governed BHCs is extremely sensitive to the definition of governance. At the same time, however, the sensitivity analysis consistently indicates that the relation between options and BOLI use does not vary significantly based on the underlying governance characteristics of the BHC. Based on these results, it is unclear what, if any, role governance plays in the relation between options and shelters in this sample of bank holding companies. This question is left for future research.

CHAPTER 6

CONCLUSION

Despite the fact that shelters have been credited as the "most significant compliance problem" in the U.S. tax system, there is a dearth of empirical research on the topic.[54] This paper is one of the first to provide an empirical understanding of corporate tax shelters. In contrast, there is a wealth of empirical research studies related to employee stock options. These studies are often predicated on principles of agency theory that support a role for stock options in aligning the sometimes divergent interests of managers and shareholders. Based on this general incentive alignment theory, it is reasonable to expect stock options to be positively related to tax shelters. Nonetheless, the only empirical evidence to date finds either a negative relation between options and shelters, or no relation at all.

After providing additional support for the presumed growth in corporate tax shelter activity through time, this paper provides evidence that BOLI BHCs are similar in many respects to other BHCs. Notably, however, univariate results indicate that BOLI BHCs have lower per-employee compensation costs relative to non-BOLI BHCs. In addition, the multivariate analysis reveals an insignificant relation between BOLI use and compensation and benefit costs. While not conclusive, these results are somewhat surprising given banking and insurance industry claims that BOLI is a useful mechanism for funding additional employee benefits costs. Given the policy implications of these

findings, additional research should consider how BHCs are utilizing the tax benefits of their BOLI investments.

In addition, this paper provides evidence of an overall positive relation between option compensation and the use of BOLI. This finding is consistent with a basic incentive alignment hypothesis, and supports the conclusion that the substantial growth in option compensation that occurred during the 1990s may have contributed to a simultaneous growth in corporate tax shelter activity.

Finally, this paper provides evidence that the relation between options and shelters is independent of the underlying corporate governance structure of the firm. By providing empirical evidence related to a novel framework linking options, sheltering and governance, these findings provide additional insights into the tax avoidance behavior of corporations, although additional research may be warranted to better understand the interaction of these forces.

This paper is part of a small, but growing, literature devoted to better understanding corporate tax shelters. The inability to observe and measure the effects of the vast majority of shelter transactions, creates a significant obstacle to this line of research. This paper exploits actual shelter activity by banks and is one of the first relatively large sample analysis of actual corporate tax shelters. Although this paper provides important insights into the growth of shelters in recent history, the literature remains in its infancy and additional creative and innovative theoretical and empirical exploration into this topic is essential.

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[54] Quote from letter to Senate Finance Committee Chairman, William Roth from Lawrence Summers, former U.S. Department of Treasury Secretary. AP Newswire (Mar. 8, 2000).

Appendix A: BOLI Data-Collection Procedure

BOLI data come from regulatory filings at the underlying bank level because the regulatory reporting form for BHCs, Form FR Y-9C, did not include CSV in the "other asset" detail until 2003.[55] Prior to 2003, BHCs were only required to report detail for certain other assets (hereafter referred to "enumerated other assets").[56] All *non*-enumerated other assets were required to be summed together and reported on one line. As a result, it is not possible to obtain data on BOLI investments at the BHC level prior to 2003. However, BOLI investments are often disclosed at the bank level.

The regulatory reporting forms for banks, FFIEC 031 and 041, *includes* CSV as an enumerated other asset as of 2000. Unlike the case with BHCs, however, in years prior to 2000, instead of summing together all *non*-enumerated other assets, banks were required to "itemize and describe amounts that exceed[ed] 25 percent of [non-enumerated other assets]." Thus, banks with relatively large BOLI investments prior to 2000 were still required to disclose the associated CSV even though there was no specific line item for this asset at the time. While this may seem a low threshold for reporting, and thus would seemingly result in a BOLI reporting requirement for most BOLI banks, it can be quite substantial in some cases. For example, in 2003 Bank of America (the holding company) reported non-enumerated other assets of $43.7 billion, nearly 6 percent of total assets, which translates into a CSV reporting threshold of $10.9 billion. (For the record, Bank of America reported CSV of just over $11.2 billion in 2003.)

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[55] Although CSV appears on the face of the Form FRY-9C in 2003, it is subject to the same reporting threshold described for bank reporting of CSV for years prior to 2000. Thus, even in 2003, it is impossible to identify the full universe of BHCs owning BOLI.

[56] Specifically, these "enumerated other assets" include accrued interest receivable, net deferred tax assets, interest-only strips receivable and equity securities that do not have readily determinable fair values.

Thus, it is likely that many banks that own BOLI are not required to report it because the CSV associated with the investment does not exceed the reporting threshold (unlike the case with Bank of America in 2003). As a result, the prevalence of BOLI may be far greater than this paper reveals (one industry insider estimated that 90 percent of all large banks and 60 percent of all community banks currently are estimated to have had BOLI policies in place as of the end of 2003). Again consider Bank of America (the bank -- not the holding company), which reported CSV in every year between 1996 and 2002, with the exception of 2001. Although unverifiable, it seems more likely that this bank's investment fell beneath the reporting threshold in this one year, rather than that they disinvested and reinvested in BOLI.

Using this bank-level data, I identify groups of banks that have common ultimate holding companies in a given year, and aggregate all disclosed CSV amounts for this group of banks. To measure the accuracy of this approach, I repeat the procedure for total assets, a variable that is reported on both the bank level and the BHC level, and find that the bank level aggregate total assets is 96 percent-99 percent correlated with BHC total assets in every year included in this study. As further evidence of the validity of the aggregation procedure, I repeat the procedure for CSV in 2003 and 2004 -- years in which this item is reported at both the bank and the BHC level -- and find that aggregated CSV is over 97 percent correlated with BHC-level CSV.

Figure 1
Percent of Bank Holding Companies that own BOLI

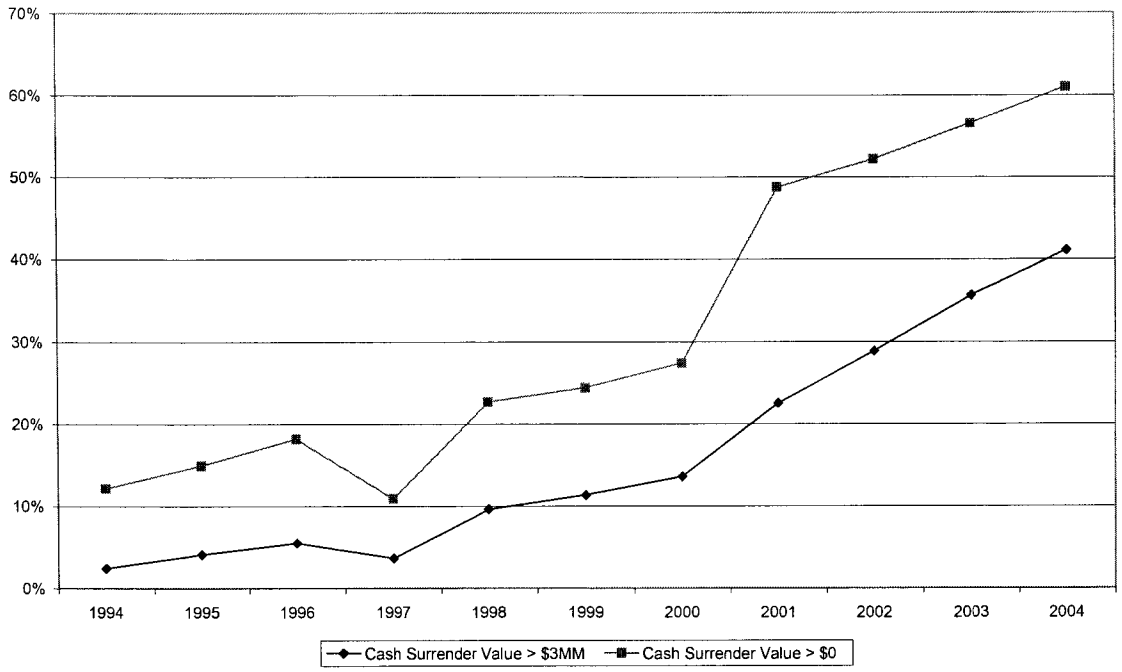

Figure 2a - Cash Surrender Value (000s)
For firm-year observations with Cash Surrender Value > $3MM

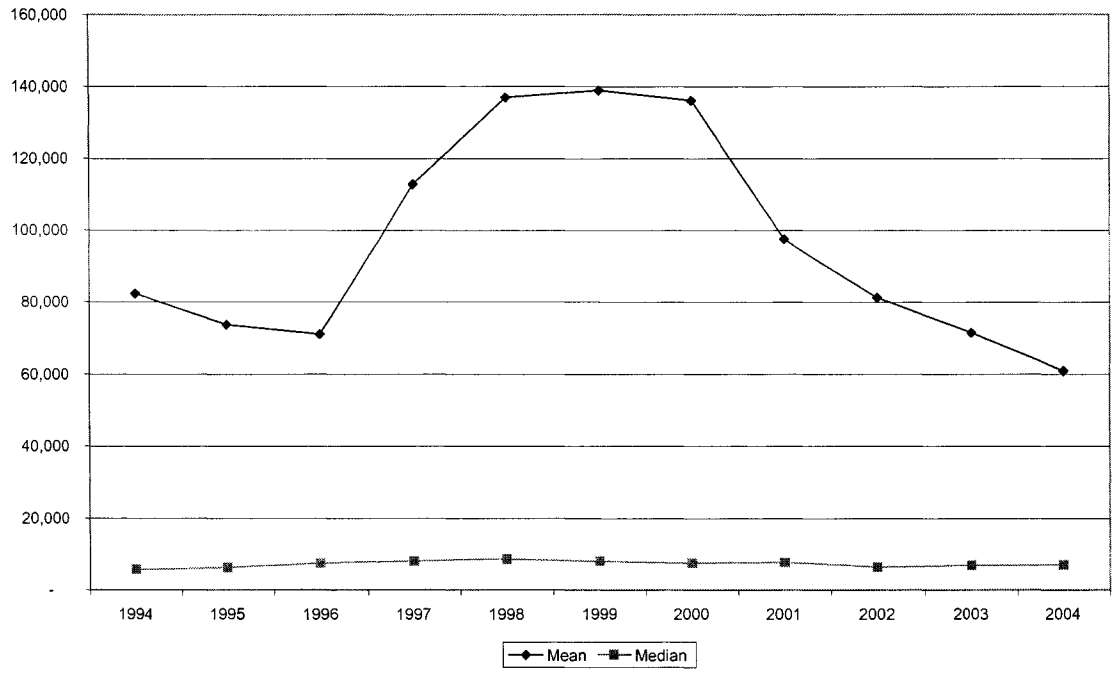

Figure 2b - Cash Surrender Value/Assets
For firm-year observations with Cash Surrender Value > $3MM

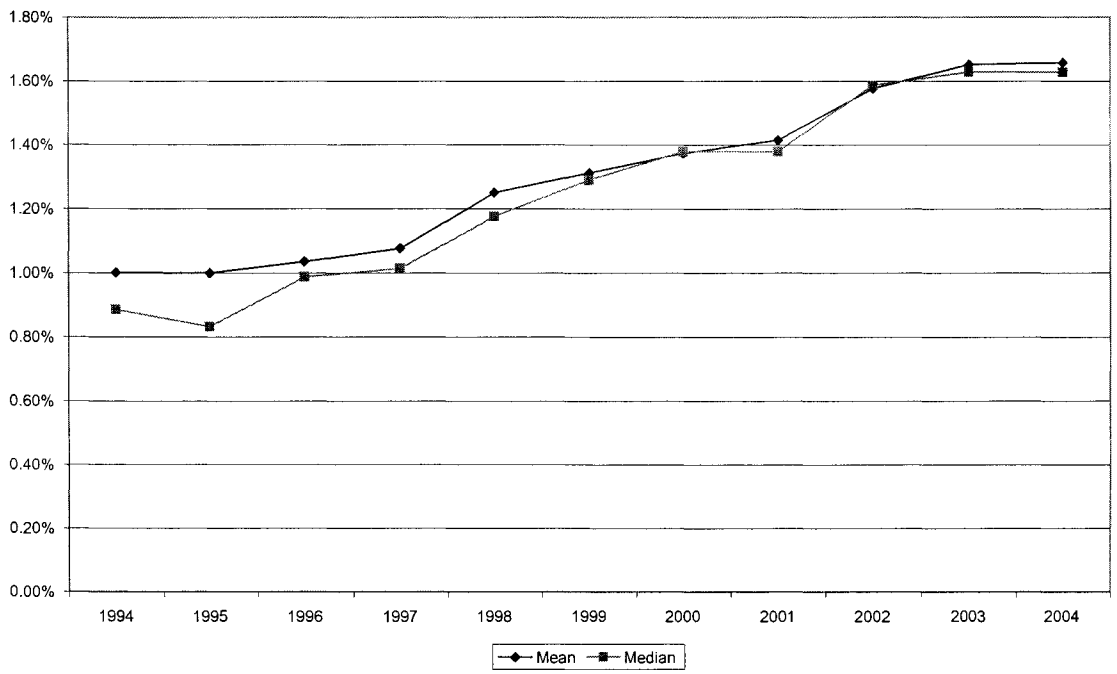

Table 1 - Panel A
Descriptive Statistics for BOLI BHCS

Variable	Description	N	Mean		Median		Std Dev	Minimum	Maximum
CSV	*Cash Surrender Value (000s)*	527	421,745	***	4,808	***	1,262,643	0	13,021,657
CSV/Assets	*CSV/Total Assets*	527	0.006	***	0.001	***	0.008	0	0.033
CSV/Securities	*CSV/Total Securities*	527	0.036	***	0.002	***	0.057	0	0.37
CSVIncome	*Increase in CSV*	278	22,532	***	3,513	***	56,672	0	510,000
CSVInc/EBT	*Increase in CSV/Earnings before tax*	278	0.023	***	0.012	***	0.032	-0.052	0.33
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	527	0.32		0.30		0.20	0	0.86
Assets	*Total Assets (000s)*	527	64,356,711		18,440,070	**	155,718,655	1,223,932	1,484,101,000
EmployeeCost	*Compensation and Benefits Costs/# Employees (000s)*	527	50.4	***	47.9	***	13.8	3.1	102.7
Munis/Assets	*Municipal Bonds/Total Assets*	527	0.014		0.008	**	0.019	0	0.160
Debt/Assets	*Debt/Total Assets*	527	0.91		0.92	***	0.017	0.82	0.95
ROA	*Earnings Before Tax/Total Assets*	527	0.019		0.019	***	0.006	0	0.058
ETR	*Tax provision/Earnings before tax*	527	0.34		0.34		0.056	0	1.000
ForeignInterest	*Interest earned from foreign offices/Total interest income*	527	0.017	***	0	***	0.060	0	0.44

Table 1 - Panel B
Descriptive Statistics for NON-BOLI BHCS

Variable	*Description*	N	Mean	Median	Std Dev	Minimum	Maximum
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	252	0.30	0.27	0.19	0 0	0.91
Assets	*Total Assets (000s)*	252	50,704,250	15,137,330	103,532,462	1,459,344	758,800,000
EmployeeCost	*Compensation and Benefits Costs/# Employees (000s)*	252	60.4	50.1	31.9	26.6	250.9
Munis/Assets	*Municipal Bonds/Total Assets*	252	0.017	0.011	0.017	0	0.083
Debt/Assets	*Debt/Total Assets*	252	0.91	0.92	0.076	0.32	0.96
ROA	*Earnings Before Tax/Total Assets*	252	0.021	0.018	0.015	0	0.13
ETR	*Tax provision/Earnings before Tax*	252	0.33	0.34	0.065	0	0.49
ForeignInterest	*Interest earned from foreign offices/Total interest income*	252	0.043	0.00	0.10	0	0.70

** and *** indicate significance at the 5% and 1% level, respectively.

Table 2
Pearson (Spearman) Correlation Coefficients for BOLI BHCS
(N = 63)

Variable	CSV/ Assets	ESOMIX	Assets (000s)	Employee-Cost	Munis/ Assets	Debt/ Assets	ROA	ETR	Foreign-Income
CSV/Assets	**1.00**	0.11	0.12	0.15	0.00	0.10	-0.07	-0.26**	-0.17
		(0.50)	(0.37)	(0.24)	(0.99)	(0.46)	(0.56)	(0.04)	(0.18)
ESOMIX	0.19	**1.00**	0.24	0.16	0.08	-0.10	0.29**	-0.01	0.03
	(0.13)		(0.06)	(0.20)	(0.53)	(0.42)	(0.02)	(0.93)	(0.81)
Assets (000s)	0.14	0.36***	**1.00**	0.25**	-0.22	0.17	0.12	-0.01	0.38***
	(0.26)	(0.00)		(0.05)	(0.09)	(0.17)	(0.35)	(0.95)	(0.00)
EmployeeCost	0.11	0.24	0.22	**1.00**	-0.12	-0.09	0.12	0.31**	0.24
	(0.37)	(0.06)	(0.09)		(0.34)	(0.48)	(0.36)	(0.02)	(0.06)
Munis/Assets	0.00	-0.12	-0.08	-0.29**	**1.00**	-0.02	0.16	-0.33***	-0.13
	(1.00)	(0.37)	(0.55)	(0.02)		(0.87)	(0.22)	(0.01)	(0.32)
Debt/Assets	0.09	-0.10	0.11	-0.12	0.22	**1.00**	-0.61***	-0.27	0.19
	(0.49)	(0.45)	(0.37)	(0.33)	(0.08)		(<.0001)	(0.03)	(0.13)
ROA	-0.20	0.24	0.15	0.21	0.09	-0.56***	**1.00**	0.17	-0.05
	(0.12)	(0.06)	(0.25)	(0.10)	(0.49)	(<.0001)		(0.18)	(0.67)
ETR	-0.26**	-0.04	0.01	0.35***	-0.28**	0.23	0.30**	**1.00**	0.10
	(0.04)	(0.75)	(0.95)	(0.00)	(0.02)	(0.07)	(0.02)		(0.45)
ForeignIncome	0.05	0.12	0.67***	0.42***	-0.21	0.15	0.00	0.09	**1.00**
	(0.69)	(0.34)	(<.0001)	(0.00)	(0.10)	(0.25)	(0.98)	(0.47)	

** and *** indicate significance at the 5% and 1% level, respectively.

NOTE: The above table reports correlation coefficients for the mean values of the reported variables over time for the 63 BOLI BHCs for which stock option information is avaiable in the Execucomp database.

Table 3

OLS Regression Coefficients for Tests of Hypothesis 1
Dependent variable = Cash Surrender Value/Total Assets ("CSV/Assets")

	Description	(A) N = 527	(B) N = 527
Intercept		0.0021	0.0076
		(0.08)	(0.28)
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	0.0010	0.015
		(0.41)	(3.10)
ESOMIXSQ	*ESOMIX x ESOMIX*	.	-0.021
		.	(-2.96)
Ln(Assets)		0.00076	0.00073
		(1.72)	(1.74)
ROA	*Earnings Before Tax/Total Assets*	-0.057	-0.059
		(-0.42)	(-0.45)
ForeignInterest	*Interest earned in foreign offices/Total interest income*	-0.022	-0.022
		(-2.34)	(-2.53)
Debt/Assets	*Debt/Total Assets*	0.00057	-0.0063
		(0.02)	(-0.21)
ETR	*Tax provision/Earnings before Tax*	-0.017	-0.017
		(-2.55)	(-2.76)
EmployeeCost	*Compensation and Benefits Costs/# Employees*	0.000045	0.000042
		(0.69)	(0.66)
Munis/Assets	*Municipal Bonds/Total Assets*	-0.016	-0.019
		(-0.56)	(-0.74)
Year Dummies Included		Yes	Yes
R-squared		0.26	0.27

Table 4 - Panel A:
Descriptive Statistics for BOLI BHCS with G

Variable	Description	N	Mean		Median		Std Dev	Minimum	Maximum
G	*Mean G-index from Gompers et. al.*	510	10.2		10.5		2.7	2.5	15.0
CSV	*Cash Surrender Value (000s)*	510	435,199	***	8,915	***	1,281,343	0	13,021,657
CSV/Assets	*CSV/Total Assets*	510	0.006	***	0.001	***	0.008	0	0.033
CSV/Securities	*CSV/Total Securities*	510	0.037	***	0.003	***	0.057	0	0.37
CSVIncome	*Increase in CSV*	269	23,246	***	3,921	***	57,478	0	510,000
CSVInc/EBT	*Increase in CSV/Earnings before tax*	269	0.023	***	0.013	***	0.033	-0.052	0.33
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	510	0.32		0.30		0.20	0	0.86
Assets	*Total Assets (000s)*	510	65,946,613		18,498,085		158,028,570	1,223,932	1,484,101,000
EmployeeCost	*Compensation and Benefits Costs/# Employees*	510	50.5	***	48.0	***	13.7	3.1	102.7
Munis/Assets	*Municipal Bonds/Total Assets*	510	0.015		0.009	**	0.020	0.00	0.16
Debt/Assets	*Debt/Total Assets*	510	0.91		0.92	***	0.017	0.82	0.95
ROA	*Earnings Before Tax/Total Assets*	510	0.019		0.019	***	0.006	0	0.058
ETR	*Tax provision/Earnings before Tax*	510	0.34		0.34	**	0.056	0	1.00
ForeignInterest	*Interest earned from foreign offices/Total interest income*	510	0.013	***	0	***	0.049	0	0.34

Table 4 - Panel B:
Descriptive Statistics for NON-BOLI BHCS with G

Variable	Description	N	Mean	Median	Std Dev	Minimum	Maximum
G	*Mean G-index from Gompers et. al.*	231	10.2	11.0	2.1	5.0	16.0
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	231	0.30	0.27	0.19	0	0.91
Assets	*Total Assets (000s)*	231	54,858,943	17,039,199	107,184,678	1,459,344	758,800,000
EmployeeCost	*Compensation and Benefits Costs/# Employees*	231	61.8	50.5	32.7	26.7	250.9
Munis/Assets	*Municipal Bonds/Total Assets*	231	0.017	0.011	0.016	0	0.083
Debt/Assets	*Debt/Total Assets*	231	0.91	0.92	0.08	0.32	0.96
ROA	*Earnings Before Tax/Total Assets*	231	0.021	0.018	0.015	0	0.13
ETR	*Tax provision/Earnings before Tax*	231	0.34	0.34	0.057	0	0.49
ForeignInterest	*Interest earned from foreign offices/Total interest income*	231	0.036	0	0.071	0	0.36

** and *** indicate significance at the 5% and 1% level, respectively.

Table 5

OLS Regression Coefficients for Tests of Hypothesis 2

Dependent variable = Cash Surrender Value/Total Assets ("CSV/Assets")

	Description	(A) N = 510	(B) N = 510	(C) Well (G <=7) N = 77	(D) Poor (G>7) N = 433
Intercept		0.0074	-0.00069	-0.053	-0.000079
		(0.27)	(-0.02)	(-1.22)	(-0.00)
ESOMIX	*Ratio of Value of Stock Options Granted to Total Compensation for Top 5 Executives*	0.013	0.013	0.025	0.012
		(2.50)	(2.39)	(3.91)	(1.98)
ESOMIXSQ	*ESOMIX x ESOMIX*	-0.018	-0.016	-0.039	-0.014
		(-2.49)	(-2.04)	(-3.53)	(-1.78)
WELLGOV x ESOMIX	*WELLGOV (Dummy = 1 for well-governed firms) x ESOMIX*	.	0.0026	.	.
		.	(0.24)	.	.
WELLGOV x ESOMIXSQ		.	-0.013	.	.
		.	(-0.76)	.	.
Ln(Assets)		0.00060	0.00068	0.00077	0.00069
		(1.37)	(1.53)	(1.07)	(1.16)
ROA	*Earnings Before Tax/Total Assets*	-0.060	-0.041	0.12	-0.068
		(-0.45)	(-0.31)	(0.57)	(-0.48)
ForeignInterest	*Interest earned in foreign offices/Total interest income*	-0.018	-0.020	0.038	-0.022
		(-1.26)	(-1.31)	(0.58)	(-1.29)
Debt/Assets	*Debt/Total Assets*	-0.0019	0.0051	0.079	0.0030
		(-0.06)	(0.16)	(1.63)	(0.09)
ETR	*Tax provision/Earnings before Tax*	-0.019	-0.018	-0.038	-0.017
		(-2.93)	(-2.70)	(-1.58)	(-2.56)
EmployeeCost	*Compensation and Benefits Costs/# Employees*	0.000036	0.000029	-0.00026	-0.000058
		(0.49)	(0.40)	(-1.82)	(0.77)
Munis/Assets	*Municipal Bonds/Total Assets*	-0.026	-0.015	-0.056	-0.0052
		(-0.98)	(-0.63)	(-1.89)	(0.17)
R-squared		0.27	0.28	0.42	0.30

*t-values (in parentheses) are based on Rogers standard errors (i.e., White standard errors that are clustered at the firm level).

Table 6
Governance Sensitivity Tests
OLS Regression Coefficient on ESOMIX
Dependent variable = Cash Surrender Value/Total Assets ("CSV/Assets")
t-values in parentheses*

Variable used to define governance	BHC is considered well-governed if …	Well Governed	Poorly Governed
Execucomp data item *EXEC_DIR*	Proportion of top five executives that serve on the BOD (i.e., *Exec_Dir* = "TRUE") is >=0.40 (median)	0.017 (3.00) N = 383	0.015 (1.69) N = 144
Execucomp data item *PINTRLOC*	Proportion of top five executives that have an interlocking relationship (i.e., *PINTRLOC* = "TRUE") = 0 (median)	0.017 (2.89) N = 436	0.0098 (0.57) N = 91
IRRC data item *BDSIZE*	Board size (i.e., *BDSIZE*) >= 15 (median)	0.029 (2.71) N = 149	0.014 (0.89) N = 117
IRRC data item *PCTONBD*	Percent of BOD members that are non-employees and non-affiliated (i.e., *PCTONBD*) >=.714 (median)	0.0076 (0.41) N = 136	0.027 (2.37) N = 130
IRRC data item *SEPCHR*	*SEPCHR* = "TRUE" or "YES	-0.0026 (-0.13) N = 60	0.019 (3.28) N = 322
mean G	*G* <= 10.5 (median) rather than 7	0.012 (1.55) N = 260	-0.0070 (-0.87) N = 250
IRRC data item *NUMBDMTG*	Number of board meetings (i.e., *NUMBDMTG*) >= 7	0.021 (1.55) N = 111	0.033 (1.68) N = 75

*t-values are based on Rogers standard errors (i.e., White standard errors that are clustered at the firm level).

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