JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS VOL. 39, NO. 4, DECEMBER 2004
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https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

Executive Loans

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Abstract

This paper analyzes the characteristics and impact of loans made to executives for stock purchase, option exercise, and relocation. We find that loans made to assist executives in purchasing stock or exercising options are larger and have higher interest rates than relocation loans. All types of loans, however, are issued at below-market interest rates, on average. We also find that while stock purchase loans are given to managers with low existing ownership, option exercise loans are given to managers with high existing ownership and high cash compensation. Finally, our results indicate that executive stock ownership increases following stock purchase and option exercise loans. For managers as a whole, a loan that enables a manager to buy 100 shares of stock results in only an eight-share increase in ownership. However, the relation between ownership changes and stock purchase loans is much stronger for low ownership managers.

I. Introduction

In the 1990s, personal loans to executives became a popular management recruitment and retention tool for many companies. According to New York compensation consultants William M. Mercer, Inc., by the early 2000s nearly 25% of major public companies were giving loans to executives (Leonhardt (2002)), up from 14% in 1999 and 8.4% in 1994 (Lublin (2001)). The practice was even more prevalent in Silicon Valley, where it is estimated that close to one-half of the 150 largest companies were offering loans to executives (Schwanhausser and Davis (2002)).

After numerous embarrassing disclosures, lawsuits, and accusations of fraud and corporate waste involving loans that hastened the departures of officers and

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directors, however, many companies began rethinking the wisdom of providing low or interest-free loans to their executives (Lublin (2001)). In April 2002, SEC Release 33-8090 proposed a new rule requiring companies to disclose in an 8-K report the details of any executive loans in which shares of stock are pledged as collateral. Subsequent to this, New York prosecutors began to investigate allegations that Tyco lent money to executives for the purpose of investing in expensive artwork (Cohen and Maremont (2002)). More recently, the Sarbanes-Oxley Act of 2002 (which became effective on August 29, 2002) makes it unlawful for any public company to provide loans to its executive officers and directors. This Act contains a few narrow exemptions, including consumer credit loans made to executives on market terms in the ordinary course of the company's consumer credit business. Another exemption applies to banks that are already covered by Federal Reserve regulations on insider loans. However, while the Sarbanes-Oxley Act bans new loans, loans made prior to July 30, 2002, were "grandfathered" in and do not have to be rescinded, although their terms cannot be changed.

These loans have both costs and benefits. The compensation committees of the boards of directors routinely cite the goal of increasing managerial ownership as the rationale for equity-based compensation. Similarly, the stated purpose of executive loans is often to enable managers to purchase stock or exercise options without having to sell shares to pay the associated taxes and exercise price.[1] Principal-agent models, such as Jensen and Meckling (1976), suggest that managerial ownership reduces agency costs and thus is beneficial to shareholders. The empirical evidence is mixed.[2] Morck et al. (1988) find a non-monotonic relation between managerial ownership and firm performance. Similarly, McConnell and Servaes (1990) find a positive relation between ownership and firm performance, as long as ownership is less than 50%. Demsetz and Lehn (1985) suggest that when ownership levels are optimally determined, there will be no relation between ownership and performance. Core and Larcker (2002), however, propose that because contracting is not continuous, ownership levels gradually deviate from the optimal. Thus firms that are below the optimum can improve performance by increasing ownership levels. To test this hypothesis, Core and Larcker (2002) examine a sample of firms that adopt target ownership plans. These plans specify the minimum amount of stock that must be held by executive officers. This minimum amount is usually specified as a multiple of the executive's salary and varies with the executive's rank in the company. Core and Larcker find that managerial ownership increases significantly in the two years following the adoption of the plan. They also find improvements in performance concurrent with the ownership increases.

In addition to increasing ownership and aligning managers' incentives with those of shareholders, some loans offer tax advantages to executives.[3] For ex-

[1]For example, in August 2001, Actuant adopted the Actuant Corporation Executive Stock Purchase Plan. As stated in the proxy statement, the purpose of this plan was to facilitate the purchase of company common stock by executive officers in order to more closely align the executive's financial rewards with the financial rewards realized by company shareholders and to increase the ownership of common stock among executives.

[2]See Core, Guay, and Larcker (2002) for a comprehensive survey of executive equity compensation and incentives.

[3]See Scholes and Wolfson (1992) for examples of the tax treatment of executive loans.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

ample, when stock options are exercised, the holder must pay income taxes on the difference between the option's exercise price and the share price at the time of exercise. However, if executives buy shares with borrowed money instead of receiving options, the profit is considered an investment gain and is taxed at the lower capital gains rate.

While the loans do provide benefits, these same loans have costs too. When used to buy stock, non-recourse loans give managers incentives to pursue risky strategies when the stock price is falling. Loans also drain corporate cash reserves, sometimes when it is needed the most. Finally, the loans can be used to keep shareholders from knowing when executives are effectively selling shares in their own company. For example, Kranhold and Schroeder (2002) report that Enron lent Kenneth Lay $81 million in 2001. Lay would borrow from a company-sponsored personal line of credit in the morning, and sell stock to Enron later in the day to repay the loan. Because Lay's sale of stock was to the issuer, it was eligible for exemption under SEC rule 16b-3. As a consequence, rather than being reported on a Form 4, which is due on the tenth day following the month of the trade, it was reported on a Form 5, which is due 45 days after the fiscal year-end (FYE).

Technically, disposing of stock by using it to pay off loans has the same end result as selling the stock: managerial ownership decreases. Legally, it differs in two ways. First, until recently, normal sales of stock by a company insider had to be disclosed within 10 days following the end of the month in which the sale was made.[4] However, as mentioned above, transactions between the issuer and its officers were exempt from Section 16b of the Securities Exchange Act. Consequently, the return of stock to a company to repay a loan did not need to be disclosed until 45 days after the FYE, and the loan itself did not have to be disclosed until 90 to 120 days after the FYE.[5] Second, SEC rule 10b-5 promulgated under the Securities Exchange Act of 1934 imposes a duty on insiders to disclose material non-public information or refrain from trading. As such, 10b-5 bars insiders from trading in their own company's stock when they possess material non-public information. However, this rule is not violated if the party on the other side of the trade has the same information. Thus, sales by an officer to the company are also not covered by this rule. Consistent with managers using loans to hide informed sales, Cheng, Nagar, and Rajan (2002) find that Form 5 insider sales are significantly negatively associated with future earnings.

[4]On July 30, 2002, the Sarbanes-Oxley Act of 2002 was enacted. Section 403(a) of the Act amends Section 16 to require that insider trades be disclosed before the end of the second business day following the date of the transaction. In Release 34-46421, pursuant to the Sarbanes-Oxley Act, the SEC adopted amendments to the existing rules under the Exchange Act. These amendments conform those rules to the requirements of the Sarbanes-Oxley Act. At this time, the SEC also changed the rules for reporting transactions between the issuer and its officers so that they are no longer deferrable to Form 5, and must now be reported on Form 4 within two business days of the transaction.

[5]Although transactions between an issuer and its officers are not covered under Section 16, Item 404(c) of Regulation S-K requires the disclosure of any indebtedness of management greater than $60,000 in the firm's proxy statement and 10-K. The 10-K must be filed within 90 days after the fiscal year-end (FYE). However, the information in the 10-K can be incorporated by reference from the proxy statement, if the proxy is filed within 120 days after the FYE. Otherwise, a company must amend the 10-K within 120 days after the FYE. Thus, if a firm incorporates the loan information by reference into the 10-K, then the information does not get disclosed until up to 120 days after the FYE.

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In addition to loans from their companies, many executives use margin loans from brokers, secured by their personal stock holdings, to buy shares not only in their own company, but also in other companies as well. These loans enable managers to diversify without selling shares, which would send a negative signal to investors and would make executives liable for capital gains taxes. The SEC does not require disclosure of margin loans unless the insider owns more than 5% of that company's stock and there is a "material" change in their holdings. Consequently, these loans often remain undisclosed unless the executive runs into financial trouble, or their company guarantees the loan.

Even though Congress has enacted a heavy-handed provision against new executive loans, in theory, these loans may have played a useful role in increasing stock ownership in a majority of the firms that have not become the subject of scandals. The purpose of this paper is to help evaluate the efficacy of using executive loans. Toward this purpose, we collect a sample of 2,018 person-year observations from 70 companies that loaned money to their executives between 1996 and 2000. We first provide an analysis of the details of these loans, including the amount of the loan, the term, interest rate, purpose, whether the loan is collateralized or forgivable, and the characteristics of executives to whom these loans are granted. The alleged purpose of many of these loans is to help managers purchase stock and/or exercise options, thereby increasing managerial ownership and aligning managerial incentives with those of shareholders. Consequently, we also examine whether these loans accomplish their purported objective by analyzing the relation between the magnitude of the loans granted to executives and the change in their stock ownership.

We find that the characteristics of the loans depend on their intended purpose. Loans made to buy homes or assist in relocation tend to be offered at below-market interest rates and are usually secured by real assets, such as the property purchased with the loan. Loans made to assist executives in purchasing stock or exercising options are more than twice as large as relocation loans, on average. These loans are generally secured by the stock purchased with the loan or received on exercise of the options and have higher interest rates than relocation loans.

In conjunction with examining the characteristics of the loans, we also examine the stock-based compensation and ownership of executives who receive loans vs. those who do not. In general, our results indicate that executives receiving loans are not trading off other forms of compensation. In particular, stock purchase loans tend to be made to executives with low stock ownership and low options exercised. These loans are also made in years when the stock is not performing well, suggesting that the intent of these loans is to increase the stock ownership of low ownership executives, especially at times when the stock is performing poorly. This is consistent with Core and Larcker (2002), who find that underperforming firms adopt target ownership plans to increase ownership levels. In contrast, option exercise loans are made to executives with high stock ownership, high cash compensation (defined as salary plus bonus), a large number of options exercised, and a large amount of options granted. This indicates that option exercise loans enable entrenched managers to further increase ownership. These results are consistent with Shleifer and Vishny (1997) and Yermack (1997), who propose that options are less an incentive device than a mechanism for self-

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dealing by managers. Finally, relocation loans are given to executives with short tenure, suggesting that they are made to assist newly hired executives in relocating.

The next goal of this paper is to examine whether executive loans result in an increase in managerial ownership. We find evidence that loans made for the purpose of purchasing stock or exercising options do result in an increase in executive stock ownership. For managers as a whole, the magnitude of this increase is small relative to the value of the loan. A loan that enables a manager to buy 100 shares of stock increases managerial ownership by only eight shares. Not surprisingly, relocation loans do not appear to increase managerial ownership.

Finally, we examine whether the relation between loans and changes in ownership depends on prior managerial ownership. Ofek and Yermack (2000) examine whether stock-based compensation increases managerial ownership. Their findings depend on prior ownership. They find that managers with low prior ownership do not sell shares after receiving new options, whereas high ownership managers do. On the other hand, when executives exercise options to acquire stock, nearly all the shares are sold regardless of prior ownership. Overall, equity compensation appears to improve the incentive levels of managers with low ownership. Likewise, we find that low ownership individuals increase ownership on almost a one-to-one basis after receiving stock purchase loans. These results call into question the wisdom of a sweeping ban on all loans to all executives. However, they also indicate that the efficacy of many of these loans in aligning managers' interests with those of stockholders is questionable.

The remainder of this paper is organized as follows. Section II provides a description of our data and methodology. The results and some robustness checks are presented in Section III, while Section IV concludes.

II. Data and Methodology

We begin by using Lexis Nexis to search a variety of keywords in firms' proxy statements and 10-Ks for evidence of personal loans to executives. We find a total of 309 firms that offer loans to executives. Seventy of the 309 firms have data available on Standard and Poor's ExecuComp database. For these firms, we collect data from 1996 to 2000 on the compensation of each executive listed on ExecuComp. For these executive years, we then collect detailed data from the firms' annual reports and proxy statements on the characteristics of any outstanding loans. We also collect data on each executive's years of tenure with the company. Our final sample is comprised of 2,018 person-year observations for these firms, 700 of which are observations from executives with outstanding loans in that year.

Since current disclosure of information on company loans is limited, our methodology ensures that we have a sample of firms that do lend money to executives and that report the details of these loans. It also provides us with a comparison sample of executives *in the same firms* who do not have any reported loans outstanding. This comparison sample should provide a perfect control sample

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since it automatically controls for firm characteristics.[6] However, keep in mind that since firms do not universally disclose executive loans, our results represent lower bounds on the amount of activity that is actually occurring. In addition, since firms do not necessarily apply the same disclosure standards to all executives, our control sample could contain executives who have outstanding loans. Finally, we may also be missing firms/executives from our analysis if the loan was made and repaid within the same year, and thus not reported. To the extent that these conditions occur, our results should be biased against finding any relation between loan activity and managerial ownership.

As a first step in our analysis, we examine the specific characteristics of the loans to determine whether executives gain from borrowing money from their firms rather than borrowing money in the open market. Toward this purpose, we collect data on a variety of prevailing interest rates during the years of our sample. We collect monthly averages of 30-year mortgage rates from the Federal Home Loan Mortgage Corporation (Freddie Mac), broker call money rates from *The Wall Street Journal*, three-month LIBOR rates from the Federal National Mortgage Association (Fannie Mae), and federal funds and prime rates from the Federal Reserve of New York. We use these rates as benchmarks for whether the interest rates on executive loans are at or below prevailing interest rates. While the results presented in our tables focus on the mortgage, prime, and call money rates, our conclusions are similar if the other rates are used.

The second objective of our analysis is to determine if the type of loan provided to executives is related to executive- and firm-specific characteristics. The relation between these variables is estimated using logistic regressions of the type of loan against executive-specific variables such as the cash compensation, shares owned, restricted stock granted, options owned, options granted, options exercised, the rank of the executive (CEO or not) and years with the firm (tenure), and firm-specific variables such as stock returns. If loans are made as a substitute for cash compensation, then we would expect loans to be negatively related to compensation. On the other hand, the relation would be positive if the loans are being granted either as a way around compensation limits or to entrenched management. If the purpose of the loan is to increase the share ownership of executives with low ownership as measured by shares owned, restricted stock granted, or options owned, granted, or exercised, we would expect the frequency of stock and option exercise loans to be negatively related to these factors. On the other hand, if these loans are being made to entrenched managers, the relation would be positive. The frequency of option exercise loans may also be positively related to options owned, granted, or exercised, since the loans are being made to help the executive exercise her options. If a company's stock is performing poorly, executives have less of an incentive to use their own capital to buy the firm's stock. Therefore, we would expect the firm to provide more loans to executives to purchase stock when the stock is performing poorly. Finally, since relocation loans

[6]We considered matching our sample to a sample of firms that do not offer loans to executives. However, it is not clear that companies are always forthcoming about these loans. For example, Microsoft recently reported that it had forgiven a previously undisclosed $15 million loan to former President and COO Rick Belluzo (*The Wall Street Journal*, September 9, 2002, p. B6). As a result, matching to firms for which we could find no evidence of a loan could result in matching to firms that simply do not disclose these loans.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

are being made to entice an executive to move, we would expect the frequency of these loans to be negatively related to the executive's tenure with the firm.

Following Ofek and Yermack (2000), we collect data from ExecuComp on shares owned by the executive at the end of the year, stock options awarded during the year, options exercised during the year, options outstanding at the end of the year, and the dollar value of restricted stock awarded during the year. We estimate the number of restricted shares awarded by dividing the dollar value granted by the year-end stock price. We exclude "reload" options from our analysis.[7] All share quantities are adjusted for stock splits so that variables are stated in common 2000 units. For firms with unusually large changes in share variables on a split-adjusted basis, we verify the ExecuComp data using the firm's annual report and proxy statement.

The third objective of our analysis is to determine if executive ownership increases following stock purchase and/or option exercise loans. To test this hypothesis, we regress the change in ownership on stock-based compensation awards. Stock ownership is defined in the ExecuComp database as shares held directly, including restricted shares, but excluding options (whether exercisable or unexercisable). In contrast, the SEC's section 13(d) beneficial ownership standard requires that companies report beneficial ownership, including securities (such as options) that the person has the right to acquire within 60 days. As a result of ExecuComp's definition, stock ownership should rise one-for-one during years in which restricted stock is granted or options are exercised, but should exhibit no change when options are granted. Further, we would expect ownership to increase with the amount of the loan that is granted. This relation should be the strongest in the year that the loan is made, since shares are most likely to be purchased or received in the year of the grant. Finally, we would expect the relation between loans and ownership increases to be stronger for low ownership managers since they are less inclined to diversify.

We calculate changes in ownership by subtracting the prior year-end ownership from current year-end ownership. As discussed in Ofek and Yermack (2000), a timing problem exists because companies report stock ownership as of the date of the proxy statement, which is often several months after the FYE. Thus, we calculate yearly changes in ownership based on dates several months after the FYE. Ofek and Yermack test the importance of this timing difference by repeating their analysis on a three-year cumulative basis, and their results are virtually unchanged.

III. Results

Table 1 examines the frequency distribution of stock-based compensation awards and loans. For our sample of 2,018 person-year observations, more than four-fifths of executives receive option awards in a given year and approximately one-third exercise options. Restricted stock is awarded during approximately one-

[7] An option with a reload feature is one that provides for automatic grants of additional options whenever an employee exercises previously granted options using shares of stock, rather than cash, to satisfy the exercise price. Including reloads creates a mechanical relation between option awards, option exercise, and stock ownership changes.

fourth of our person-years. These numbers are slightly higher than those reported by Ofek and Yermack (2000) for the 1993–1995 period. Finally, approximately one-third of executives have loans outstanding in a given year.

TABLE 1

Sample Frequencies

	All Executives	Without Loans	With Loans
Number of observations	2,018	1,318	700
Percentage of all executives with:			
New options awarded	80.6	77.9	85.6
Options exercised	33.9	32.3	37.0
Restricted stock awarded	25.7	24.1	28.7
Loans	34.7	0.0	100.0

Descriptive statistics on the frequency of stock-based compensation awards and loans for a panel of executives in 70 firms from 1996–2000. The sample includes 2,018 person-year observations and is drawn from Standard and Poor's ExecuComp database. Column 2 lists the fraction of person-year observations during which executives receive new stock options awards, exercise previously granted options, receive restricted stock awards, and receive loans for the entire sample. Columns 3 and 4 provide frequencies for person-years in which executives do not/do have loans.

A. Executive Loans

The three most commonly reported purposes for executive loans are i) to assist executives in purchasing shares of stock (stock purchase loans), ii) to help executives to exercise options and pay the taxes associated with option exercise (option exercise loans), and iii) to buy homes and help in relocation (relocation loans). Approximately 39% of the loans in our sample are stock purchase loans. An additional 28% are option exercise loans, while 11% are relocation loans. For 22% of the loans in our sample, there is no stated purpose. Table 2 presents descriptive statistics on the different types of executive loans.

Panel A of Table 2 examines the characteristics of stock purchase loans. The mean (median) amount loaned to executives to purchase stock is $2,518,010 ($508,682). Although not reported in the table, we also examine the upper percentiles of the loan amounts. The 75th percentile, the 90th percentile, and maximum values for the stock purchase loans in our sample are $1.75 million, $6.38 million, and $150 million, respectively.[8] Sixty-four percent of these loans are secured by stock in the company while less than 1% are secured by real assets. The principal is forgiven in 12.6% of the loans, while interest only is forgiven in an additional 10.2% of the cases. The median term of the loan is five years. The average interest rate on the loans is 6.1%, which is 1.1 percentage points below the broker call money rate and 2.3 percentage points below the prime rate during the same time period.[9] The below-market interest rate translates into a $63,307 average yearly cost of the loan to the company, which is equal to 9.17% of the executive's cash compensation. The corresponding yearly gain to the executive is a lower $31,236, or 4.95% of her compensation.[10]

[8]The $150 million loan was made to Bernie Ebbers of WorldCom. Removing this observation from our sample does not have an impact on the results reported later.

[9]This below-market interest rate is one possible reason that these executives borrow money from their firms rather than entering into open market transactions with banks.

[10]The cost to the company is measured as the difference between the prime rate and the interest rate on the loan, multiplied by the loan amount. The gain to the executive is measured as the difference

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

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TABLE 2

Loan Characteristics

	Mean	Median		Mean	Median
Panel A. Stock Purchase Loans (N = 334)					
Loan amount (000 $)	2,518.010	508.682	Interest rate	6.057	5.910
Secured by stock	0.636	1.000	Loan term (in years)	5.553	5.000
Secured by assets	0.007	0.000	Prime spread	−2.300	−2.442
Principal forgiven	0.126	0.000	Mortgage rate spread	−1.479	−1.592
Interest forgiven	0.102	0.000	Call money spread	−1.074	−1.208
Cost (000 $)	63.307	12.192	Cost/cash compensation	0.0917	0.0245
Gain (000 $)	31.236	5.033	Gain/cash compensation	0.0495	0.0096
Panel B. Option Exercise Loans (N = 246)					
Loan amount (000 $)	1,714.276	388.500	Interest rate	6.187	6.237
Secured by stock	0.784	1.000	Loan term (in years)	5.107	5.000
Secured by assets	0.013	0.000	Prime spread	−2.293	−2.184
Principal forgiven	0.069	0.000	Mortgage rate spread	−1.350	−1.246
Interest forgiven	0.028	0.000	Call money rate spread	−1.076	−0.961
Cost (000 $)	42.596	6.918	Cost/cash compensation	0.0431	0.0118
Gain (000 $)	21.250	1.673	Gain/cash compensation	0.0179	0.0023
Panel C. Relocation Loans (N = 91)					
Loan amount (000 $)	769.189	288.750	Interest rate	3.910	4.520
Secured by stock	0.067	0.000	Loan term (in years)	6.193	5.000
Secured by assets	0.753	1.000	Prime spread	−4.483	−4.043
Principal forgiven	0.110	0.000	Mortgage rate spread	−3.597	−2.646
Interest forgiven	0.022	0.000	Call money rate spread	−3.255	−2.783
Cost (000 $)	31.658	12.406	Cost/cash compensation	0.0379	0.0231
Gain (000 $)	24.657	8.758	Gain/cash compensation	0.0295	0.0145
Panel D. Other Loans (N = 191)					
Loan amount (000 $)	756.721	211.190	Interest rate	5.510	5.830
Secured by stock	0.540	1.000	Loan term (in years)	3.669	4.000
Secured by assets	0.102	0.000	Prime spread	−2.886	−2.441
Principal forgiven	0.170	0.000	Mortgage rate spread	−2.027	−1.533
Interest forgiven	0.043	0.000	Call money rate spread	−1.659	−1.191
Cost (000 $)	27.611	4.704	Cost/cash compensation	0.0492	0.0110
Gain (000 $)	18.350	1.448	Gain/cash compensation	0.0329	0.0024

Table 2 presents descriptive statistics on the sample of 862 executive loans. Secured by stock (assets) is the fraction of loans that are secured by the executive's common stock (real assets). Principal (interest) forgiven is the fraction of loans in which the principal amount of the loan (interest only) is forgiven by the company. Prime spread is the difference between the interest rate on the loan and the average prime rate during the year of the loan. Mortgage spread is the difference between the interest rate on the loan and the average 30-year mortgage rate. Call money spread is the difference between the interest rate on the loan and the average call money rate. Cost equals the loan amount times the difference between the prime rate and the loan interest rate. Gain equals the loan amount times the difference between the broker call money rate (or mortgage rate for relocation loans) and the loan interest rate.

Panel B of Table 2 examines the characteristics of the option exercise loans. The mean (median) amount loaned to executives to exercise options is $1,714,276 ($388,500). The 75th percentile, the 90th percentile, and maximum values for the option exercise loans in our sample are $1.04 million, $4.25 million, and $52.7 million, respectively.[11] Seventy-eight percent of these loans are secured by stock in the company, while another 1.3% are secured by other assets. The principal is forgiven in 6.9% of the loans, while interest only is forgiven in 2.8% of the cases. The median loan is made for a term of five years. The average interest rate on the loans is 6.2%, which is also 1.1 percentage points below the broker call money rate and 2.3 percentage points below the prime rate during the same time period. Option exercise loans appear to be offered at interest rates similar to those on stock loans. However, the dollar value of the loan is smaller and they are more likely

between the broker call money rate (30-year mortgage rate for relocation loans) and the interest rate on the loan, multiplied by the loan amount.

[11]The $52.7 million loan was made to Dennis Kozlowski of Tyco. Removing this observation from our sample does not have an impact on the results reported later.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

to be secured but less likely to be forgiven. Because of the lower dollar value of the loan, both the cost to the company and gain to the executive are smaller than for stock loans. Specifically, the average yearly cost of the loan to the company is $42,596 or 4.3% of the executive's total compensation. The corresponding yearly gain to the executive is $21,250 or 1.8% of her compensation.

Panel C examines the characteristics of the relocation loans. Relocation loans tend to be smaller than stock purchase and option exercise loans, with the mean (median) amount loaned to executives equal to $769,189 ($288,750). The 75th percentile, the 90th percentile, and maximum values for the relocation loans in our sample are $0.55 million, $1.77 million, and $15 million, respectively. Unlike the other loans, only 6.7% of these loans are secured by stock in the company, while other assets, usually the real estate purchased with the loan, secure 75%. The principal is forgiven in 11% of the loans, while interest only is forgiven in 2.2% of the cases. The median loan is made for a term of five years. The average interest rate on the loans is 3.9%, which is 3.6 percentage points below the 30-year mortgage rate and 4.5 percentage points below the prime rate during the same time period. This lower interest rate appears to be due to the number of relocation loans that are offered interest-free. The average yearly cost of the loan to the company is $42,752 or 4.31% of the executive's total compensation. The corresponding yearly gain to the executive is $21,347 or 1.81% of her compensation.

Panel D examines the characteristics of the loans with no stated purpose. The mean (median) amount loaned to executives is $756,721 ($211,190). The 75th percentile, the 90th percentile, and maximum values for the other loans in our sample are $0.5 million, $2.1 million, and $10 million, respectively. Fifty-four percent of these loans are secured by stock in the company, while 10% are secured by real assets. The principal is forgiven in 17% of the loans, while interest only is forgiven in 4.3% of the cases. The median loan is made for a term of four years. The average interest rate on the loans is 5.5%, which is 2.0 percentage points below the mortgage rate and 1.7 percentage points below the call money rate during the same time period. Although the dollar amount loaned is similar to the relocation loans, the interest rates and collateralization terms are more like the stock purchase and option exercise loans. The average yearly cost of the loan to the company is $27,611 or 4.9% of the executive's total compensation. The corresponding yearly gain to the executive is $18,350 or 3.3% of her compensation.

Although we have 2,018 person-years of data from ExecuComp and data on 862 loans within these person-years, we need two consecutive years of ownership data for our next set of tests since we are attempting to relate changes in ownership to loans granted to executives. This leaves us with 1,469 person-years of data for which we have ownership changes. There are 712 loans during these person-years. We recalculate the loan statistics in Table 2 for these 712 loans. The results are virtually identical.[12]

[12]We also analyze whether the loan characteristics differ for CEOs vs. other executives and new hires vs. executives already in place. We find no statistically significant differences across the various groups.

B. Executive Compensation and Share Ownership

Table 3 provides details on executive stock-based compensation and share ownership for the 1,469 person-year observations for which we can calculate ownership changes. The first columns show details on the number of shares owned, received in the form of new stock option awards or restricted stock grants, and received upon exercise of previously granted options. The last columns show the percentage of shares owned or received, relative to common shares outstanding. Mean stock ownership is about 2,323,770 shares or 1% of shares outstanding. Median values are only 109,170 shares or 0.11% of shares outstanding. Mean (median) option holdings are 1,311,310 (410,540) shares or 0.78% (0.40%) of shares outstanding. The average executive receives yearly option grants of 270,830 shares or 0.18% of shares outstanding, and exercises 180,080 shares or 0.08% of shares outstanding. In contrast, the average amount of restricted stock granted is equal to approximately 10,900 shares or 0.01% of shares outstanding. The average annual change in stock ownership is −0.02% of shares outstanding.

TABLE 3
Descriptive Statistics

	No. of Shares (000s)			No. of Shares / Shares Outstanding		
	Mean	Median		Mean	Median	
Panel A. All Executives ($N = 1,469$)						
Total options granted	333.88	67.50		0.182	0.058	
Non-reload options granted	270.83	65.00		0.177	0.056	
Options exercised	180.08	0.00		0.076	0.000	
Options outstanding	1311.31	410.54		0.776	0.398	
Restricted stock granted	10.90	0.00		0.008	0.000	
Shares owned	2323.77	109.17		1.061	0.108	
Change in ownership	−48.73	1.37		−0.017	0.001	
	Mean	Median		Mean	Median	
Panel B. Executives without Loans ($N = 899$)						
Total options granted	341.84	55.00		0.140	0.044	
Non-reload options granted	275.49	55.00		0.136	0.043	
Options exercised	206.16	0.00		0.062	0.000	
Options outstanding	1441.61	410.27		0.656	0.322	
Restricted stock granted	8.39	0.00		0.007	0.000	
Shares owned	3334.84	80.36		1.016	0.063	
Change in ownership	−84.16	0.50		−0.042	0.000	
	Mean	Median	*t*-Test	Mean	Median	*t*-Test
Panel C. Executives with Loans ($N = 570$)						
Total options granted	321.85	84.70	0.753	0.245	0.091	0.000
Non-reload options granted	263.79	80.00	0.806	0.239	0.087	0.001
Options exercised	140.69	0.00	0.171	0.096	0.000	0.013
Options outstanding	1114.56	411.39	0.035	0.956	0.501	0.000
Restricted stock granted	14.68	0.00	0.072	0.009	0.000	0.682
Shares owned	797.12	175.86	0.000	1.130	0.180	0.588
Change in ownership	4.77	5.74	0.177	0.021	0.006	0.163

Descriptive statistics on executive compensation and share ownership for a panel of executives in 70 firms between 1996 and 2000. The sample includes 1,469 person-year observations for which changes in ownership are available and is drawn from Standard and Poor's ExecuComp database. Panel A presents descriptive statistics for the entire sample. Panel B (C) presents statistics for executives who do not (do) receive loans. The left-hand side of Table 3 provides data on the number of shares owned. The right-hand side provides data on shares owned as a percentage of shares outstanding. The *t*-test is the *p*-value of a test of the differences in the means between the executives without loans and those with loans.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

A potentially interesting question is whether executives appear to trade other forms of compensation in return for receiving these loans. Consequently, we also examine the stock-based compensation and ownership of executives who do not receive loans vs. those who do. These results indicate that executives with loans receive a greater fraction of stock-based compensation than executives without loans. Options granted, options exercised, and options outstanding as a percentage of shares outstanding are all significantly higher for executives with loans vs. those without. The number of shares of restricted stock granted is also higher for executives with loans, although the fraction of restricted stock granted relative to shares outstanding is not. Likewise, the number of shares owned by executives with loans is significantly less than executives without loans, but as a fraction of shares outstanding, they are not significantly different. Finally, there is no significant difference in the yearly change in shares outstanding between the two groups, although on average the executives with loans increase their ownership while those without loans decrease their ownership. Overall, the results indicate that executives who receive loans are not giving up other forms of compensation in return for receiving these loans.

C. The Determinants of Loan Type

To further analyze the relation between executive loans and compensation, we use logistic regressions to examine the characteristics that determine whether an executive receives a certain type of loan. We run separate regressions to examine the characteristics that determine whether an executive receives i) a stock purchase loan, ii) an option exercise loan, or iii) a relocation loan.[13] The independent variables include the total cash compensation of the executive, shares owned by the executive, options owned by the executive, the stock-based compensation variables (restricted stock granted, stock options granted, and stock options exercised), years of tenure with the company, a dummy if the executive is the CEO, and the stock return during the year. The ownership and compensation variables are scaled by shares outstanding. The results are presented in Table 4 and are as follows. Stock purchase loans are less likely to be made to individuals with high share ownership or a large number of options exercised, or in years when the stock return is high. Stock purchase loans are more likely to be made to the CEO of the company. Option exercise loans, on the other hand, are made to individuals whose share ownership is already high, who exercised a large number of options, who were granted a large number of options, and whose cash compensation is high. Relocation loans are provided to individuals whose tenure with the company is brief. These results are inconsistent with the hypothesis that loans substitute for other forms of compensation. Instead, they appear consistent with the idea that stock purchase loans are made to enable low ownership executives to increase their ownership, while option exercise loans enable entrenched man-

[13] In these regressions, we compare executives who receive a certain loan type to executives who receives no loans. For example, in the stock purchase loan regression, the dependent variable takes the value of one if the executive receives a stock purchase loan and zero if no loan is received. Observations in which any other loan type is received are deleted. We also estimate a multinomial logistic model that includes all loan types, instead of three separate logistic models. The results are qualitatively similar to those reported here.

agers to further increase ownership. Relocation loans are made to assist newly hired executives in relocating.

TABLE 4

Determinants of Loan Type

	Loans					
	Stock		Option Exercise		Relocation	
Intercept	−1.180	(<0.0001)	−2.210	(<0.0001)	−2.154	(<0.0001)
Cash compensation	−0.0001	(0.114)	0.0001	(0.026)	−0.00004	(0.733)
Shares owned	−11.029	(0.018)	5.142	(0.013)	−92.393	(0.12)
Restricted stock granted	36.388	(0.659)	47.151	(0.534)	−698.900	(0.689)
Options owned	−5.844	(0.634)	7.326	(0.514)	8.928	(0.618)
Options granted	39.999	(0.143)	72.265	(0.011)	11.083	(0.834)
Options exercised	−1040.0	(<0.0001)	129.1	(0.005)	15.382	(0.881)
CEO dummy	0.833	(0.0002)	−0.335	(0.220)	0.115	(0.814)
Years tenure	0.006	(0.503)	0.005	(0.688)	−0.056	(0.019)
Stock return	−0.185	(0.077)	0.048	(0.373)	−0.054	(0.619)
Pseudo R^2	0.105		0.073		0.058	

Logistic regression of the type of loan against executive and firm characteristics for a panel of executives in 70 firms between 1996 and 2000. The sample includes 1,469 person-year observations for which changes in ownership are available and is drawn from Standard and Poor's ExecuComp database. The number of shares, number of options, options granted, options exercised, and restricted shares awarded are measured as a fraction of shares outstanding. Cash compensation is the sum of salary plus bonus. *p*-values based on the Wald χ^2 are in parentheses.

D. Do Loans Accomplish Their Intended Purpose?

In this section, we test whether loans given to executives by their companies accomplish their intended purpose. As a first step, we examine the proxy statements for information on how the loans are actually used by the executives who received them. With respect to the 91 relocation loans, 71 (78%) appear to be part of a relocation, that is, the proxy states that it is for relocation from one place to another or it is given to an executive to purchase a house in the year they were hired by the company. Four (4%) are given to executives for the purposes of home improvement or the purchase of a second home. Finally, the remaining 18% were provided to executives who had already worked for the company for several years to purchase "real property." This would suggest that in a vast majority of the cases, the relocation loans were used to help with relocation.

For the option loans, virtually all were either made in years that the executive did exercise options or made to assist with taxes on options exercised either that year or the year before. In many of the cases where the loans were used to exercise options, the proxies also state how many options were exercised with the help of the loans. This suggests that option exercise loans are, in general, used for the purpose they were intended for.[14]

For the stock loans, the proxies do not generally provide information on how many shares an executive bought or sold in a given year. However, as stated earlier, 64% of the stock purchase loans are secured by shares purchased. In

[14]The exception is Tyco, where in several years the executives were given option exercise loans, but there is no evidence in the proxies that they exercised options. However, several Tyco executives are currently on trial, in part for using the company's Key Employee Loan Program, designed to provide loans to cover income taxes incurred upon exercise of options or vesting of restricted stock, to buy artwork (see Bray (2003)).

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

addition, the proxy statements indicate that in 160 cases (76%), the change in stock ownership in the year in which a stock purchase loan was given is non-negative. This evidence would indicate that in the majority of these cases, the loans are being used to purchase stock.

1. Multivariate Analysis

To further investigate whether the loans help align managers' incentives with those of shareholders by increasing managerial ownership, we regress changes in ownership on the number of new options awarded, the number of options exercised, and the number of restricted shares granted (all as a fraction of shares outstanding). We also include in the regressions the firm's stock return during the year, since managers concerned about diversification should be more likely to sell after stock price increases, and the number of years the executive has been with the firm (years tenure). Finally, we include variables intended to capture whether or not the executive has any loans outstanding.

Table 5 examines the changes in executive stock ownership as a function of stock-based compensation awards and loans. The first regression indicates that changes in managerial ownership are positively related to the number of options exercised and to the number of restricted shares awarded. Our coefficient on restricted stock awarded is similar to that found in Ofek and Yermack (2000) for low ownership individuals. Our coefficient on options exercised, however, is much higher than their result for either low ownership or high ownership individuals. In fact, we cannot reject that either of these coefficients is equal to one, indicating that for every option exercised or share of restricted stock granted, executive ownership increases by one share. The coefficient on new options awarded is negative, but not significantly different from zero. The coefficient on the stock return during the year is not significant.[15] The coefficient on the tenure variable is also not significantly different from zero. Finally, we include a dummy variable equal to one if the manager has any company-provided loans in that year. The coefficient on this variable is not significantly different from zero.

It is plausible that loans made to executives would have the most impact on ownership in the year the loan is granted, since this is when the executive is most likely to use the loan to purchase stock or exercise options. However, a limitation of our data is that many proxy statements do not give the date on which the loan was made. Also, companies are only required to report the compensation of the top executives at their firm. Consequently, when an executive first appears in the ExecuComp database, if there is a loan reported but no date given, we cannot tell whether the loan was given in that year, or in an earlier year but not reported earlier since she was not a top executive at the time the loan was given. Nonetheless, we attempt to examine this issue in regression (2). In this specification, we include a dummy variable equal to one if our data indicates that the manager is granted a new stock purchase loan in that year. This variable is positive and significant, indicating that stock purchase loans do result in an increase in managerial

[15] In similar regressions, we include the stock return in the prior year. Although we lose observations due to data availability, in this regression the coefficient on stock return is negative and significant. This is consistent with good performance leading managers to want to diversify, and thus sell stock. The coefficients on the other variables do not change significantly.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

TABLE 5

Annual Changes in Share Ownership

		(1)	(2)	(3)
Intercept		−0.001 (0.177)	−0.001 (0.188)	−0.001 (0.164)
New options awarded	$H_0 = 0$	−0.114 (0.138)	−0.107 (0.172)	−0.106 (0.118)
Options exercised	$H_0 = 1$	0.703 (0.000)	0.712 (0.000)	0.642** (0.000)
Restricted shares awarded	$H_0 = 1$	1.089 (0.000)	1.085 (0.001)	1.022 (0.000)
Stock return during the year		−0.000 (0.962)	0.000 (0.932)	0.000 (0.683)
Loan dummy		0.000 (0.313)		
Years tenure		−0.000 (0.476)	−0.000 (0.448)	−0.000 (0.589)
Stock loan amount				0.080 (0.000)
Option loan amount				0.553 (0.038)
Relocation loan amount				0.170 (0.687)
Other loan amount				−0.045 (0.550)
New stock loan dummy			0.002 (0.000)	0.002 (0.075)
Secured loan dummy				−0.001 (0.376)
Adjusted R^2		0.070	0.072	0.076

Ordinary least squares regressions of changes in executive stock ownership as a function of stock-based compensation awards. The dependent variable is the increase in the number of shares held by the executive divided by total shares outstanding. New options awarded, options exercised, and restricted shares awarded are also measured as a fraction of shares outstanding. Loan dummy is a dummy variable equal to one if the executive has a loan outstanding in that year, and zero otherwise. Stock loan amount is equal to the dollar value of all stock purchase loans, divided by the fiscal year-end stock price, divided by the number of common shares outstanding. Other loan variables are similarly defined. New stock loan dummy is equal to one if a new stock purchase loan is given in that year, and zero otherwise. Secured loan dummy is equal to one if the loan is secured by the shares of stock purchased. Heteroskedasticity-consistent *p*-values are in parentheses.

*,**,***denote significant differences from one at the 1%, 5%, and 10% levels, respectively, if $H_0 = 1$.

ownership in the year the loan is granted. However, the economic significance of this coefficient is marginal.

In regression (3), we add variables that capture both the type of loan received by the executive and the loan amount. For each person-year observation, stock loan amount is equal to the dollar value of all outstanding stock purchase loans to that executive, divided by the FYE stock price, divided by the number of common shares outstanding.[16] This variable is intended to capture the fraction of shares outstanding that the executive was able to purchase with the loan. Option loan amount, relocation loan amount, and other loan amount are similarly defined.[17] To examine whether loans have the most impact in the year granted, we also add a dummy variable equal to one if the executive receives a new stock loan in that year. Finally, we add a dummy variable equal to one if the loan is secured by shares of common stock.[18]

The results in regression (3) show that the coefficients on the control variables are similar to those in the previous specifications. In this specification, however, the coefficient on options exercised is significantly different from one. More importantly, the coefficients on the stock loan amount and option loan amount are positive and significant. The coefficient on the stock loan amount indicates that for every share purchased through a stock loan, ownership increases by 0.08

[16]We also standardize the loan amounts by the total cash compensation, measured as salary plus bonus, of the executive. The results are qualitatively similar to those reported here.

[17]Note that for option loan amount, we would ideally like to know the number of shares received at option exercise as a result of the loan. This data is not always available. However, we address this issue in the next section for a subsample of firms for which we can obtain this data.

[18]In unreported regressions, we also interact this dummy variable with the loan amounts, since loans secured by stock may have a different impact dollar for dollar. None of the interaction terms are significant, however.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

shares. This result would seem to indicate that as executives receive loans to purchase shares, they are selling shares that they already held so that ownership is not increasing by much. The coefficient on the option loan amount is more difficult to interpret, since we do not know the number of shares received at options exercise. Even after controlling for the amount of the stock purchase loan, the coefficient on the new stock loan dummy is positive and significant, indicating that loans do have the most impact in the year granted. However, the coefficient on the secured stock dummy is not significant.

2. High vs. Low Managerial Ownership

The effect of equity compensation on the incentive levels of managers should depend on prior ownership. The reasons for this are two-fold. First, in order to sell shares in response to equity-based compensation, managers must own enough shares to sell. Second, managers with low ownership have less of a desire to diversify their holdings than managers with high ownership. Consistent with this, Ofek and Yermack (2000) find that managers with low prior ownership do not sell shares after receiving new options, whereas high ownership managers do. They also find that when executives exercise options to acquire stock, nearly all of the shares are sold, regardless of ownership. Consequently, we repeat our analysis after controlling for ownership. As in Ofek and Yermack, we segment the data into subsamples based on whether an executive owns as many shares at the beginning of the year as awarded in new grants of stock options and restricted stock during the year. The results are shown in Table 6.[19]

We find that for both high and low ownership individuals, ownership increases significantly with restricted stock awards. We cannot reject that either of these coefficients is equal to one. As in Ofek and Yermack (2000), we find that high ownership individuals do not increase their ownership after exercising options. In contrast to their results, however, we find that low ownership individuals do increase their ownership after exercising options. We also find that both high and low ownership individuals decrease their ownership after receiving new option awards, but the relation is only significant for the low ownership executives. Finally, we find that while high ownership individuals increase ownership slightly after receiving stock purchase loans, low ownership individuals increase ownership on almost a one-to-one basis after receiving stock purchase loans. Low ownership managers also increase ownership when they receive option exercise loans.[20] Thus, while our results differ in the details from Ofek and

[19] After segmenting our data by high and low ownership, 56% of the sample falls into the high ownership category and the remainder in the low ownership category. Examination of the total sum of squares between the regressions in Tables 5 and 6 indicates that the high ownership subsample accounts for the majority of the variation. The total sum of squares for the high ownership sample is approximately 10 times larger than that of the low ownership sample, and only slightly smaller than the total sum of squares for the whole sample. Consequently, both the coefficients on the loan amounts and the R^2s of the high ownership sample are similar to that of the whole sample, while the low ownership sample has much higher coefficients and R^2s.

[20] In about 50% of our sample, we are able to obtain information on shares received on option exercise. We repeat our regression analysis by replacing the option loan amount by two variables. The first variable is identical to that described in regression (3) of Table 4 if we do not have information on shares received on option exercise and zero otherwise, while the second variable is set equal to the number of shares received on option exercise divided by shares outstanding if we do have information

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TABLE 6

Annual Changes in Shares Owned for High and Low Ownership Managers

		High Ownership	Low Ownership
Intercept		−0.001 (0.155)	−0.000 (0.693)
New options awarded	$H_0 = 0$	−0.209 (0.297)	−0.118 (0.004)
Options exercised	$H_0 = 1$	0.196* (0.259)	0.637* (0.000)
Restricted shares awarded	$H_0 = 1$	1.040 (0.000)	0.658 (0.045)
Stock return during the year		0.000 (0.574)	0.000 (0.933)
Years tenure		0.000 (0.808)	0.000 (0.936)
Stock loan amount		0.080 (0.000)	0.930 (0.000)
Option loan amount		0.341 (0.166)	1.481 (0.000)
Relocation loan amount		0.869 (0.672)	0.083 (0.136)
Other loan amount		−0.030 (0.652)	−0.508 (0.348)
New stock loan dummy		0.002 (0.024)	0.001 (0.125)
Secured loan dummy		−0.000 (0.741)	−0.000 (0.985)
Adjusted R^2		0.010	0.780

Ordinary least squares regressions of changes in executive stock ownership as a function of stock-based compensation awards. The dependent variable is the increase in the number of shares held by the executive divided by total shares outstanding. New options awarded, options exercised, and restricted shares awarded are also measured as a fraction of shares outstanding. Stock loan amount is equal to the dollar value of all stock purchase loans, divided by the fiscal year-end stock price, divided by the number of common shares outstanding. Other loan variables are similarly defined. New stock loan dummy is equal to one if a new stock purchase loan is given in that year, and zero otherwise. Secured loan dummy is equal to one if the loan is secured by the shares of stock purchased. Years tenure is the number of years the executive has worked for the company. Heteroskedasticity-consistent *p*-values are in parentheses.

*,**,***denote significant differences from one at the 1%, 5%, and 10% levels, respectively, if $H_0 = 1$.

Yermack (2000), they are similar in spirit: we both find that the incentives of low ownership managers improve more than those of high ownership individuals in the presence of equity-based compensation and executive loans.

3. Robustness

Our coefficient on options exercised is much higher than that found by Ofek and Yermack (2000). There are several possible explanations for this. One is that managers subject to new minimum ownership requirements due to the adoption of target ownership plans (Core and Larcker (2002)) are more likely to exercise options and hold the shares. Another explanation is that our sample has a large percentage of newly hired executives, who are less likely to be trying to diversify and more likely to be trying to increase ownership. Finally, our options exercised variable could be picking up the fact that loans made for the purpose of exercising options and paying any associated taxes are, in fact, enabling managers to increase ownership, since the managers do not have to sell shares obtained on exercise to pay taxes or the exercise price.

To test whether the presence of newly hired executives is affecting our results, we repeat the analysis in Table 6, but include with each of the compensation and loan variables an interaction term equal to one if the executive was hired within the past two years. For both the high ownership and low ownership regressions, the interaction variables are uniformly insignificant. The coefficients

on shares received and zero otherwise. The coefficients of both variables are not significantly different from zero for the overall and high ownership sample, indicating that shares received through option exercise do not result in an increase in managerial ownership. On the other hand, for the low ownership group, the first (second) variable is significantly different from zero at the 10% (1%) level. The magnitude of the coefficient of the shares received variable indicates that for every 100 shares received through option exercise in the low ownership sample, stock ownership increases by 37 shares.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

on the uninteracted compensation and loan variables do not change in sign or significance.

To test whether the option loans are accomplishing their intended purpose, we perform several additional tests. First, we examine the correlation between our options exercised and option loan amount variables. The correlation is 0.33, which is significant at the 1% level. Next, we rerun the regressions in Table 6, after omitting any observations in which a loan is made for the purpose of exercising options and paying taxes. If the option loans are merely accomplishing their intended purpose, then the coefficient on the option exercise variable is going to be boosted upward for executives who receive option loans. After removing these observations, our coefficient should be closer to that found in Ofek and Yermack (2000). Consistent with this, we find that after removing the option loan observations, the coefficient on options exercised is 0.284 (t-statistic = 8.02) for low ownership executives and −0.055 (t-statistic = −0.18) for high ownership executives. We also rerun the regressions in Table 6 on the entire sample, but omit the option loan amount variable, in case the correlation between the option loan and options exercised variables is biasing the regressions coefficients. When we do so, the coefficients on the options exercised variable for the high and low ownership samples are similar to those reported in Table 6. These results seem to indicate that our coefficient on options exercised is higher than that found in Ofek and Yermack (2000) because option exercise loans are enabling managers to hold onto more shares after exercise, since they do not need to sell the shares to pay taxes and the exercise price.

We also examine whether loans are more or less effective for CEOs vs. non-CEOs.[21] To do so, we interact a dummy variable equal to one if the executive receiving the loan holds the rank of CEO with each of the executive compensation and loan variables. The results are presented in Table 7. For high ownership individuals, there does not appear to be any difference between CEOs and non-CEOs. The coefficients on the compensation and loan variables are similar to those in Table 5, and the interaction terms are insignificant. For low ownership individuals, the relation between compensation and ownership changes is significantly different for CEOs than for non-CEOs. CEO ownership increases less than non-CEO ownership following option exercise, and appears to actually decrease following grants of options or restricted stock. In addition, the interaction term on stock purchase loans is positive and significant, indicating that low ownership CEOs are more likely to increase ownership as a result of these loans than other executives.

Finally, we examine whether our results stand up to the inclusion of firm-level fixed effects. Inclusion of these effects increases the R^2s in the regressions of both the high and low ownership sample. The parameter estimates are not significantly affected.

4. Forgiven Loans

As stated earlier, a number of loans provided for stock purchase and option exercise are forgiven. This section provides an analysis of these forgiven loans

[21] Approximately 25% of the loans in our sample are made to the CEO.

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TABLE 7

Annual Changes in Shares Owned, Ownership Level, and CEO Rank

		High Ownership	Low Ownership
Intercept		−0.001 (0.179)	−0.000 (0.534)
New options awarded	$H_0 = 0$	−0.012 (0.952)	−0.130 (0.028)
New options awarded∗CEO		−0.180 (0.597)	0.069 (0.391)
Options exercised	$H_0 = 1$	0.128* (0.400)	0.695* (0.000)
Options exercised∗CEO		0.108 (0.756)	−0.401 (0.045)
Restricted shares awarded	$H_0 = 1$	0.614 (0.048)	1.117 (0.007)
Restricted shares awarded∗CEO		0.493 (0.143)	−1.552 (0.030)
Stock return during the year		0.000 (0.577)	−0.000 (0.866)
Years tenure		0.000 (0.543)	0.000 (0.797)
Stock loan amount		0.092 (0.440)	0.489 (0.063)
Stock loan amount∗CEO		−0.005 (0.965)	0.473 (0.063)
Option loan amount		0.590 (0.056)	1.363 (0.021)
Option loan amount∗CEO		−0.345 (0.431)	−0.747 (0.240)
Relocation loan amount		0.454 (0.200)	0.070 (0.590)
Relocation loan amount*CEO		0.904 (0.826)	0.095 (0.641)
Other loan amount		0.482 (0.350)	0.127 (0.752)
Other loan amount∗CEO		−0.501 (0.348)	0.574 (0.583)
New stock loan dummy		0.002 (0.026)	0.001 (0.264)
Secured loan dummy		−0.000 (0.633)	0.000 (0.475)
CEO		−0.001 (0.388)	0.001 (0.565)
Adjusted R^2		0.001	0.793

Ordinary least squares regressions of changes in executive stock ownership as a function of stock-based compensation awards. The dependent variable is the increase in the number of shares held by the executive divided by total shares outstanding. New options awarded, options exercised, and restricted shares awarded are also measured as a fraction of shares outstanding. CEO is a dummy variable equal to one if the executive receiving the loan is the CEO, and zero otherwise. Years tenure is the number of years the executive has worked for the company. Heteroskedasticity-consistent *p*-values are in parentheses.

*,**,***denote significant differences from one at the 1%, 5%, and 10% levels, respectively, if $H_0 = 1$.

vs. loans that are not forgiven and reestimates the regressions in Tables 5, 6, and 7 for the forgiven loans.[22]

The mean (median) time over which loans are forgiven is 4.1 (four) years, with almost all loans being forgiven three, four, or five years after they are granted. A majority (58.2%) of the forgiven loans are part of an employment contract, while 25.8% of them are forgiven conditional on achieving certain performance goals.[23] Compared to executives whose loans are not forgiven in our sample period, executives with forgiven loans have lower salary plus bonus ($613,700 vs. $972,200) and own fewer shares as a percentage of shares outstanding (0.28% vs. 1.27%), with both the differences being significant at the 1% level. This result is consistent with the arguments that the loans are being forgiven in lieu of compensation and that the loans are being provided and forgiven as an incentive to increase share ownership.

To determine whether the forgiven loan sample exhibits any differences from our overall sample of loans, we repeat the analysis in Tables 5, 6, and 7 on the forgiven loan sample only. Specifically, we regress change in ownership on com-

[22]There are some tax implications of loan forgiveness that are beyond the scope of this paper. Specifically, loan forgiveness is generally ordinary income to the employee and deductible as compensation expense to the corporation. On the other hand, the forgiveness of a loan may not be deductible by the corporation if the amount of the loan forgiveness plus the amount of compensation received by that employee for the taxable year is in excess of what is considered "reasonable" and/or the amount of compensation exceeds $1.0 million in the case of a publicly traded corporation. If the amount deductible by the corporation is limited, this "excess" received by the employee is considered a dividend.

[23]For example, Union Pacific lent $46.7 million to its highest executives in 1999 to purchase shares, with the loans being forgiven if the company achieved certain earnings and stock performance goals.

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

pensation variables (the number of new options awarded, the number of options exercised, and the number of restricted shares granted), the firm's stock return during the year, the number of years the executive has been with the firm (years tenure), and variables that capture whether or not the executive has any loans outstanding. For the sample of forgiven loans, the coefficients of the compensation variables are of similar magnitude and significance to those of the whole sample. In addition, as with the results reported previously, the coefficients of the firm's stock return during the year and the number of years the executive has been with the firm are not significantly different from zero. In contrast, the coefficients of the loan variables are now insignificant. When the sample is split into high ownership vs. low ownership executives, the results on the low ownership sample are similar to those reported in Table 6; that is, the stock and option loan variables are positive, significant, and of the same magnitude as that for the full sample of loans. In contrast, the results for the high ownership sample are the opposite of those reported previously. Specifically, we find that the coefficients on both the stock and option loans are negative and significant, indicating that high ownership executives reduce ownership in the companies after receiving these loans. Finally, as reported for the full sample in Table 7, we find no difference between CEOs and non-CEOs in the forgiven loan sample. These results are consistent with our previous argument that loans are beneficial in enabling low ownership executives to increase their ownership level. On the other hand, loans made to high ownership individuals appear to be much less efficient in aligning managers' incentives with those of shareholders.

IV. Conclusion

In the past year, in the wake of numerous accounting scandals, loans made to executives by their companies have come under increased scrutiny. We examine the characteristics of these loans, and find that the characteristics depend on the purpose for which the loan was made. Loans made to buy homes or assist in relocation tend to be offered at below-market interest rates and are usually secured by real assets. Loans made to assist executives in purchasing stock or exercising options tend to be larger than relocation loans. They are often secured by stock and have higher interest rates than relocation loans.

We also find that stock purchase loans are made to low ownership executives, while option exercise loans are made to executives with high ownership and compensation. Relocation loans are made to newly hired executives. These results are not consistent with loans being used as a substitute for other forms of compensation.

Finally, we find evidence that loans made for the purpose of purchasing stock or exercising options do result in an increase in executive stock ownership. For managers as a whole, the magnitude of this increase is small. A loan that enables a manager to buy 100 shares of stock results in only an eight-share increase in ownership. For low ownership managers, however, the relation between ownership changes and stock purchase loans is much stronger.

Overall, our results indicate that loans are beneficial in enabling low ownership executives to increase their ownership level. Loans made to high ownership

https://doi.org/10.1017/S0022109000003215 Published online by Cambridge University Press

individuals appear to be much less efficient in aligning managers' incentives with those of shareholders. Although loans do not appear to be the most efficient way to increase executive ownership, these results call into question the wisdom of an outright ban on these loans, especially for managers for whom ownership levels are low.

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