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An Investigation into Optimal Stock Option Compensation

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ABSTRACT
Throughout twentieth century, it has become increasingly common for executives to be remunerated with stock options, contracts which allow the recipient to buy company stock at a predetermined price, thus giving the incentive to maximize the stock price in order to increase the value of the stock option contract. Not only has stock option compensation become increasingly prevalent to executives at most major listed companies, but also to employees at all levels of the firm, both big and small. However, along with the growth in popularity, stock option compensation also became a topic of contention, not only among the general public, but among lobbyists, legislators and academics.

This thesis aims to provide a better understanding of stock option compensation practice, with a particular emphasis on the United States, where stock option compensation is most prevalent. The thesis is divided into three chapters: the first chapter deals with establishing a foundational understanding of stock option practice and possible drivers through investigating the literature on the history of stock option compensation practice in the US. The second chapter develops a holistic theoretical model of an optimal stock option compensation package to possibly explain some practice currently considered as excessive. Then lastly, the third chapter empirically tests the validity of possible drivers of executive stock option policy in recent times in an attempt to identify whether current practice is optimal or not.

The first chapter is primarily a literature review, covering a series of events over the history of stock option compensation in the US, ranging from its early beginnings in the early twentieth century until the present day. Included in the coverage of
significant events are: legislation impacting tax benefits for corporate and for recipients; “landmark” events such as the first case of “broad-based” option compensation resulting in companies following a standard business practice; trends in the stock market; academic theory of the development of agency theory which supports the use of tools such as equity based compensation, and the development of major option valuation models; the possible impact of accounting standards; and the possibly impact of major bankruptcies or unethical behavior directly or indirectly tied to executive stock option compensation.

The second chapter follows with a theoretical approach to understanding stock option compensation trends by analyzing the major benefits and costs associated with stock options. The model developed differs to most other existing optimization models as it does not focus on one set of benefits or factors, rather a more holistic approach is taken. Using a holistic approach, this model also helps explain how levels of compensation that are considered excessive under an optimisation model based only in incentive benefits, can actually be optimal for the firm once other costs and benefits are incorporated.

The model also aims to provide an alternative explanation to the managerial power hypothesis to explain why the buoyancy of the market may be positively correlated with compensation levels. This is explained by the impact of the buoyancy of the market on the likelihood of stock option exercise, and the costs and benefits either unconditional, partially conditional or conditional on options being exercised. In addition, smaller companies are also found to benefit from stock options more than larger firms due to some of the unconditional benefits, in particular, the ability to
attract higher quality talent which can also help small firms fulfil untapped potential. Lastly, the model also provides useful insight into the appropriateness of using of foregone option premiums as the economic opportunity cost of granting stock options.

The third chapter aims to empirically test the impact of several factors brought up in Chapter One that may help explain changes in compensation that occurred at the turn of the century. These major factors analyzed are: 1) the bull market prior to and the bear market following the market crash of 2000, 2) changes in accounting standards for equity based compensation, and 3) possible public perception of corruption following several major bankruptcies associated with poor ethics in 2002.

Mixed evidence is found regarding the impact of market cycles. These findings include cycles to be linked to granting options out-of-the-money, a general inverse relationship with the levels of stock option compensation with the buoyancy of the market, expected for companies managing incentives, and finally there are indications companies ceased granting options based on poor company stock price performance prior to 2001.

Other findings indicate the possible influence of accounting standards on economic decisions as well as the broad impact of events surrounding 2001-2, even though they have no economic impact. On the one hand, decreases in stock option compensation levels is shown to be linked to accounting decisions, however, there is insufficient evidence to support the argument that firm-wide decision making to cease granting stock options completely was based on accounting decisions.
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# TABLE OF CONTENTS

ABSTRACT .................................................................................................................. i  
ACKNOWLEDGEMENTS .............................................................................................. iv  
TABLE OF CONTENTS .............................................................................................. v  
LIST OF FIGURES ....................................................................................................... viii  
LIST OF TABLES ......................................................................................................... ix  

CHAPTER I: INTRODUCTION .................................................................................... 1  
2.1 INTRODUCTION .................................................................................................. 7  
2.2 DISCUSSION ....................................................................................................... 9  
2.2.1 Options prior to the 20th Century: A brief background .................................. 9  
2.2.2 Employee Stock Options: 20th Century ......................................................... 11  
2.2.2.1 1945: Taxable Stock Option Compensation ............................................. 11  
2.2.2.2 The First Accounting Standards for option compensation: ARB 37 ...... 13  
2.2.2.3 Creation of Statutory options: the Restricted Stock Option (1950) ....... 16  
2.2.2.4 ARB 43, Chapter 13, Section B ................................................................. 18  
2.2.2.5 Revisions to the Internal Revenue Code: Mid 1950s ............................... 19  
2.2.2.6 Venture Capital & Stock Options ............................................................... 20  
2.2.2.7 Reconsiderations for the statutory option: The replacement of the Restricted Stock Option ...................................................... 21  
2.2.2.8 The Alternative Minimum Tax: 1969 ......................................................... 23  
2.2.2.9 Unofficial Accounting changes: 1971 ....................................................... 24  
2.2.2.10 Accounting Principles Board Opinion No. 25 ........................................ 24  
2.2.2.11 Academia’s influence: Option Valuation & Agency Theory .................. 26  
2.2.2.12 The Black-Scholes Option Pricing Model .............................................. 27  
2.2.2.13 Agency Theory ...................................................................................... 29  
2.2.2.14 The Binomial Option Pricing model ...................................................... 29  
2.2.2.15 1970s Tax changes ................................................................................. 30  
2.2.2.16 1981 Reintroduction of Statutory options: The Incentive Stock Option .................................................................................. 30  
2.2.2.17 1980s Recovery of the US Stock Market ................................................. 31  
2.2.2.18 1980s Accounting Reconsiderations ..................................................... 32  
2.2.2.19 Modern Executive Compensation ......................................................... 32  
2.2.2.20 FASB 123 .............................................................................................. 34  
2.2.2.21 FASB Interpretation No 44 ................................................................... 37  
2.2.2.22 Major Reforms in Accounting Standards: FASB & IASB drafts ......... 38  
2.2.2.23 Opposition to accounting standards: 2003 .......................................... 39  
2.2.2.24 Microsoft announces it will stop issuing stock options ...................... 40  
2.2.2.25 FASB Exposure Draft ......................................................................... 41  
2.2.2.26 Stock Option Backdating ...................................................................... 42  
2.2.2.27 Global Credit Crunch and possible government reform ....................... 42  
2.3 CONCLUSION .................................................................................................. 44
CHAPTER III: VALUE FOR “MONEYNESS”? ....................................................... 46
3.1 INTRODUCTION ......................................................................................... 46
3.2 BENEFITS................................................................................................. 49
3.2.1 Incentive benefits.................................................................................. 49
3.2.2 Investment “Selection” benefits ............................................................ 50
3.2.2.1 Alternative stock option incentive tools.......................................... 51
3.2.3 Attracts higher quality talent ............................................................... 52
3.2.4 Talent sorting benefits ....................................................................... 52
3.2.5 Retention.............................................................................................. 52
3.2.6 Cash conservation benefits ................................................................ 53
3.2.7 Financing issuance cost savings ......................................................... 54
3.2.8 Tax benefits and capital structure ...................................................... 54
3.3 COSTS........................................................................................................ 56
3.3.1 Dilution costs....................................................................................... 56
3.3.2 Repurchases......................................................................................... 56
3.3.3 Reduced or wrong incentives ............................................................... 57
3.3.4 Accounting costs and earnings management ......................................... 58
3.3.5 Economic Opportunity cost ................................................................ 58
3.3.6 Summary of Costs & Benefits .............................................................. 59
3.4 THE MODEL .............................................................................................. 61
3.4.1 The introduction of an employee .......................................................... 62
3.4.2 Employee Compensation ...................................................................... 64
3.4.2.1 Dilution costs ................................................................................ 65
3.4.2.1.1 Minimising dilution .................................................................. 70
3.4.2.2 Share repurchases ......................................................................... 71
3.4.2.3 Economic Opportunity cost of granting stock options .................... 72
3.4.2.3.1 Foregone revenues from option premiums are lower than the value of employee options granted ................................................................. 73
3.4.2.3.2 Forgone costs as well as revenues ............................................... 74
3.4.2.3.3 The after-tax revenues foregone .................................................. 76
3.4.3 Benefits.................................................................................................. 78
3.4.3.1 Incentive benefits .......................................................................... 78
3.4.3.2 Investment Selection benefits .......................................................... 80
3.4.3.3 Attracting better talent ................................................................... 82
3.4.3.4: Sorting benefits ............................................................................. 83
3.4.3.4.1 Do undiversified employees value options less than their market value? ................................................................................................................... 87
3.4.3.4.2 Reduced risk of employee rent extraction ...................................... 87
3.4.3.5 Retention benefits .......................................................................... 87
3.4.3.6 Liquidity benefits ............................................................................ 89
3.4.3.7 Financing benefits .......................................................................... 90
3.4.3.8 Corporate tax benefits .................................................................... 90
3.5 SENSITIVITY ANALYSIS ........................................................................ 92
3.5.1 Opportunity cost: Relationship between dilution and foregone revenues ......................................................................................................................... 93
3.5.1.1 Adjusting for other variables ............................................................ 95
3.5.1.2 The case against underwriting options as opportunity cost ............ 95
3.5.1.3 Moneyness and dilution .................................................................. 96
3.5.2 Minimum Required Option Benefits .................................................... 98
3.5.2.1 The impact of differing levels of volatility ........................................ 98
CHAPTER IV: OPTION COMPENSATION, MARKET CYCLES, CORPORATE SCANDALS & ACCOUNTING STANDARDS

4.1. INTRODUCTION ........................................................................... 107
4.1.1 Market Cycles ........................................................................... 108
4.1.2 Accounting changes & Stock option compensation .................. 108
4.1.3 Corporate scandals ..................................................................... 109
4.2. RELATED LITERATURE ............................................................. 111
4.2.1 Market cycles and stock option compensation ......................... 111
4.2.2 Accounting and stock option compensation ............................. 112
4.2.3 Corporate Scandals and executive stock option compensation ...... 113
4.3. OPTION GRANT LEVELS AND MONEYNESS OF STOCK
4.3.1 Option Grant Levels ................................................................... 114
4.3.2 Decreases vs ceasing ................................................................. 115
4.3.3 Moneyness of options ................................................................. 116
4.3.4 Out-of-the money options ......................................................... 117
4.4. Hypotheses regarding drivers behind decreases in stock option levels.
4.4.1 Market cycles and a temporary cut-off ....................................... 119
4.4.2 Accounting standards ................................................................. 119
4.4.3 Corporate Fraud .......................................................................... 120
4.5. DATA & METHODOLOGY .......................................................... 120
4.5.1. Data .......................................................................................... 120
4.5.1.1 Data Collection & manipulation ................................................ 121
4.5.1.1.1 Estimation of executive’s option portfolio ............................ 121
4.5.1.1.2 Estimation of executive’s initial option holdings ................. 122
4.5.2 The Model: ................................................................................ 123
4.5.2.1 The base ................................................................................ 123
4.5.2.2 Additional components .......................................................... 124
4.5.2.2.1 A downward market component ....................................... 124
4.5.2.2.2 Accounting transition indicator variables ......................... 124
4.5.2.2.3 Corporate scandals ............................................................ 125
4.6. EMPIRICAL RESULTS ................................................................. 125
4.6.1 The influence of the market ......................................................... 125
4.6.2 Accounting variables ................................................................. 127
4.6.3 Corporate Fraud .......................................................................... 127
4.6.4 Cease or decrease? ..................................................................... 127
4.6.4.1 Market impact on decision to cease granting options .............. 128
4.6.4.2 Accounting impact on ceasing to grant options ...................... 130
4.6.4.3 Corporate fraud ...................................................................... 130
4.7. CONCLUSIONS .......................................................................... 130

CHAPTER V. CONCLUSIONS ............................................................................ 132
5.1. Summary ..................................................................................... 1302
5.2. Limitations and suggestions for further research ........................ 1308

REFERENCES ........................................................................................................ 139
LIST OF FIGURES

Figure 2.1: Timeline of Major Events in Employee Stock Option History 10
Figure 2.2: Graph of Long-term capital gains and Highest marginal tax differential 17

Figure 3.1: The timing of costs and benefits 59
Figure 3.2: Payoff for a normal investor’s “Covered call” strategy 65
Figure 3.3: Simple Payoff for a Company’s “Covered call” strategy 66
Figure 3.4: Price after dilution 68
Figure 3.5: \(P^*\) - the price of a company with option benefits incorporated into it 69
Figure 3.6: \(P^*\) after dilution 70
Figure 3.7: General Payoff for a Company’s “Covered call” strategy with the choice to repurchase shares 72
Figure 3.8: Foregone option revenues and dilution vs. grant level 94
Figure 3.9: Foregone option revenues and dilution vs percentage of options granted 94
Figure 3.10: Moneyeness and dilution for different grants 96
Figure 3.11: Cumulative distribution for dilution under different market states 97
Figure 3.12: Distributions showing dilution under different market states 98
Figure 3.13: Required unconditional benefits under different volatilities 99
Figure 3.14: Required unconditional benefits under different tax rates 99
Figure 3.15: Moneyeness and required unconditional benefits 100
Figure 3.16: Moneyeness and required conditional benefits (fixed number of options) 101
Figure 3.17: Moneyeness and required conditional benefits (fixed value of options) 102
Figure 3.18: Required conditional benefits and unconditional benefits (fixed value of options) 103

Figure 4.1: Average option grants 1996-2003 114
Figure 4.2: Option Grants (percentiles) 1996-2003 115
Figure 4.3: Companies that ceased granting options (1999-2003) 116
Figure 4.4: The moneyeness of options granted at-the-money 117
Figure 4.5: Companies granting out-of-the-money options 117
Figure 4.6: Average exercise prices of “out-of-the-money” options granted (93-03) 118
Figure 4.7: Returns of companies that ceased option grants 129
LIST OF TABLES
Table 2.1: Significant Stock Option related tax changes 12
Table 2.2: Accounting Standard changes affecting Employee Stock Options 14
Table 2.3: Summary of impact on Earnings and Balance sheet for in-the money options 15
Table 2.4: Summary of impact on Earnings and Balance sheet for in-the money options 15
Table 2.5: Significant Academic Contributions affecting Stock Option Compensation 27
Table 2.6: Comparison of Statutory Stock Options 31
Table 3.1: Summary of characteristics of costs and benefits 60
Table 4.1: Empirical Results 126