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Long-Term Incentive Plans and Firm Performance

- A study of Swedish listed companies

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Abstract

This essay will summarize and study existing theories and the recent developments regarding long-term incentive (LTI) plans in Swedish companies listed on Nasdaq OMX Stockholm. The underlying theory is the principal-agent problem that arises in public companies, which highlights the behavioural aspects of decision-making for employees in a managerial position. This study aims to provide evidence that LTI plans aimed at the executive management result in increased financial performance. The period to which the study relates is 2009 to 2012, analysing company profit from the year of implementation and three year forward. There is empirical evidence that increased profits can be associated with having an LTI plan in mid- and small-size companies, which indicates that the value of financial incentives is measureable. The data sample shows that shares are more prevalent in large companies and options in smaller companies. An analysis on the use of shares and options shows a correlation between instruments used and firm performance, which strengthens the implication of a potential LTI effect. Finally, there are further evidence that LTI have an impact on employee turnover but no evidence on an impact on leverage. This suggests that the use of financial incentives do to some extent retain managers but the level of risk measured in leverage is not quantifiable.

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Abbreviations

AGM – Annual General Meeting

LTI – Long-Term Incentive

ESO – Employee Stock Option

RSA – Restricted Share Award

RSU – Restricted Share Unit

EBITDA – Earnings before Interest Taxes Amortisation and Depreciation

EBIT – Earnings before Interest Taxes

EPS – Earnings per Share

TSR – Total Shareholder Return

IPO – Initial Public Offering

OLS – Ordinary Least Squared

BLUE – Best Linear Unbiased Estimator

1. Introduction

1.1. Background

The basic premise of this essay is the evolving topic of remuneration as part of corporate governance. The ongoing scrutiny of reward levels in the light of share price performance continue to be debated in the media. The quantifiable nature of these schemes are criticised by public officials, shareholders and academics alike. This topic is of great interest of mine and I see a lot of potential to improve remuneration standards in Sweden. There has been recent progress over the past years to improve the standard of corporate governance through political reforms and regulatory changes. One catalyst for change in Europe is the proposed ‘say on pay’ directive aimed at creating a link between pay and performance, and a greater engagement between shareholders and executives. The European Union has presented changes to the Shareholder Rights Directive (Directive 2007/36/EC) in order to handle corporate governance issues relating to public companies, shareholders, intermediaries and proxy advisors (i.e. firms providing services to shareholders).¹ As the financial crisis (2008) showed, shareholders frequently tend to support managers’ excessive short-term risk taking and fail to monitor investment decisions more closely. Furthermore, tougher auditing standards and increased transparency with regard to employee financial incentives have led to new and improved reward structures. The new regulatory framework mainly strives to increase long-term focus, with respect to incentive schemes for the executive management. In modern corporations, executive management is the one empowered to make decisions that has an impact on share price and future financial growth.² Previous studies^{3,4,5,6} discuss that the use of incentives has increased over the past decades as it has proven to tie pay and performance. Furthermore, in the existing competitive market companies have to focus on new technology, which has resulted in a more ‘human capital’ intensive environment. Fama⁷ argues that long-term incentive schemes are

¹ Press release, European Commission proposes to strengthen shareholder engagement and introduce a "say on pay" for Europe’s largest companies, http://europa.eu/rapid/press-release_IP-14-396

² Ellig B. (2007, p.402-526)

³ Mehran H. (1995, p.163-184)

⁴ Sanders G. (2001b)

⁵ Brickley J. A. (1991, p.70-84)

⁶ Huselid A. M. (1995, p.635-872)

⁷ Fama E. F. (1980)

critical in order to attract and retain key employees, especially in ‘human capital’ intensive industries, as losing valuable human capital can be costly for a firm. Furthermore, financial incentives are utilised to increase overall efficiency where top managers monitor and motivate lower level management and employees in a ‘top-down’ approach. Zingales⁸ describes a “new theory of the firm” which argues that when companies become more ‘human capital’ intensive, traditional corporate finance becomes inefficient. In order to find new market opportunities and innovations to drive capital growth, talented people are essential for success.

The primary purpose of LTI plans is to increase executive ownership in the company, thereby incentivising management to implement profitable business strategies. There is a plethora of literature on financial incentives, discussing at great length the link between managers and shareholders, and the impact pay has on performance. However, the conclusions on the actual effects are rather polarised with many contradictory findings. Meckling⁹, one of the early researchers on this subject, notes that the underlying theory of each study is the conflict that arises between shareholders and managers in a principal agent problem, based on the separation of ownership and control manifested in public companies. Bamberg¹⁰ describes how financial incentives can be utilised to control management behaviour and potentially eliminate the agency problem. Mehran¹¹ argues that the shareholders do not have direct insight into the company and cannot monitor investment opportunities, therefore focus has to be shifted towards reducing the agency problem. To this effect, LTI plans are designed to mitigate the agency problem and the associated costs, and align the interest between shareholders and managers.

The agency theory addresses issues such as asymmetric information and different risk preferences. Greenwald¹² explains how asymmetries of shareholders and managers have led to new developments in which companies acquire and deploy capital. The source of a firm’s financial performance lies in factors such as R&D investments, increased leverage, acquisition prospects, debt financing, cash reserves and other factors that have an impact on capital

⁸ Zingales L. (2000, p.1623-1655)

⁹ Meckling M. C. (1976, p.305-360) , *et al*

¹⁰ Bamberg G. (1989)

¹¹ Mehran H. (1995, p.163-184)

¹² Greenwald B. C. (1990, p.160-165)

structure. Coles¹³ provides evidence of a strong correlation between managerial incentives and investment policy, debt policy and firm risk. The study shows that the compensation structure is associated with more R&D investments, less investment in ‘Property, plant and equipment’ and higher leverage. The issues that arise vary depending on the type of company and the level of growth opportunities. Bizjak¹⁴ notes that high growth (e.g. software, pharmaceutical) firms have higher level of asymmetric information as it focuses on new products and growth opportunities, which may take years to develop. Furthermore, industrial companies should have lower asymmetric information as it focuses more on producing/marketing existing products. Therefore, high growth companies should focus more on incentive schemes to reduce the agency problem. Along with asymmetric information, managers tend to have different risk exposure. Rajgopal¹⁵ notes that managers are portrayed as risk-averse individuals and shareholders as risk-neutral, seeking investments to maximize profit. This study investigates the relation between executive stock options and volatility, the result suggests that financial incentives motivate managers to invest in more high risk projects. Datta¹⁶ investigated the potential effects financial incentives had on acquisition decisions, providing evidence that post-acquisition performance is higher in companies with high equity-based compensation. This supports the existing theory – that board and shareholders can affect managerial decisions by incentivising.

Researchers are striving to find the optimal incentive mechanism for managers to make more value-creating decisions. Furthermore, increased ownership structure align a manager’s wealth with firm performance, which in return should maximize company pay-off as managers tend to seek ways to maximize their own utility. Prevailing econometric studies have shown that LTI plans can be associated with company growth. Brickley¹⁷ provides evidence of a link between LTI plans and productivity. The study concludes that financial incentives have an impact on behaviour, suggesting that employees are less likely to harm the company and more likely to act in a value-enhancing manner. Huselid¹⁸ provides an extended study showing that financial incentives can be associated with increased productivity, performance and decreased employee

¹³ Coles J. L. (2006, p.431-468)

¹⁴ Bizjak J. M.(1993, p.431-468)

¹⁵ Rajgopal S. (2002, p.145-171)

¹⁶ Datta S. (2001, p.2299-2336)

¹⁷ Brickley J. A. (1991, p.70-84)

¹⁸ Huselid A. M. (1995, p.635-872)

turnover. In contrast, Yermack¹⁹ found insignificant correlation between incentives and growth opportunities, and incentives and financial leverage. The study argues that the existing agency theories have little explanatory power with regard to incentive rewards, contradicting the agency theory framework, but highlights the noisiness data in such studies. Mehran²⁰ tests the impact of compensation structures (instead of compensation levels) on firm performance. The results show a significant positive correlation between high equity based compensation as percentage of total pay and firm performance, providing evidence that the reward structure has a measurable impact on firm efficiency. In a more recent study, Frye²¹ found significant correlation between financial incentives and firms performance, suggesting that incentivised managers tend to focus more on growth and investment opportunities. All support the assumption that financial incentives mitigate the conflict between managers and shareholders.

1.2. Problem description

This essay focuses on internal structure (rewarding employees) and external structure (company's financial position). There are contradictory findings in prevailing theories if incentive mechanisms can hamper the agency problem. New theory of the firm goes beyond the traditional neo-classical model and discusses asymmetric dilemmas and risk-behaviour in corporate finance. There has been increased attention in the media about the financial implications of financial incentives, as public companies tend to have a significant amount of shareholders. Furthermore, as shareholders want to maximize the return of their investment, the prevalence of financial incentives is increasing among public companies. This study will shed light on what remains unclear, whether or not financial incentives can improve a company's financial position. This study focuses on public companies listed on the Nasdaq OMX Stockholm. By mapping out LTIs in Sweden, the reader will gain an insight into the Swedish market. The main hypothesis will extend previous findings that LTIs have a positive impact on firm performance.

H1: LTI plans increase firm performance in Swedish listed companies.

¹⁹ Yermack D. (1995, p.237-269)

²⁰ Mehran H. (1995, p.163-184)

²¹ Frye M. (2004, p.31-54)

Recent attention on the optimal incentive design suggests that well-designed plans should increase long-term performance. Shares and options have different costs, regulations, taxes and incentive effect applied to them. Depending on the company's size, maturity, capital and organisational structure, different instruments are preferable. The possible effect instruments have on firm performance will be tested in a second hypothesis:

H2: There is a correlation between type of instruments used and firm performance in Swedish listed companies.

Existing theories discuss the impact on corporate governance. Financial incentives are supposed to induce risk-taking, attract new talents and retain employees in a firm. Following Huselid²², Yermack²³ and the agency theory problems, an additional hypothesis will test the impact financial incentives have on corporate governance.

H3: LTI plans have a measurable impact on corporate governance in Swedish listed companies.

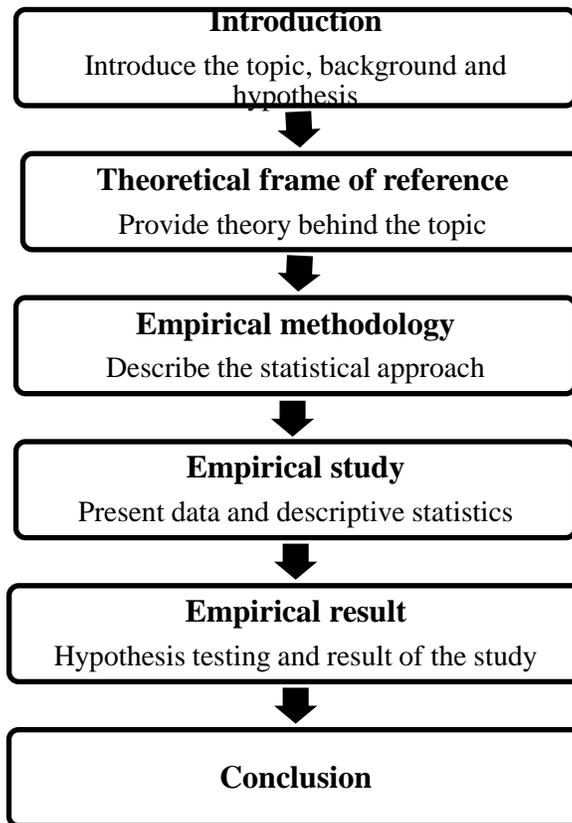
1.3. Purpose of study

The purpose of this study is to extend previous research about the outcome of LTI plans aimed at the executive management. Few previous studies have explicitly studied the relation between LTI plans and firm performance in Swedish listed companies.

²² Huselid A. M. (1995, 635-872)

²³ Yermack D. (1995, p.237-269)

1.4. Disposition



2. Theoretical frame of reference

2.1. Corporate Governance in Sweden

Corporate governance consists of internal (directed) and external (controlled) parts and corporate governance differs between countries.²⁴ Corporate governance is intended to “ensure that companies are run as efficiently as possible on behalf of their shareholders”²⁵. This positive development in corporate governance is supposed to increase confidence in public companies.²⁶

The need for rules and governance has increased over the past years along with the emergence of institutional investors.²⁷ The Swedish Code of Corporate Governance (2004/2008) was implemented in 2005 and targeted public companies on a stock exchange with a market value of SEK 3 billion or more. This was revised in 2008 targeting all public companies listed on NASDAQ OMX Stockholm (about 300 companies) with a “comply or explain” principle, which means that a company may depart from rules in the code if explaining the reason why. The code regarding remuneration to executive management was revised in 2010 regarding financial instruments. The revised rules are based on the EU commission’s recommendation in 2009 (2009/385/EC).²⁸

In comparison to the US, Swedish corporate governance has a more principle-based approach, defined by laws, self-regulation and practice. The most important law is the Companies Act and self-regulations consist of the Stock Exchange’s rules and the Swedish Corporate Governance Code. The Swedish Company Act (Sw. Aktiebolagslagen) is focused on shareholders’ rights and corporate governance issues, which includes principles of remuneration. Swedish institutions also have a concentrated ownership where the ownership is dominated by large shareholders. These owners are expected to take long-term responsibility and have an active role in corporate governance. The corporate governance also includes string ownership power (Dual

²⁴ Lannoo K. (1995)

²⁵ Swedish Corporate Governance Board (2010)

²⁶ Ibid

²⁷ Ibid

²⁸ Lekvall P. (2009)

shares/Differentiated Voting Rights), protection of minority rights and high transparency standards.²⁹

2.2. Separation of ownership and control

The separation of ownership and control goes back to early 1930s as the great depression hit the U.S. This phenomenon changed the capital market in companies and a new view on corporations took shape. Berle and Means was one of the early academics to define the “separation of ownership and control”. They stated how “new conditions has developed” in modern corporations. The underlying assumption is that when owners transfer control of its assets to someone else, a separation issue occurs where the owners can no longer control for decisions and financial growth.³⁰

2.3. Principal-agent theory

According to Eisenhardt³¹ the foundation of the principal-agent theory is the self-interest in organizations, i.e. the assumption that people will benefit themselves to the greatest possible extent when the opportunity arises. Meckling, *et al*³² notes that the foundation in the agency problem lies in the agency problem that arises in the “separation of ownership and control” in public companies. Garen³³ defines the agency problem as a situation where the principal cannot influence the decision of the agent and the agent tries to minimize their own efforts by ignoring actual consequences. The problem can be solved by establishing incentives for the agent and induce “monitoring costs” designed to limit certain activities of the agent, i.e. by verifying what the agent is doing. In addition, the principal can pay the agent “bonding costs” to guarantee that the agent will not take certain actions that would harm the principal. Meckling³⁴ describes the model as parties making decisions in a two person-game, i.e. shareholders decide on incentives in order to control the management’s effort and financial decisions. The model is a contractual relationship where one person (the principal) engages another person (the agent) with incentives to act on his behalf as the other person has decision-making authority. Meckling³⁵ notes that if

²⁹ Lekvall P. (2009)

³⁰ Cheffins S. (2009, p.443-474)

³¹ Eisenhardt K. (1989)

³² Meckling M. C. (1976, p.305-360) *et al*

³³ Garen J. E. (1994, 1175-1199)

³⁴ Meckling M. C. (1976, p.305-360)

³⁵ Ibid

people are utility-maximisers, there is a good chance that the agent will act in his own interest and not in the interest of the principal. Furthermore, stated there will always be uncertain and imperfect “monitoring costs” and “bonding costs” and a residual loss between the agents’ decision and the principals’ utility. According to Pepper³⁶ companies strive to reach an equilibrium in contractual form, characterizing the relationship between the managers and the shareholders. The agency theory is a general theory and exists in all cooperative organizations at all management levels.

2.3.1. Asymmetric information

According to Harris³⁷ the absence of information or asymmetric distribution of information is characterized by the agency problem. He notes that there is need to invest resources to gain information in order to assure a pareto-efficient allocation of resources. In lines with this, Poblete³⁸ argues that there are two aspects of the agency problem; adverse selection and moral hazard. In an agency problem with adverse selection, the main objective is to reveal hidden information and gain insight into the company. In a moral hazard problem, the cost is to induce incentives to prevent potential harmful actions. This study addresses how the agency problem can occur in different situations, for example, in start-ups for example, the principal is an investor and the agent is an entrepreneur, where the investor want to monitor the investment for potential return. The agency problem can be described in a model, where a is the cost of the agent, i.e. action where Π (output) depends on θ (state)

$$\Pi = \Pi (\theta, a)$$

The principal can observe the economic output but not the input of the current state or the agents’ effort. To reduce this problem studies discuss optimal contracting. This consists of two aspects; to provide the agent with incentives to perform, and to compensate the principal for the investment. The optimal contract varies depending on the situation, payment function and effort level that maximizes the principals expected net-benefit.³⁹

³⁶ Pepper A. (2013, p.36-51)

³⁷ Harris M. (1978, p.231-259)

³⁸ Poblete J. (2012, p. 305-360)

³⁹ Ibid

2.3.2. *Risk preferences*

According to Harris⁴⁰ another problem that arises in this model is the difference in risk-preference between the principal and agent. The agent is characterized as a risk-averse individual, unlike the principals who are risk-neutral. Meckling⁴¹ argues that if the agent does not bear any financial risk, aligning the agent's wealth with the financial outcome will incentivise the manager to take risk. This means that the agent will seek opportunities to maximise his own wealth, which implies that the agent values own return higher than actual return on investment. Rajgopal⁴² claims that by increasing the convexity of the managers' wealth and firm performance there is a significant impact on the risk-taking behaviour and risk appetite.

2.4. Long-term incentive Plans

The number of LTI plans in Sweden has been increasing over the past decades but have been prevalent in the U.S for a long time.⁴³ More than half of the Swedish companies today have LTI plans in place.⁴⁴ Historically in Sweden, LTI have developed from simplified capital gain taxed securities in the 70-80s to more advanced design structures in the 2000. The use of different instruments has shifted from convertibles in 70s to employee stock options in the the 90s and to performance shares in the 2000 until today.⁴⁵ The basic principles of LTIs are to retain talent, encourage capital accumulation, drive company performance, promote stock price appreciation and promote ownership.⁴⁶ In order to implement efficient LTI plans, companies should evaluate corporate governance, performance management and financials. Most LTI plans are regulated under civil law, The Swedish Company Act, unless stated otherwise. According to The Swedish Company Act, all plans that require equity issuance have to be proposed and approved at the AGM.⁴⁷

An LTI plan is a long-term variable pay component commonly based on a multi-year vesting or lock-in period⁴⁸. LTI plans use financial instruments such as shares or options, or cash-

⁴⁰ Harris M. (1978, p.231-259)

⁴¹ Meckling M. C. (1976, p.305-360)

⁴² Rajgopal S. (2002, p.145-171)

⁴³ Smitt R. (2002)

⁴⁴ See table 2 under Descriptive Statistics p. 24

⁴⁵ Edhall K. (2011)

⁴⁶ Becker I. S. (2009)

⁴⁷ Smitt R. (2002, p.88-89)

⁴⁸ Lekvall P. (2009)

settlements that the employees either buy at full value, subsidized value or free of charge⁴⁹. There are numerous different plan designs to optimize perceived value and reward employees. If the program forfeits there may be negative incentive consequences, especially for the employee who invested own money or who accepted less salary to be able to participate. This can lead to a de-motivating effect on employees, which impacts work moral and create mistrust.⁵⁰ In Swedish companies, the requirement to make own investments in order to participate has become more prevalent. Companies' rationale is that active risk-taking should be a prerequisite to participate. Instead of giving away incentive rewards for "free", there is a potential downside for bad performance.⁵¹

2.4.1. Stock options

A stock option entitles the employee (holder) to buy the underlying stock of the issuing company at a fixed exercise price (usually grant date fair market value) until the expiry date. The options usually have a vesting period of three years, and after that period the employee can exercise the options at any time before expiry.⁵² The value of the option is based on the underlying assets market value, i.e. value of the share-price. The Black & Scholes model⁵³ is commonly applied when valuing options. This model uses factors such as value of underlying asset, exercise price, vesting period, risk free interest rate, volatility and dividends on the underlying asset. The underlying asset is expected to increase in value. If the underlying asset declines in value, the holder will not exercise the option. Buying options requires less capital as an initial investment. Options in an option plan are issued by the company itself and the premium paid is often subsidized.⁵⁴ The options have a binary outcome if it rewards the employee or not. Rising stock prices makes stock options a favourable choice but a market swing in the opposite direction can make the options worthless. Some argue that stock options encourage managers to manipulate stock prices, however this seems unlikely today as government and regulators monitor all company activities.⁵⁵

⁴⁹ Ellig B. (2007, p.402-526)

⁵⁰ Ibid

⁵¹ Edhall K. (2011)

⁵² Satterfield B. (2002, p.17.21)

⁵³ Option valuation model, see Brealy R. A. (1996, p.577-579)

⁵⁴ Smitt R. (2002, p.42-54)

⁵⁵ Ellig B. (2007, p.402-526)

2.4.1.1. Call Option plan

A Call Option plan uses options that gives the participant the option to purchase shares in the company. The options are issued by the company itself or commonly in larger companies by financial institution. The normal vesting period is three years before exercise. A call option is a written agreement between the issuer and the employee.⁵⁶ This type of plan can be highly motivating as it provides unlimited upside potential based on stock appreciation without company cash expenditure.⁵⁷

2.4.1.2. Employee Stock Option plan

The Employee Stock Option (ESO) plan uses options tied to employment, commonly with a multi-year vesting period with conditions attached. It requires the employee to be employed contingent upon date of exercise. If the employee leaves before date of exercise the option is forfeited and not transferable.⁵⁸ For an option to be classified as “employee stock option” it has to be aimed at employees, not transferrable, free of premium and tied to employment.⁵⁹ An ESO is by tax regulations per definition not a security. The definition of employee stock options is solely used in the context of tax law as it has specific taxation rules applied to it.⁶⁰ ESO are taxable upon exercise and as income rather than capital gain unlike other financial securities. This reduces the risk of unforeseen taxation.⁶¹

2.4.1.3. Warrants plan

Warrants is a contractual instrument and alike stock options entitles the holder the right to subscribe to issued shares at a fixed price within a set period of time. Unlike options, warrants are guaranteed to reward shares at date of exercise.⁶² The differences between a warrant and an option are that the option can use already existing shares at exercise whilst the warrants result in an equity issuance, which is a high cost for shareholders as it creates dilution. The holder of warrants does not have voting rights.⁶³ The issuance of warrants is regulated under civil law. Warrants are effective in public companies or when companies planning an IPO to create

⁵⁶ Smitt R. (2002, p.54-56)

⁵⁷ Kay I. (2009)

⁵⁸ Borg M. (2003)

⁵⁹ Smitt R. (2002, p.45)

⁶⁰ Borg M. (2003)

⁶¹ Ibid

⁶² Smitt R. (2002, p.57-63)

⁶³ Borg M. (2003)

retention.⁶⁴ However, warrants are sensitive to market volatility and can pay out even if company underperforms. This can result in a less focus on operational performance and more focus on market performance.

2.4.2. Shares plans

Shares plans are a 100 % stock award and can be given immediately at grant date or restricted (be locked-in over a period). Employees either make an own investment or receive shares from the company. Most share plans uses some sort of performance target in order to receive payment or gain additional shares. An employee that participates in a share plan gains direct ownership in company shares, which creates immediate value.⁶⁵

2.4.2.1. Performance shares plan

Performance shares plan uses shares with a conditional grant tied to a set of predetermined performance targets over the plan period. The plan requires that the participant first self-invest in company shares (“saving shares”). The Performance shares are forfeited if the goals have not been achieved.⁶⁶ Usually the shareholders prefer this instrument as it is supposed to eliminate any “give away” perception of the plan. Companies use different type of performance targets to reflect financial goals.⁶⁷ This plan has a strong link between pay and performance and is often perceived positively by shareholders and proxy advisors. It can focus on both operational and share price performance. Some challenging aspects are to find a suitable performance target that drive value creation.⁶⁸

Performance targets

The performance targets in LTI plans are either financial or non-financial goals or the two combined to increase incentives. The performance objectives should reflect the company’s business strategy and financial goals. Companies gain from goal-based incentives as it creates stronger linkages between decision, long-term values and rewards.⁶⁹ Financial targets are accounting based goals, e.g. EBITDA, EBIT, EPS etc. Non-financial targets are share-price based targets, usually TSR. Both financial and non-financial targets uses either absolute or

⁶⁴ Borg M. (2003)

⁶⁵ Ellig B. (2007, p.402-526)

⁶⁶ Satterfield B. (2002, p.17.21)

⁶⁷ Ericson R. N (2010)

⁶⁸ Ibid

⁶⁹ Ericsson R.N (2014)

relative measures, which means to measure actual company performance or compare performance relative to a peer group.⁷⁰

2.4.2.2. Matching shares plan

Matching shares are commonly used in a Performance shares plan. It requires that the participant first self-invest in company shares (“saving shares”), which is then matched with additional shares after a lock-up period. This usually requires that the participant is employed in the company during the entire vesting period.⁷¹ Matching share plan is an effective retention and motivational tool as the participant receives additional shares if the predetermined goals have been met. This result in an alignment between performance and number of matching shares received.⁷²

2.4.2.3. Restricted stocks awards

The Restricted Stock Award (RSA) plan uses future shares to reward the employee. This plan is a conditional grant of shares or units and contingent upon employment during a lock-in period. This vehicle gives the employee immediate value on the date of grant. The lock-in can use performance targets in order for the plan to pay out.⁷³ The lock-in period is usually three to five years. If the employee terminates the employment, the shares or units are forfeited. After the lock-in period, the employee receives the shares.⁷⁴ If the RSA requires an equity issuance it must be proposed and approve by the AGM.⁷⁵

2.4.3. *Cash-based plans*

2.4.3.1. Synthetic option plan

A Synthetic option plan uses synthetic options, which is an option that does not give the holder the right to purchase a share at date of exercise. Synthetic options are a cash-based instrument, which gives the holder the right to a cash-settlement equal to the share price appreciation at the date of expiry. The valuation of the synthetic option is similar to other option types, normally by the Black Scholes model. The Synthetic option plan does not require equity issuance, so dilution

⁷⁰ Ellig B. (2007, p.402-526)

⁷¹ Borg M. (2003)

⁷² Ericson R.N (2010)

⁷³ Kay I. (2009)

⁷⁴ Satterfield B. (2002, p.17.21)

⁷⁵ Kay, I. (2009)

can be avoided.⁷⁶ This plan deviates from other incentive plans as it does not give ownership of company stock, which can be viewed as a negative aspect. The use of Synthetic option plan has decreased over the past years as cash settlement has a direct impact on the company's financial result. In other incentive plans, costs are bounded to the whole company ownership and not strictly to the balance sheet.⁷⁷ Synthetic options are more attractive for smaller companies. It allows the company to issue options that are tied to the share price performance and at date of exercise, the employee does not have to find a buyer of the share.⁷⁸

2.4.3.2. Restricted stocks units

The Restricted Stock Unit (RSU) plan uses a condition grant of units contingent upon employment during a lock-in period. This plan has similar structure to a RSA plan. The lock-in can use performance targets in order for the plan to pay out.⁷⁹ The lock-in period is usually three to five years. If the employee leaves the company, the units are forfeited. After the lock-in period, the employee receives the value of the units as a cash-settlement. It is beneficial to use restricted stock unit in cyclical industries where share price fluctuates.⁸⁰ Cash settled RSU plans do not require approval by shareholders.⁸¹

2.4.3.3. Phantom shares

This is a modified synthetic option plan. The plan does not permit the employee to own shares, it is called phantom share as the 'shares' do not really exist. Two types of plans are market-value-based and non-market value-based, following either share price or financial measures. Alike synthetic options, the employee receives a cash-settlement at the end of the plan period.⁸²

2.4.3.4. Profit sharing

Under this plan, all participating employees are granted an equal share of a cash bonus in a profit sharing scheme.⁸³

⁷⁶ Smitt R. (2002, p.63-73)

⁷⁷ Borg M. (2003)

⁷⁸ Ibid

⁷⁹ Kay I. (2009)

⁸⁰ Satterfield B. (2002, p.17.21)

⁸¹ Kay, I. 2009)

⁸² Ellig B. (2007, p.402-526)

⁸³ Ibid

2.4.4. Convertible loans

Today convertible loans are not a common instrument to use, as they are perceived as rather tedious. Bonds are debt instruments that give the employee the right to convert the debenture into a number of shares at a given price. For the issuer, this reduces the cash interest payment and when the convertibles are converted into shares, the company debt vanishes. If the stock price does not exceed the conversion price, the employee can retain the nominal value of the convertible. Convertible loans result in a share ownership dilution.⁸⁴

3. Empirical methodology

3.1. Research approach

There are two different approaches when conducting a study; inductive and deductive. In a deductive approach, an empirical study uses existing theory and extends previous research. New data is obtained and new hypothesis are formulated in order to be tested to find empirical result with new conclusions and perspectives on the existing theories. Inductive research is the opposite where the research results in a new theory.⁸⁵ The research approach in this study is a deductive approach where existing theories and previous results are provided on the topic.

3.1.1. Quantitative and Qualitative research

Quantitative research is defined as collection of numerical data and is a relationship between theory and research in a deductive matter. In such a study, the steps is to; collect existing research, formulate a new hypothesis deducted from previous theory, collect new data and statistically test the hypothesis in order to provide empirical result.⁸⁶ This study will conduct quantitative research in an econometric study. Three sample groups have been selected and will be tested independently. The data is collected from AGM protocols, annual reports and other external sources. This study uses a one-sided hypothesis test, where the analysis test null hypotheses with multiple regression models using dependent and independent variables. If the regression results are significant the null hypotheses can be rejected, which indicates that the

⁸⁴ Borg M. (2003)

⁸⁵ See for example Bryman, A. (2013)

⁸⁶ Ibid

alternative hypotheses are true.⁸⁷ The reliability and validity of the study will be discussed further in the next section.

3.1.2. Reliability and Validity

Reliability and validity is a consistency measure of a data set. This can be verified using various approaches and statistical tests.⁸⁸ Statistical tests will be made on the regression to avoid potential errors, with the aim of increasing reliability and validity of the result. The variables used in this analysis will be tested using linear hypothesis tests and t-statistics. This study aims to reach as high reliability as possible. There is a human error risk factor on the data collected from annual reports and AGM protocols. This factor should be negligible as transparency is high in Swedish corporate governance disclosure. The information in the annual reports annual reports are secondary data where the companies publish the reports, therefore the validity should be high, as both internal auditors and external accountants have reviewed it. Other financial data is collected from a well-known database used by many researchers, therefore should provide sufficient financial information. The books used in this study are well-known theorists that provide a reliable source of information. Most of the journals present existing theories and previous econometric studies conducted. However, the reliability and validity of the results provided in the journals can be discussed and data tend to be noisy and conclusions rather weak.

3.1.3. Limitations

This study only focuses on public companies in Sweden. The data sample is rather limited and consists of 221 companies; 65 large cap, 50 mid cap and 106 small cap companies. Some observations have been eliminated due to missing proxy statement, missing data or irregular financial activities. The hypotheses are tested on a three-year period, as most LTI plans have a three-year vesting period until expiry date. Due to difficulties finding annual reports before 2009, the study only focuses on plans that started 2009. There are some limitations to the regression models due to lack of data. The second hypothesis regarding the use of instruments only investigates the use of shares and options, while there are multiple different design structures of LTI plans. The third hypothesis test the impact LTI has on corporate governance. This test is rather limited as there are multiple factors that influence corporate governance. This study solely focuses on the aspects of corporate governance that arises from the agency theory.

⁸⁷ See for example Bryman, A. (2013)

⁸⁸ Ibid

3.1.4. Target group

The target of this essay is academics and students with an economic or finance background. The study does not require previous knowledge of remuneration policies or knowledge about financial incentive schemes. This study does not provide any indication on what financial incentive is preferable and will only investigate if the LTI plans fulfil its purpose.

4. Empirical study

4.1. Data

This study employs data from public companies listed on Nasdaq OMX Stockholm. LTI data has been obtained from public sources such as annual reports and AGM protocols. Companies' websites have been used as a secondary resource to find more information regarding the plans. As there is a high disclosure about remuneration in Swedish companies, it has been easy to obtain information about the remuneration schemes. The data sample is from the period 2009 to 2012. I have collected information about all listed companies long-term incentive schemes in Sweden within this period. The sample consists of companies that launched a program in 2009 and companies that do not have any LTI plan in place. I have eliminated companies that launched a program 2008, 2010 and 2011 but not 2009 as it might have a misleading effect on the result. When companies have had more than one program in place, I have collected data solely on the programs that are aimed at the executive management group. The financial data has been retrieved from Datastream, which is a licensed Thompson Reuter electronic database. The data sample has been constructed based on data available. If there has been missing data from Datastream the observations have been eliminated from the data set.

4.1.1. Criticism of data sources

The sources are secondary data from annual reports, AGM protocols and the Datastream database. The financial data in the annual reports and AGM protocols should to be accurate as it is regulated by financial reporting standards and approved by the companies itself. The information obtained from Datastream cannot be fully verified to provide accurate information. However, Datastream is supposed to be a trustworthy source of information as many researchers use this database.

4.1.2. Sample selection

Data has been collected on 221 companies and 31 has been eliminated due to missing proxy statements, missing data from Datastream or heavily irregular financial activities during the period.

The sample consists of 190 listed companies on Nasdaq OMX Stockholm during the period 2009 to 2012. The observations are companies that launched an LTI plan at AGM 2009 or that did not

have an LTI plan in use. The observations are divided into three control groups by listing; large cap, mid cap and small cap. The sample is limited to the Swedish Stock exchange in order to identify the LTI market in Sweden. I have conducted analysis on all three listings separately to identify any differences between company size and maturity of the firms. The regression also uses industry groups as dummy variables to investigate any differences between industries.

4.1.3. Variables

I have used the change in EBITDA between the start of the LTI plan (2009) and end of the program (2012) to investigate any potential growth related to the LTIs. I have used EBITDA as a growth variable as it reflects the profitability of a company. Over time, change in profit should reflect firm performance. Previous studies have used Tobin Q to measure performance, which is Market Value/Total Assets. I have decided not to follow this approach with the assumption that the change in EBITDA provides a better estimate of long-term value creation. In order to control for the growth variable in the regression, the following control variables are used; firm size, leverage and industry. The proxy for firm size variable is log of Total Assets and the proxy for leverage is debt-to-equity ratio. To control for industries the sample is divided into 5 industry groups according to the Global Industry Classification Standard⁸⁹. Following Huselid⁹⁰ I have also constructed a regression investigating the impact of LTI on employee turnover and leverage. Due to missing data, this regression is restricted to the large cap list.

4.1.4. Correlation and causality

Statistical tests have been conducted to monitor for possible error in the correlations between variables. In order for the OLS regression to be consistent, the variables have to be exogenous, unbiased and there should exist no multicollinearity.⁹¹ To control for multicollinearity additional control variables have been added to the regression models. For the OLS regression to be BLUE, the errors have to be uncorrelated and homoscedastic. If the errors are not homoscedastic then there exist heteroskedasticity, which means that the estimates of the variance of the coefficients are biased.⁹² I have tested for heteroskedasticity using a linear hypothesis test to verify if the independent variables are jointly significant or not. After performing this test, I have

⁸⁹ Further explanation can be found at <http://www.msci.com/products/indexes/sector/gics/>

⁹⁰ Huselid (1995)

⁹¹ Kutner (2005)

⁹² Kutner, M. H (2005)

concluded that all models are significant as a whole. The regression has been adjusted to control for heteroscedasticity-consistent (HC) standard errors by using an HC-function and White test in the model.

4.2. Descriptive statistics

Table 1 shows a summary of all companies in each listing. The companies in each listing vary in firm size. Companies listed on large cap, mid cap and small cap have a market capitalization in the following ranges; over SEK 100 billion, SEK 100 billion to 1.5 billion and below SEK 1.5 billion. Table 1 to 3 provides statistical data on each group. Table 4 to 6 shows correlation between all variables and can be found in Appendix.

Table 1. Summary number of companies

	Large cap	Mid cap	Small cap
Energy, Material, Capital goods	23	14	30
Retail, Consumer goods, Media	8	11	11
Healthcare, Pharma, Biotech	4	5	15
Diversified financials, Real estate	14	9	3
Telecom, Software	6	7	30
Total	55	46	89

Table 2. Instruments used in plans

No. of companies	Large cap	Mid cap	Small cap	All
Shares	23	4	2	29
Options	9	19	21	59
Cash-settlement	6	2	0	8
Total	38	25	23	96

Table 3. Summary statistics

	Large cap		Mid cap		Small cap	
	median	mean	median	mean	median	mean
%-EBITDA change 2009 and 2012	27%	103%	42%	118%	40%	74%
Total Assets (MSEK) 2012	34.9	287.6	3.0	5.8	0.5	0.8
Leverage (Debt-to-Equity) 2012	66.03	124.73	51.37	78.87	27.61	41.13
Employee turnover 2012	7.253	8.133	NA	NA	NA	NA

5. Empirical Result

The model uses a fixed effect regression on panel data. I have examined if the use of LTI plans have an impact on firm performance. Table 4 to 8 presents the regression result in each group. To test the first two null hypothesis I have used four regressions on each group, whereof three regressions are on the percentage change in EBITDA (year 2009 to 2012) and LTI, and one regression on the instruments used. In addition, all companies are tested in a combined group in order to test a larger sample. The third null hypothesis is tested in two regressions, one using employee turnover as a dependent variable and one using the level of leverage as a dependant variable. This test is restricted to the large cap group.

Null Hypothesis 1. H_0 : *LTI plans do not increase firm performance in Swedish listed companies.*

Model 1.

$$\begin{aligned} \% \text{ change in EBITDA}_{2009,2012} = & \beta_0 + \beta_1 LTI + \beta_2 \text{Log}(\text{Total Assets}) + \beta_3 \text{Leverage} \\ & + \beta_3 \text{Industry Dummies} + \varepsilon \end{aligned}$$

Model 2.

$$\% \text{ change in EBITDA}_{2009,2012} = \beta_0 + \beta_1 LTI + \beta_2 \text{Log}(\text{Total Assets}) + \beta_3 \text{Industry Dummies} + \varepsilon$$

Model 3.
(Reduced model)

$$\% \text{ change in } EBITDA_{2009,2012} = \beta_0 + \beta_1 LTI + \beta_2 \text{Log}(\text{Total Assets}) + \varepsilon$$

Null Hypothesis 2. H_0 : There is no correlation between type of instruments used and firm performance in Swedish listed companies..

Model 4.

$$\% \text{ change in } EBITDA_{2009,2012} = \beta_0 + \beta_1 \text{Shares} + \text{Options} + \beta_2 \text{Log}(\text{Total Assets}) + \beta_3 \text{Industry Dummies} + \varepsilon$$

The result in table 4 model 1 to 3, shows an insignificant correlation between the change in EBITDA and LTI plans in the large cap group. This means that the first null hypothesis cannot be rejected. A possible reason is that most large cap companies have an LTI plan, therefore it is difficult to measure potential effects. The data in the large cap group are rather noisy as the companies are large in size, which indicated that the firms are heavily influenced by factors other than managerial decisions. The models uses different amount of control variables, model 1 including industry dummies does not have an impact on the result. Model 4 also shows insignificant correlation which means that second null hypothesis cannot be rejected and the alternative hypothesis is false.

[Table 4]

The result in table 5 model 1 to 3, shows a significant correlation between the change in EBITDA and LTIs in the mid cap group, with a significance level of 95%. However, F-statistics < 10 shows that the result is rather weak and the p-value suggest that only model 3 holds. The p-value is close to zero which indicates that the independent variable is related to the change in the dependant variable determined by the determinant of coefficient (β). This indicates that these plans may have a larger effect in medium-size companies and the first null hypothesis can be rejected. A possible reason is that the organisational structure and the management's level of responsibilities differ from larger companies. This shows some evidence that the underlying theory of the agency problem is relevant, implying that the "control" mechanism of LTIs may be useful for shareholders. However, potential noisiness to the data may distort the result, hence we

should be careful to draw conclusions. In model 1-2, when including control variables the coefficient value increases. In model 4 there is a significant correlation between change in EBITDA and shares. This means that the second null hypothesis can be rejected and the alternative hypothesis is true.

[Table 5]

The result in table 6 model 1 to 3, shows a significant correlation between the change in EBITDA and LTIs in the small cap group, with a significance level of 99%. However, F-statistics < 10 shows that the result is rather weak and the p-value suggest that only model 1 holds. This means that the first null hypothesis can be rejected. The significance is stronger than the mid cap group but the result is weaker. In model 1-2, when including control variables the significance increases, which indicates that the variables captures potential errors. In model 4 there is a significant correlation between change in EBITDA and options. This means that the second null hypothesis can be rejected and the alternative hypothesis is true.

[Table 6]

The result in table 7 model 1 to 3, shows a significant correlation between the change in EBITDA and LTIs in the all groups combined, group, with a significance level of 100%. This means that the first null hypothesis can be rejected when testing all groups combined. The p-value indicates that model 1 and 3 holds.

[Table 7]

Null Hypothesis 3. H_0 : *LTI plans do not have a measurable impact on corporate governance in Swedish listed companies.*

Model 5.

$$\text{Employee Turnover} = \beta_0 + \beta_1 \text{LTI} + \beta_2 \text{Log(Total Assets)} + \beta_3 \text{EBITDA} + \varepsilon$$

Model 6.

$$\text{Leverage} = \beta_0 + \beta_1 \text{LTI} + \beta_2 \text{Log(Total Assets)} + \beta_3 \text{EBITDA} + \varepsilon$$

The result in table 8, model 5, shows a significant correlation between the level of employee turnover and LTIs in the large cap group with a significance level of 95%. The result in model 6, shows an insignificant result on the level of leverage and LTI. This suggests that then null hypothesis cannot be somewhat rejected as it does have an impact on employee turnover.

[Table 8]

5.1. Conclusion

In this essay I have investigated the relationship between LTI plans and firm performance. The underlying assumption is that if companies incentivise long-term, management tend to perform better. The regression tests LTI on profit growth over a period of time, employee turnover and leverage. The analysis on firm performance is significant in medium and small-size companies. A possible reason is that medium and small-size companies recognize the importance to invest in talent, therefore human capital is a central factor for growth. However, there is a possibility of casualty in the result if better performing firms are more likely to invest in LTI plans. Another possible reason why the incentive effect is more evident in smaller firms is fewer layers of management and a more centralized decision-making structure, i.e. fewer people have authority and mandate to make financial decisions. The top-down approach to motivate lower level employees, as according to Fama⁹³, may be more distinguishable in smaller firms as communication is often in-person. Another factor is a scarcer allocation of resources meaning that financial incentives are reviewed more closely. This will in return create an upward pressure on management to perform better. Along these lines, the outcome from managerial decisions is more evident to outside investors. A more quantifiable reason is that smaller firms are more inclined to leverage operational costs to increase growth, given cost savings and tight margins. Smaller firms have higher operational efficiencies and tend to be in a growth stage. In the analysis, there are no industry specific results, suggesting that the LTI effect does not depend on the industry. The insignificant results in large-size companies were quite expected. There are multiple economic aspects regarding company size that have an impact on the result. Larger companies tend to have a more complex reporting structure, more layers of management and

⁹³ Fama (1980, p.288-307)

longer decision-making processes, which affects overall efficiency. Furthermore, large-size firms have a more global geographic spread where growth can be applied to different markets. This results in a larger exposure to external factors such as market expectations, macroeconomic influences and economic cycles. Another reason why incentive effect may be hampered is that shareholders cannot monitor managerial decisions. The overall result in this study suggests that LTI plans have a measurable effect in medium and small-size companies. If high growth firms have more asymmetric information, as argued by Bizjak⁹⁴, the result in this study provides evidence that LTI plans reduce the agency problem in medium and small-size companies. The extended analysis testing instruments provide significant result in the mid-cap and small-cap list. A possible reason in the mid-cap list is the increased number of companies using performance shares as incentive schemes to link pay and performance. The performance goals attached to this plan creates clearer objectives for the management, which may result in a higher incentive effect. In the small cap list the use of option plans show significant result, which is the most prevalent plan for smaller companies. Furthermore, the additional analysis on the large cap list shows significance on employee turnover and no significance on leverage. The result on employee turnover shows supports to existing studies that financial incentives succeed in retaining key employees, as argues by Fama⁹⁵. The insignificant result obtained using leverage as a measure of risk, implies that this agency effect have not been proven in this study. This effect requires further studies and analysis.

The pervading theme of this essay is LTI plans, performance and the agency theory effect. This essay has provided some empirical evidence by econometric analyses that incentivizing can be associated with increased profit in Sweden. The overall conclusion is that long-term incentives increases firm performance but there is no measurable impact in large companies. LTI do succeed in retaining employees but the change in risk behaviour is not quantifiable.

⁹⁴ Bizjak (1993, p.349-372)

⁹⁵ Fama E. F. (1980)

5.2. Further research

The topic of long-term incentive plans in companies is an evolving topic, which requires continuous research as the market changes. The existing theory is comprehensive but requires stronger econometric evidence in order to prove if it fulfils its purpose. Further empirical study should investigate the use of performance targets in the plan structure, as this is increasing on the market. Another empirical study should investigate growth opportunities in Swedish companies and the use of financial incentives, to analyse potential impact on investment decisions, as this is an important managerial decision.

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7. Appendix

Table 4. Regression on Large cap list – Firm performance

Independent variables	Dependent variable %-EBITDA change 2009 and 2012			
	Model 1	Model 2	Model 3	Model 4
Intercept	-2.4727 (-0.453)	-0.5341 (-0.121)	-1.1625 (-0.327)	1.66 (0.417)
LTI	0.6595 (0.831)	0.7246 (0.961)	0.6289 (0.862)	Not included
Shares	Not included	Not included	Not included	0.05 (0.082)
Options	Not included	Not included	Not included	0.55 (0.717)
Log(T_A)	0.2716 (0.853)	0.1124 (0.482)	0.1590 (0.782)	0.01(0.033)
Leverage	-0.0016 (-0.725)	Not included	Not included	-0.00 (-0.156)
Industry dummy (Energy, Material, Capital goods)	-1.0587 (-0.873)	0.7118 (0.741)	Not included	Not included
Industry dummy (Healthcare, Pharma, Biotech)	-1.0740 (-0.737)	-0.4687 (-0.303)	Not included	Not included
Industry dummy (Retail, Consumer goods, Media)	-0.3630 (-0.336)	-0.3848 (-0.283)	Not included	Not included
Industry dummy (Telecom, Software)	-1.2010 (-1.024)	-0.5799 (-0.445)	Not included	Not included
Industry dummy (Diversified financials, Real estate)	Excluded	Excluded	Excluded	Excluded
Adjusted R ²	-0.0627	0	0	0.01003
Regression p-value	0.7761	0.7302	0.4549	0.3301
F-statistics	0.5701	0.5982	0.8003	1.172
Number of observation	55	55	55	55

1. t-values are in the parentheses

2. Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 5. Regression on Mid cap list – Firm performance

Dependent variable %-EBITDA change 2009 and 2012				
Independent variables	Model 1	Model 2	Model 3	Model 4
Intercept	2.75 (0.605)	5.3 (2.285)*	12.76 (2.919)**	15.66 (2.974)**
LTI	1.13 (2.310)*	1.67 (2.130)*	1.65 (2.219)*	Not included
Shares	Not included	Not included	Not included	2.0463354(0.602)
Options	Not included	Not included	Not included	2.3984231(3.845)***
Log(T_A)	-0.14 (-0.453)	-0.92 (-2.219)*	-0.78 (-2.676)*	0.6109621(1.211)
Leverage	0.00 (0.313)		Not included	-0.0535091 (-0.229)
Industry dummy (Energy, Material, Capital goods)	0.54 (0.690)	-0.63 (-0.534)	Not included	Not included
Industry dummy (Healthcare, Pharma, Biotech)	-0.06 (-0.051)	-1.36 (-0.752)	Not included	Not included
Industry dummy (Retail, Consumer goods, Media)	1.05 (1.224)	-0.28 (-0.219)	Not included	Not included
Industry dummy (Telecom, Software)	0.01 (0.007)	-0.40 (-0.249)	Not included	Not included
Industry dummy (Diversified financials, Real estate)	Excluded	Excluded	Excluded	Excluded
Adjusted R ²	0.1169	0.1242	0.1899	0.1786
Regression p-value	0.13	0.08001	0.004065	0.01621
F-statistics	1.756	2.064	6.275	3.899
Number of observation	46	46	46	46

1. t-values are in the parentheses

2. Signif. Codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Table 6. Regression on Small cap list – Firm performance

Independent variables	Dependent variable %-EBITDA change 2009 and 2012			
	Model 1	Model 2	Model 3	Model 4
Intercept	2.69(1.502)	1.88609 (0.905)	1.88330 (0.942)	2.49 (1.387)
LTI	0.93 (2.679)**	0.97984 (2.253)*	0.93828 (2.263)*	Not included
Shares	Not included	Not included	Not included	0.14 (0.190)
Options	Not included	Not included	Not included	1.13 (2.982)**
Log(T_A)	-0.093 (-0.654)	-0.02321 (-0.145)	-0.02545 (-0.167)	-0.08 (-0.544)
Leverage	-0.001 (-0.312)	Not included	Not included	-0.00 (-0.286)
Industry dummy (Energy, Material, Capital goods)	0.15 (0.315)	-0.17532 (0.312)	Not included	Not included
Industry dummy (Healthcare, Pharma, Biotech)	0.20 (0.499)	-0.13384 (-0.265)	Not included	Not included
Industry dummy (Retail, Consumer goods, Media)	0.69(0.916)	0.31087 (0.333)	Not included	Not included
Industry dummy (Telecom, Software)	0.29 (0.809)	-0.01408 (-0.033)	Not included	Not included
Industry dummy (Diversified financials, Real estate)	Excluded	Excluded	Excluded	Excluded
Adjusted R ²	0.06381	-0.01025	0.03804	0.07244
Regression p-value	0.05329	0.5238	0.0837	0.05442
F-statistics	2.681	0.8664	2.562	2.445
Number of observation	89	89	89	89

1. t-values are in the parentheses

2. Signif. Codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Table 7. Regression on All companies – Firm performance

Dependent variable %-EBITDA change 2009 and 2012				
Independent variables	Model 1	Model 2	Model 3	Model 4
Intercept	2.31 (1.721).	2.10170 (0.995)	2.46282(2.318)*	2.34(1.863).
LTI	1.34 (3.671)***	1.20554 (3.403)***	1.17019(3.394)***	Not included
Shares	Not included	Not included	Not included	1.42 (2.806)**
Options	Not included	Not included	Not included	Not included
Log(T_A)	-0.056 (-0.611)	-0.06683 (-0.804)	-0.06853(-0.938)	-0.046 (-0.512)
Leverage	-0.00 (-0.226)	Not included	Not included	0.00(0.314)
Industry dummy (Energy, Material, Capital goods)	-0.33 (-0.636)	0.48213 (0.305)	Not included	Not included
Industry dummy (Healthcare, Pharma, Biotech)	-0.19 (-0.349)	0.07571 (0.047)	Not included	Not included
Industry dummy (Retail, Consumer goods, Media)	-0.22 (-0.377)	0.20444 (0.125)	Not included	Not included
Industry dummy (Telecom, Software)	0.03 (0.069)	0.23540 (0.147)	Not included	Not included
Industry dummy (Diversified financials, Real estate)	Excluded	Excluded	Excluded	Excluded
Adjusted R ²	0.04087	0.02801	0.05091	0.03029
Regression p-value	0.05607	0.1043	0.003727	0.04516
F-statistics	2.017	1.733	5.774	2.739
Number of observation	190	190	190	190

1. t-values are in the parentheses

2. Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table 8. Regression on Large Cap – Employee Turnover and Leverage

Independent variables	Dependent variable	
	Employee Turnover	Leverage
	Model 5	Model 6
Intercept	4.04 (0.346)	-9.99 (-2.140) *
LTI	-5.69 (-1.930) .	-1.35(-0.243)
Log(T_A)	0.49 (0.737)	6.09 (2.162)*
EBITDA	0.05602	6.21 (1.949).
Adjusted R ²	0.1553	0.4823
Regression p-value	1.979	0
F-statistics	4.04 (0.346)	16.84
Number of observation	36 (19 variables deleted due to missing data)	55

1. t-values are in the parentheses

2. Signif. Codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' '