An Empirical Insight into Investment and Impact of Corporate Governance on Under-Investment and Over-Investment phenomenon of Pakistan manufacturing Firms

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Abstract

In the developing countries such as Pakistan corporate governance is still considered as an emerging idea. Our research focuses on the impact of corporate governance on firms' overinvestment and underinvestment decisions. For this we have taken a sample of 29 firms from years 2011-2013. This data has been extracted from sector leaders listed in Karachi stock exchange and also from the annual reports of these firms. The empirical investigation was conducted through investment equation, descriptive statistics and also by Hausman test to check the validity of hypothesis. This study reveals that corporate governance has a negative yet insignificant impact on over and under investment. The negative sign indicates that corporate governance indeed does control firms' under and over investment decisions. However, we believe that this insignificance is because the quality of corporate governance is not as fulfilling as we expected it to be.

Key Words: Investment, Corporate Governance, Stock Exchange

Introduction

The goal of every company is to maximize the wealth of their shareholders and to increase their company's profitability. This can only be done by investing their wealth at the right place at the right time and availing all the right investment opportunities.According to Caballero (1997), countries and firms are usually judged by their investments, as investment provides hope for future prosperity. However the shareholders and company's investors are usually faced by the problem of which investing opportunity to avail and which to pass. Making this decision is a very crucial step for the owners as they also have to act on shareholders' behalf. As said by Bartlett (2015) if directors start gambling with shareholder's money or if directors' fiduciary duties become reckless he can lead his firm to financial distress. These crashing firms can lead to serious consequences such as financial crisis.

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As stated by Jensen (1993) it is an important task to understand how system works and how they are affected by control force such as legal political and the capital markets etc.

Another problem arising from wrong investment is of underinvestment and overinvestment. Both of these have been reported to have a negative impact on firm's progress.In underinvestment the firm forgoes the opportunities with positive net present value hence decreasing value of firms' assets (Mayers, 1987). Whereas overinvestment occurs when a firm invests too much, even in those securities that would not gain much profit.

According to Azeem (2013), after the financial frauds of huge corporate industries like “Enron” etc the Sarbanes Oxley act came into existence in 2002 to monitor the financial activities in the firms and to put an end to deception and fraudulent activities. In Pakistan SECP (Security and exchange commission of Pakistan) and state bank of Pakistan are responsible for monitoring the corporate sector of Pakistan. In Pakistan however corporate governance is at its initial stage and has a long road of development to go and the quality is not yet up to the mark as compared with the rest of the world but still steps are being taken to improve it.

Thus to safeguard the rights of shareholders and to avoid such disturbing situations corporate governance came into existence. In line with Weigand (2000), the objective of corporate governance is to align shareholders' interests with the interest of managers hired to run the firm. Furthermore according to Salama (2013) good or poor corporate governance can fluctuate (positively or negatively) the financial conditions in global diversification. Good governance is usually associated with firm's efficiency. The companies throughout the world are taking proper steps to improve their corporate governance because investors know that a firm following particular set of rules is bound to make careful decisions and would shield their rights. Also according to Zagorchev (2015) good governance mitigates excessive risk taking and increases performance of financial institutions.

As reported by Fuli (2014), director’s and officer’s insurance effects corporate investment decisions, especially in terms of overinvestment and good governance can help reduce this problem. In another study by Chang (2015), firms with weak corporate governance can maximize the wealth of shareholders by increasing adjustment speed towards target leverage through product market competition.

Based on the above discussion our study is twofold, firstly we will study the factors that impact the investment discussions of the firms and secondly we will augment our study to see whether corporate governance practices in Pakistan has any impact on over and under investment practice of the firm.

Literature Review

As investment is the first step in wealth maximization so it should be done with thorough planning, getting started at the wrong point of market can have an adverse effect on company's performance. In financial terms investment is to engage a person's or firms' funds in such a way so that we can derive income from it. This generated income can then be distributed among shareholders or can be used in production of goods and services that can be beneficial for the firm. According to Modigliani (1958), the two main aims of investment are profit maximization and increasing market value. Investment has been seen to have relation with different variables.A study by Lewellen (2014), suggests that cashflow and investment are quite strongly linked specifically for those firms that have a tendency to acquire external funds, also for unconstrained firm there was found a major realtion between investment and cashflow and for constrained firms the realtion was somewhat limited. Similarly investment also involves availing the right growth opportunity, for that we have Tobin's Q. When a firm avails the right investment opportunities its profit growth will maximize which in turn will cause the business confidence to rise, this will ultimately give us high tobin's Q ratio.

Different investments have varying degree of risk and return. Investment may be external or internal. According to Modigliani (1961), market value is not affected by firm's financial structure, thus maximizing shareholders' claims are not affected by firm's internal liquidity, dividend payments and debt leverage. But then Fazzari (1988), came up with the idea that internal financing is less costly than issuance of new shares in the market but it can also cause complications such as agency problems and asymmetric information hence firm's investment and financing decisions are interdependent because they believed that internal funds have a cost advantage over external funds such as debt etc. However the decisions of owners play an important role in determining firms' investment behavior and efficiency (Chen, 2014).

Basically there are two types of managers, one who over-invest and the others who under invest. Both the extremes (under investment and overinvestment) have a bad influence on firms' performance. According to Brealy (2008), overinvestment happens when owners invest in projects that have negative NPV while under investment occurs when firms let positive NPV go. In case of overinvestment the owners take risks by investing too much of firm's budget in investments that might not be beneficial for shareholders. In other words firms with large cash holdings tend to invest more. Whereas in under investment, owners prefer a quiet life and sit out on the investment opportunities that they may come across, such managers are risk avoiders.

There are certain studies e.g. Ningyue (2010), that say that there is a negative relation between overinvestment and firm's performance. If a firm has large cash flow reserves it might invest it in external market which are always risky as compared to internally generated cash flow.

According to a study by Nam (1998), when firms do not generate sufficient cash flow they tend to cut investments below the optimal level because of expensive external financing which results in under investment. Also external financing is subjected to market risks such as exchange rates, interest rates and price fluctuations.

Both of these situations give rise to agency problems. An agency relationship is defined as one in which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent (Jensen, 1976; Rose, 1973). Coherent to Fama (2009), agency problems arise because such contracts are in unwritten form and are not properly enforced; also agency costs include cost of monitoring and bonding contracts between agents and their conflicting interests. As stated by Eisenhard (1989), agency theory deals with conflict of interest that arises between the principal (shareholders) and agents (owners). The principal is usually unaware where his money is being invested by the agent and whether his money is invested appropriately or not. According to Jensen (1976), management can abuse its decision making power by overinvesting in profitable and over risky projects that could result in loss for shareholders. It would have been possible that shareholders would not have preferred to invest in such risky investments. Likewise in case of under investment the managers would avoid risks but maybe the shareholders would have wanted them to take risks. Such difference in opinion can give rise to agency problems between owners and shareholders. Similarly the objective of shareholder is high return on investment while the manager on the other hand might have other goals such as making their company influential and powerful. In this case managers have access to all the inside information whereas outside shareholders are dispersed and become relatively powerless (Javed, 2007).

To mitigate this problem corporate governance came into existence. According to Makki (2013), the main purpose of corporate governance is to acquire competitive advantage in the market, as this competitive edge would help in optimal decision making and would improve operational efficiency. Corporate governance deals with agency problems caused by the separation of control and ownership and represent a set of mechanisms for direction and control of firms (Jensen 1976; Committee, 1992; Vishny, 1997). Good governance helps in availing the right investment opportunity and also helps in monitoring the rights of shareholders. Elbadry (2010), says from the prospective of shareholders theory, corporate governance are the ways in which people interested in the well being of firm e.g. the shareholders try to ensure that managers and other insiders adopt those mechanisms that safeguard the interests of not just shareholders but also creditors, employees, customers, suppliers and so on. Corporate governance ensures best performance and its timely implementation can help in managing risks and maximizing wealth of shareholder and improve efficiency of investments made. According to a study by Bohren (2006), good governance mechanisms improve efficiency of capital allocation within firms. A

study by Jiraporn (2015), states that firms having good governance form corporate strategies that are less risky, whereas if managers are left to their own devices they take excessive risks.

Effective governance reduces the degree of risk taking significantly. It also states that some factors like board, ownership and compensation have larger effects than other factors in corporate governance.

Since good corporate governance plays an important role in enhancing the performance of companies so in emerging countries like Pakistan it reduces chances of financial crisis (Javed, 2007). Our study is based on seeing the impact of corporate governance within Pakistan and how over investment and under investment influence firms' decisions.

The corporate index contains information that helps in measuring the level of corporate governance. As measured by Mussa (2015), corporate index is composed of corporate governance information in annual report, the content of corporate governance statement, board of companies, remuneration of board members, risk management, audit, remuneration and nomination committee characteristics.

From annual report mainly information is extracted about board size, as said by Sheikh (2011), board size instructs and supervises the top management. Secondly board meetings, as Biao (2003), proposed that firms that conduct periodic meetings face fewer management earning issues. Thirdly we see the CEO duality; CEO duality occurs when chief executive officer and chairman is the same person in the firm, however it is suggested that both positions should not be held by the same person. According to Yermack (1996), firms with separate CEO and chairman have more market importance. Other measures include number of executive and non-executive directors and number of shares held by directors and institutions.

To compete with world's renowned companies, Pakistan has developed the Securities and Exchange Commission of Pakistan (SECP) to ensure that corporate governance is being implemented in every firm within Pakistan to safeguard the rights of minority shareholders. As said by La Porta (2000), corporate governance ensures a legal protection to the investors as strong protection of investors is a great demonstration of secure property rights. It requires every firm to disclose their board size and every minute details regarding the board activities and the firm's progress along with its financial statements so that the minority shareholders get the real picture of what is happening in the firm.

Methodology

In order to estimate our variables we will collect data of the firms that are listed on Karachi Stock Exchange (KSE). The following criteria will be strictly observed for the inclusion or exclusion of the firm.

a) The firm has to be listed in the Karachi Stock Exchange for the entire estimation period.

b) The data for different variables should be available throughout the estimation period.

c) Based on these two criteria, we short listed a total of 29 firms to be included in our final estimation.

These firms are listed on KSE-100 index and thus are the sector leaders that give us insight of how the corporate governance play role sector wise. Also these 29 companies represent all sectors currently represented in KSE 100 index and our sample is robust as it represents all the sectors.

The data is collected from years 2009-2013. Years 2010 and 2011 have also been included for the estimation of lags of different variables. Thus our final estimation period after adjusting for lag is from 2011-2013. This gives us a total of 87 firm year observation for different variables used in the study.

Investment Equation

In order to study the impact of Tobin's Q and internal cash holdings on investment we will estimate the following panel data regression model as per methodology of Fazzari et al (1988)

$$(INV)I,t=\alpha 0+\beta 1(T.Q)I,t-1+\beta 2(C.F)I,t-1+\beta 3(size)I,t-1+(lev)I,t-1+\mu i,t$$

Where, T.Q represents Tobin's Q which tells the growth opportunities and is measured by total market value of firm to total asset value of the firm.

Cash flow indicates the inflow and outflow of cash in a company. It is measured by subtracting taxes from EBIT and then adding depreciation to it. The total assets are then taken with lag and divided with the answer.

Size is calculated by taking the log of total assets.

Leverage represents the amount of debt used to finance the assets of the firm. It is calculated by dividing the noncurrent liabilities with total assets of the firm.

In our research we will be treating size and leverage as control variables which mean we will be overlooking these variables and will primarily be focused on dependent and independent variables.

During the first step we will estimate this regression equation. The residuals of this equation will serve as proxy for unexplained investment.

This unexplained investment will be converted to percentiles whereby 1 and 2 percentiles will represent underinvestment and 4 and 5 will represent over investment. These overinvestment

and underinvestment firms will be regressed with corporate governance index that has been constructed by taking the proxies of board size, board meetings, CEO duality, number of executive directors, number of non-executive directors, number of shares held by directors and number of shares held by institutional investors.

The following regression equation will be estimated to check the hypothesis of the impact of corporate governance on investment both in the wake of overinvestment and underinvestment conditions.

$(RINV)I,t=\alpha o+\beta 1(C.G\ index)I,t+$ year effects $+\mu i,t$

A negative significant coefficient of corporate governance index will imply that adherence to corporate governance index checks the practices of overinvestment and underinvestment conducted by the manager.

Resultas and Discussion

Table 1. *Represents the descriptive statistics of variable used in analysis*

Variable	Obs	Mean	Std.Dev.	Min	Max
Winv	87	0.063455	0.094602	-0.10697	0.487833
Wtq	87	0.957022	1.031117	0.040948	4.692039
Wwcft	87	0.119544	0.116866	-0.02749	0.306174
Csize	87	17.24276	1.023396	15.10775	19.63951
Wlev	87	0.270245	0.199799	0	0.648711
Cindex	87	16.88816	10.48567	1.064282	44.18575

Investment has a mean of 6% while growth opportunity has mean of 95% that represents the lack of growth opportunities of firm in Pakistan. However firms' internal cash holdings are 11.9% on average. From the descriptive statistics one can infer that small mean of investment is due to lack of growth opportunities of the firm.

Correlation Matrix

Table 2. *Represents the correlation matrix for variab les used in investment equation*

Correlation Matrix					
	Winv	wtq	Wwcft	csize	Wlev
Winv	1				
Wtq	0.281	1			
Wwcft	0.1637	0.6382	1		
Csize	-0.0097	0.0208	0.0004	1	
Wlev	0.2807	-0.1676	-0.2414	0.1029	1

It can be seen from the table that no correlation and regression among independent variables is free from the effects of multi co linearity.

Cash flow and Tobin's Q has correlation coefficient of 0.63 and thus cash flow has significant coefficient with Tobin's Q but other independent variables do not have significant correlation.

Since Tobin's Q is widely used in literature as trusted proxy for growth opportunities, as per Gujrati (2003) correlation multi co linearity is a problem though is a problem but the coefficients obtained are unbiased, however their robustness is affected.

Table 3. *Represents the correlation matrix of variables used in the equation*

correlation residuals		
	Residual	cindex
residual	1	
Cindex	-0.0157	1

Corporate governance has insignificant correlation with investment residuals but however negative sign indicates that they have negative relationship.

Thus it is a partial support of our hypothesis that corporate governance has inverse relationship with under investment and overinvestment.

Results of Investment Equation

Table 4 represents the results of investment equation using common effect, fixed effect and random effect panel regression models.

Table 4. *Investment Equation Results*

Common Effect Model: Dep. Variable=Investment				
Winv	Coef.	Std.Err.	T	P>|t|
Wtq	0.02822	0.011823	2.39	0.019
Wwcft	0.042098	0.105933	0.4	0.692
Csize	-0.00482	0.009222	-0.52	0.603
Wlev	0.165813	0.048666	3.41	0.001
_cons	0.06974	0.158616	0.44	0.661
Fixed Effect Model:Dep. Variable= Investment				
	Coef.	Std.Err.	T	P>|t|
Tq	0.065111	0.047358	1.37	0.175
Cft	-0.01732	0.163764	-0.11	0.916
Csize	0.009179	0.064991	0.14	0.888
Lev	0.370241	0.206715	1.79	0.079
_cons	-0.25511	1.119256	-0.23	0.821
Random Effect Model:Dep. Variable= Investment				
	Coef.	Std.Err.	Z	P>|z|
Tq	0.029683	0.012534	2.37	0.018
Cft	0.025978	0.108248	0.24	0.81
Size	-0.00469	0.010036	-0.47	0.641
Lev	0.168758	0.052702	3.2	0.001
_cons	0.067131	0.172644	0.39	0.697

Common effect model has statistically a positive coefficient for Tobin's Q (p value 0.019 less than 0.05, t value=2.39) while positive insignificant coefficient for cash flows. In fixed effect model both Tobin's Q and cash flow has insignificant coefficient while in random effect model Tobin's Q has positive significant coefficient(p value 0.018 less than 0.05, z value =2.37) while cash flow has positive insignificant coefficient.

The results of fixed effect model and random effect model are in conflict with each other thus we will conduct Hausman test to decide between fixed and random effect model.

Hausman Test

The Hausman test was conducted under following hypothesis.

H1: Fixed effect model results are accepted

Ho: Random effect model results are accepted

The p value of 0.58 indicates that random effect model should be accepted.

Random effect model results indicate that Tobin's Q has significant impact on investment thus despite of large cash holdings the firms did not invest much, as indicated in descriptive statistics during 2011-2013.

The cash flow has positive insignificant coefficient as per finding of Fazzari et al (1988). In their research they were of the opinion that financially unconstrained firms do not rely on their internal cash holdings for their investment, mainly due to the reason that they have fewer information asymmetries. Since our firms are those that are present on KSE 100 index and are sector leaders throughout the sample period they can easily raise external finances at lower cost and thus do not have to rely on their internal cash holdings. A positive significant coefficient of leverage (p value 0.001 less than 0.05, z value 3.20) indicates that these highly financial unconstrained firms mostly rely on debt to conduct their investment activities.

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Over Investment & Corporate Governance

Dependent variable= Residuals

Table 5. *Represents the results of corporate governance on over investment firms*

Common effect model Dependent variable residuals				
residual	Coef.	Std.Err	T	P>|t|
Cindex	-0.00109	0.001311	-0.83	0.414
_cons	0.086661	0.028489	3.04	0.005
fixed effect model: dependent residual				
residual	Coef.	Std.Err	T	P>|t|
Cindex	0.038705	0.02544	1.52	0.15
_cons	-0.63336	0.460565	-1.38	0.191
Random effect model: dependent residual				
residual	Coef.	Std.Err	Z	P>|z|
Cindex	-0.00122	0.001595	-0.77	0.443
_cons	0.090245	0.033827	2.67	0.008

The common effect model implies that corporate governance in Pakistan does not have significant impact on over investment. This result is further validated by results of fixed and random effect models. However, the sign of the coefficient in all three regression is negative which indicates that adherence to corporate governance discourages over investment. This is in conformity with the results found out by fizzari were also of the opinion that corporate governance discourages overinvestment. However in Pakistan though the coefficient sign is negative but is not significant. The reason is that the corporate governance practices are not of that quality so that it can impact the firm's investment decisions.

Under investment and Corporate Governance

Table 6. *Represents the results of corporate governance on under investment firms*

Common effect model				
residual	Coef.	Std.Err.	T	P>|t|
Cindex	-0.00027	0.000624	-0.43	0.669
_cons	-0.05777	0.011287	-5.12	0
Fixed effect model				
residual	Coef.	Std.Err.	T	P>|t|
Cindex	-0.0008	0.001801	-0.44	0.664
_cons	-0.04932	0.029099	-1.7	0.112
Random effect model				
residual	Coef.	Std.Err.	Z	P>|z|
Cindex	-0.00021	0.000643	-0.33	0.74
_cons	-0.05829	0.012114	-4.81	0

As it can be seen from our results the common effect model's result indicates that although our results are insignificant, the negative sign implies that if corporate governance would have been properly being implemented in Pakistani firms it would have had a negative impact on under investment and would have prevented it. Similarly fixed effect and random effect are also

showing negative but insignificant impact on under investment which testifies that if the quality of corporate governance was up to the mark in Pakistani firms it would have had a negative impact on under investment. Hence the negative sign of all the three models authenticate the adverse impact of corporate governance on under investment.

Conclusion

The study aims at understanding investment in Pakistan in the light of Fizzari et al. (1988) study. Further we augmented the study to see whether corporate governance can act as a safety valve to control over and under investment in the context of Pakistani firms. The investment equation proved that growth opportunities play a pivotal role in the investment decision of the firms. Since our firms were KSE 100 index firms and were unconstrained, the cash flow had an insignificant coefficient and we found that investment projects are mostly funded by unconstrained firms through debt because they face fewer financial asymmetries and can raise funds at a cheaper rate than other constrained firms. For corporate governance we obtained the residuals from investment equation's pooled regression. The firms in the lower quintiles of residuals were termed as under investment firms and vice versa. We found that corporate governance in Pakistan has no impact on under investment of the firms. However the coefficients had a negative sign that indicated that if the quality of corporate governance is improved it may check the practices of under investment in Pakistani firms. Further in case of over investment we found a negative but insignificant coefficient for corporate governance that indicated that corporate governance practices in Pakistan have no impact to check overinvestment of manufacturing firms. The reason of insignificant coefficient is due to the fact that corporate governance practices have been adopted by the firms to satisfy legal requirements. That is why the quality of corporate governance is not up to the mark in Pakistani firms and hence this is the reason that corporate governance practices are unable to play a significant role in checking over and under investment practices.

References

Abdelsalam, O., & El-Masry, A. (2008). The impact of board independence and ownership structure on the timeliness of corporate internet reporting of Irish-listed companies. *Managerial Finance, 34*(12), 907-918.

Azeem, M., Hassan, M., & Kouser, R. (2013). Impact of Quality Corporate Governance on Firm Performance: A Ten Year Perspective. *Pakistan Journal of Commerce and Social Sciences, 7*(3), 656-670.

Bartlett, R. P. (2015). Shareholder wealth maximization as means to an end. *Seattle University Law Review , 8*(2), 55.

Bøhren, Ø., Cooper, I., & Priestley, R. (2007, March). Corporate governance and real investment decisions. In *EFA 2007 Ljubljana Meetings Paper*.

Brealy, M. (2008). Principles of corporate finance. *Mc Graw Hill/Irwin*, 329-333.

Caballero, R. J. (1997). Aggregate Investment. *National Bereau of Economic Research*, 4-70.

Chang, Y. K., Chen, Y. L., Chou, R. K., & Huang, T. H. (2015). Corporate governance, product market competition and dynamic capital structure. *International Review of Economics & Finance, 38*, 44-55.

Chen, R. (2014). Do state and foreign ownership effect efficiency? *Journal of corpoarte finance*, 1-10.

Committee, C. (1992). Report of the committee on the financial aspects of corporate governance.

Eisenhardt, K. M. (1989). Agency theory: An assesment and Review. *Academy of management review*, 57-74.

Elbadry, A. (2010). Corporate governance and asymmetric. *Verlag Dr. Muller GmbH & Co.*, 284-308.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law & Economics, 26*(2), 301-325.

Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. *Brookings papers on economic activity, 1988*(1), 141-206.

Javed, A. Y., & Iqbal, R. (1961). The Relationship between Corporate Governance Indicators and Firm Value: A Case Study of Karachi Stock Exchange. *Working Papers & Research Reports,* 2007-14.

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *the Journal of Finance, 48*(3), 831-880.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3*(4), 305-360.

Jiraporn, P., Chatjuthamard, P., Tong, S., & Kim, Y. S. (2015). Does corporate governance influence corporate risk-taking? Evidence from the Institutional Shareholders Services (ISS). *Finance Research Letters, 13*, 105-112.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., &Vishny, R. (2000). Investor protection and corporate governance. *Journal of financial economics, 58*(1), 3-27.

Lewellen, K. L. (2014). Investment and cashflow: new evidence. *Journal of financial and Quantitative Ananlysis*, 1-40.

Li, K. F., & Liao, Y. P. (2014). Directors' and officers' liability insurance and investment efficiency: Evidence from Taiwan. *Pacific-Basin Finance Journal,29*, 18-34.

Liu, N., & Bredin, D. (2010). Institutional Investors, Over-investment and Corporate Performance. *University College Dublin*.

Makki, M., & Lodhi, S. A. (2013). Impact of Corporate Governance on Financial Performance. *Pakistan Journal of Social Sciences (PJSS), 33*(2), 265-280.

Mayers, D., & Smith Jr, C. W. (1987).Corporate insurance and the underinvestment problem. *Journal of Risk and Insurance*, 45-54.

Modigliani, M. H. (1961). Dividend policy, Growth and the valuation of shares. *Journal of business*, 33-411.

Modigliani, F., & Miller, M. H. (1958).The cost of capital, corporation finance and the theory of investment. *The American economic review, 48*(3), 261-297.

Mussa, H., Musová, Z., & Debnárová, L. (2015). Responsibility in the Corporate Governance Framework and Financial Decision Making Process. *Procedia Economics and Finance, 23*, 1023-1029.

Nam, G. D. (1998). The underinvestment problem and corporate derivatives use. *Financial management*, 53-69.

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review, 63*(2), 134-139.

Salama, F. M., & Putnam, K. (2013). The Impact of Corporate Governance on the Financial Outcomes of Global Diversification. *The International Journal of Accounting, 48*(3), 364-389.

Vishny, A. S. (1997). A survey of corporate governance. *the journal of finance*, 737-783.

Weigand, E. L. (2000). Does the governed corporation perform better? Governance structure and corporate performance in Germany. *European finance review*, 2-27.

Xie, B., Davidson, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of corporate finance, 9*(3), 295-316.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of financial economics*, 185-211.

Zagorchev, A., & Gao, L. (2015). Corporate governance and performance of financial institutions. *Journal of Economics and Business, 82*, 17-41.