IMPACT OF FREE CASH FLOWAND MANAGERIAL OWNERSHIP ON AGENCY COST: IN NIGERIAN LISTED CONGLOMERATES

BY

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Declaration

I hereby declare that this Dissertation titled "The Impact of Free Cash Flow and Managerial Ownership on Agency Cost: In Nigerian Listed Conglomerates" is a product of my research effort, carried out under the supervision of Dr. Salisu Abubakar and Jibril Ibrahim Yero. Acknowledgements were duly observed in respect of all sources from which information were tapped. In addition, this research work has not been presented anywhere for the award of any kind of educational certificate.

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LAWAL Murtala Date

Certification

This Thesis titled "The Impact of Free Cash Flow and Managerial Ownership on Agency Cost: In Nigerian Listed Conglomerates" by LAWAL Murtala meets the requirements governing the award of Master Degree in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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Dedication

To my family- I dedicate this research work to persons who earned the right to be part of my family, whether this right is by default or by deeds.

Abstract

This study looked at the impact of free cash flow and managerial ownership on agency cost, using listed conglomerates in Nigeria as study population, for the period 2007 to 2012. The study formulated three hypotheses bordering on whether free cash flow and managerial ownershipsignificantly impacts on agency cost, and whether free cash flow conditioned on high managerial ownership, has any significant impact on agency cost. The hypotheses were tested using panel regression, while controlling for firms' unobserved fixed effects.Consistent with theory and extant empirical evidence, this study found that Free cash flow has a significant positive impact on agency cost. Also, the study discovered no sufficient evident to conclude that managerial ownership has a significant impact on agency cost- though a negative impact exist, this is not significant, empirically. Testing the last hypothesis, the study found that the interaction between high managerial ownership and free cash flow significantly impact on agency cost. In line with the findings, the study recommends that Conglomerate firms of Nigeria should, through their board, enact policies that will ensure avoidance of keeping free cash for the manager's discretion so that agency costs will be minimized.

KEY-WORDS: Free cash-flow, Managerial Ownership, Agency Cost, Conglomerates

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Studies on corporate well-being are normally of great interest to various stakeholders of the corporations. One important area which greatly affects this corporate well-off-ness is the area that is concerned with the firm as a nexus of relationships among its owners, its agents and its resources. In the centre of it all, is the agent (manager), who arguably seems to be the most significantly critical and indispensable variable in the modern corporate equation. Practical evidence has over the years shown that the ever unending conflicts resulting from this marriage has brought about so much hardship to firm shareholders of varying sizes, whether small medium or large shareholders.

The world has witnessed several cases of self-serving managers bringing down giant corporations which were once viewed as "too big to fail", to naught. The case of Enron Corporation and WorldCom are few of such cases whose resultant residual losses' effects may probably remain fresh in the entire remaining lives of the afflicted ones. In Nigeria, the monumental frauds engineered almost to perfection, by the once highly respected Chief executive officers (CEOs) of some previously reputable corporations, which had been enjoying a seemingly unearned goodwill at the expense of realistically honest players of their respective industries, may forever remain indelibly imprinted in the minds of a wide range of stakeholders. These once trusted agents have betrayed their trusts, pursued their selfish interests and left their owners heavily burdened with losses (and indebtedness); their potential investors (both local and foreign) deeply dented with fear of trusting Nigerian's prevailing system of private corporations;

and the market and the entire economy in a state of deep shamble. Notable among these cases are the cases of the CEOs of the defunct banks like the Intercontinental bank, Oceanic bank Afri-bank, and others(vs Central Bank of Nigeria in 2009). These cases occurred within less than a decade after the 2007 scandal of the Cadbury Nigeria Plc as reported in Times Magazine (2007).

This tendency causes a rational mind to begin to wonder what is wrong with all the theoretical compasses that provide in-depth guidance on mitigating agency costs. Is it that the presumably learned Boards of these organizations do not follow the predictions of these theories in their governance mechanisms and incentive alignment strategies; or that these theoretical underpinnings are not really effective in what they propound, or rather the theories have not sufficiently covered enough grounds?

A survey of extant literature would show that in fact this area has received an extensive theoretical focus. In the early literature of finance, the managerialist theory has long been fundamentally concerned with separation of ownership and control (management) of corporations (Berle & Means, 1932). Tapping from the existing body of theories such as the Managerial discretion theory (as was first propounded by Fahlenbrach & Stulz, 2008), the agency theory of Jensens and Mecklings (1976), the free cash flow hypothesis of Jensen (1986), the incentive alignment and entrenchment hypotheses (as advocated by Morck, Shleifer & Vishny, 1988), and so on, it is almost a conclusive fact (theoretically) that top managers are viewed as essentially running corporations for their own benefit, rather than the benefit of Stockholding owners. It is thus not unexpected that early formulations of agency theories (e.g. Jensen & Mecklings, 1976) originally defined the magnitude of the agency problem in terms of the degree of separation between owners and managers. As explained in the seminal paper of Jensen and Mecklings (1976), a firm that is run by a manager who is the sole owner has zero

agency cost since the sole owner is in control (no agent involved); once a firm moved from being a 100% owner-manager firm to a firm with outside equity, agency cost emerges.

Accordingly, in this line of thought, Jensen and Mecklings (1976) described agency cost in light of the costs associated with the degree of this separation, as the sum of cost of monitoring, bonding and the residual loss borne by a firm resulting from entrusting to a third party (an agent) the task of running a firm's affairs. Obviously this is a threat to the wellbeing of the firm and consequently to the remaining stakeholders. In order to mitigate this detrimental effect, among other approaches, is to align the interest of the agent with that of the firm through having a considerable stake in the firm. It is on this rational line of thought that theories proposed that managerial ownership should have an inverse relationship with agency costs. A glance at the various manifestations of these adversities (agency costs) which may result from the agency relations in the firm, among other theories, free cash flow hypothesis has extensively elaborated on one of such dimensions.

The free cash flow hypothesis of Jensen (1986) infers that owing to the nature of agency relation, managers of corporations with diverse ownership are predictably bent on squandering their firms' free cash flow (the excess of internally generated cash that is required to maintain existing assets in place and finance profitable projects), at the expense of the shareholders. Expounding further, the hypothesis notes that these opportunistic pursuits of the managers (agents) could take the form of perquisite consumption- expending on things that are directly beneficial to them (since no profitable investments are available), such as new cars and increased travelling expenses; "empire building" by continuously investing (over-investment) even when it is not profitable (investing in negative present value projects), and thus expanding the firm beyond its optimal size; Shrinking behaviour through under-utilization of the firm's assets (under-

investment), when the likelihood of being a takeover prey seems high (Yero & Shehu, 2013). The resultant effect of these behaviours of the managers is the dwindling of firm's future performance and consequently firm value and as such, they are agency costs associated with free cash flows.

Summing up the free cash flow hypothesis: though free cash flow is much needed to generate more wealth for shareholders, it is disastrous to leave it in hands of managers with little or no stakes in the firm; especially where growth opportunities seems bleak. Thus free cash flow should be paid out as dividend or interest; or managers should be encouraged to have more stakes so as to reduce agency cost associated with free cash flow. Looking at this explanation, it is thus expected that free cash flow should have a positive impact on agency cost.

Managerial ownership, as the quantum of executive directors' stakes in an organization, should naturally have some alignment effects on the manner in which the managers runs the affairs of the organization. This is so considering the agency theory preposition regarding the idea of interest synchronization of interests of the manager and that of the organization, as the manager's interest in the organization advances forward, and vice versa. Thus, it is expected that managers with high stakes in a given organization tend to be more diligent than those with relatively low stakes.

From the foregoing discussion, it is cogent to assume that in firms where managers have high stakes, effect of free cash flow will be neutralized, since managers are also owners to some extent, due to their equity stakes. Thus they are expected to manage the firm's resources with equally due diligence as they will manage their own personal resources.

In line with these theoretical underpinnings, staggering empirical evidence exists to validate the theories, though mostly skewed towards some specific aspects of the relationships. Other areas of equal importance and interesting to the stakeholders, though having sufficient theoretical underpinnings, face a dearth of valid and usable empirical evidence. One such area is the aspects of causes and mitigants of agency costs for a firm (This is a result of the study's survey of extant literature). In the centre of the causal flat form lies the issue of manager (agent) and owner conflicts.

While a number of studies inquired into the relationship between free cash flow, managerial ownership and agency cost on pairwise, only one study (as far as we can tell) attempted to empirically document the possible effects which may result from the interactions among free cash flow, managerial ownership and agency cost- i.e. the study conducted by Iskandar, Bukit and Sanusi (2012). More so, the methodological shortcomings and the problem of domain applicability are some of the issues which this study identifies as the motivation that propels the researcher to undertake the study. In addition, as a powerful context for this study, Conglomerate firms are arguably more prone to agency conflicts. This is so due to their nature, having so many subsidiaries which mean so many Free-rein agents for the apex Board to deal with. Besides, the monumental world records of managements' derailed stewardships of firms, has historically happened in conglomerate firms (such as Enron Corporations). Thus, it will indeed be a worthwhile endeavour to inquire into the nature of the effects of these interactions (of free cash flow, managerial ownership and agency cost) using Listed Conglomerates in Nigeria.

1.2 Statement of the Problem

Jensen and Mecklings (1976) laid a clear-cut analogy on expectations regarding agency costs in situations of various levels of managerial ownership. They proposed that firms with 100% managerial ownership have zero agency cost and as the managerial ownership dwindles downwards, agency cost increased upward- i.e. agency cost should be inversely related with managerial ownership, with the latter causing the former. Also, in 1986, Jensen (single handedly this time) propounded another proposition on free cash flow as a source of agency cost. He argued that firm managers are bound on squandering the free cash left at their discretion through the pursuit of self-serving endeavours such as perquisite consumptions, empire building and shrinking behaviour- all of which is to feed their ego and there by incurring agency costs to the firm. With this notion, and going by the alignment hypothesis, the proposition therefore predicts a direct relationship between free cash flow and managerial ownership, inasmuch as increased managerial ownership is expected to align the interest of the manager with that of the firm.

Despite the logical and useful propositions forwarded, which are capable of neutralizing the seemingly unending agency quagmire which corporations of the world found themselves in, the profounder(s) of these theories did not empirically document how true these propositions are. This is probably due to the issues of lack of accounting precision in the means of quantifying agency costs and free cash flow at the time, for instance, Jensen and Mecklings (1976) described agency costs as the sum of monitoring cost, bonding costs and the residual loss; these costs cannot be easily estimated, apart from the fact that such information is not publicly available data. In the same vein, this problem also applies to the free cash flow.

Subsequent studies that emerged in this line have succeeded in quantifying the variables and tested these theories. For instance, both Iskandar, *et al*, (2012) and Wang (2010) have empirically documented a significant positive impact of free cash flow on agency costs. Though these two studies are the only two studies (to the best of the researcher's knowledge) that directly tested the impact of free cash flow on agency costs, other studies too exist, which have succeeded in indirectly testing the free cash flow hypotheses. Notably among them are the works of Yero and Shehu (2013); Richardson (2006); Chung, Firth, and Kim (2005); Shin and Kim (2002); Harford (1999) Griffin, 1988; among others. While Yero and Shehu (2013) discovered that firms with high free cash flow and less growth opportunities suffer from dwindling future accounting performance; both Griffin, (1988) and Shin and Kim (2002) found that firms with high free cash flow invest more in less profitable investments compared to companies with low free cash flow. Due to the sheer logic enshrined in these theories, it did not come as a surprise that the findings of these studies are to a large extent consistent with the predictions of the theories. Notwithstanding these pieces of evidence, the latter set of studies mentioned above did not actually use proper representatives for agency costs as their dependent variables in their studies. Also, the methodological shortcomings in measurements and in techniques of analysis as highlighted in our literature reviews, coupled with the difference in domains of our studies versus these formerly mentioned set of studies, necessitate our study.

Also, the relationship between managerial ownership and agency costs has been empirically documented by subsequent researchers. Example of such studies include the work of Gogineni, Linn and Yadav (2011); Gogineni, Linn and Yadav (2011); McKnight and Weir (2008); Florackis and Ozkan (2004); and Ang, Cole and Lin (2000). Here also, without any surprise, the findings of all these studies are theoretically consistent. The prediction of agency theory was

resounded in all cases. However, the point of contention here is also in the areas of methodological, timing and domain issues as argued by this study in the literature review. These findings can simply not be applied out rightly to Nigerian context without subjecting the issue to further tests using Nigerian contexts and methodologies which the study considered to be more reliable. This is so because the macro-economic parameters of the countries from which these studies emanated differs from that of Nigeria. As such the behaviours of the study variables too may possibly differ.

Furthermore, while theories and evidence alike; are consistent in documenting that both free cash flow and managerial ownership have significant impact on agency cost (with the former having a positive impact while the latter having negative impact), one important point of note is that only one study (Iskandar *et al*) have succeeded in empirically documenting the impact of free cash flow when management ownership is high- that is the interactive effect of managerial ownership and free cash flow on agency costs. This study however (the study of Iskandar, *et al*, 2012), though of recent and apart from the fact that they used data from Malaysian Listed firms, the study used cross sectional regression. Given the observation our study made regarding issues that had to do with methodologies and difference in domain of the study, such as macro-economic parameters and other regulatory frameworks that drives the behaviour of our study variables, using a different approach and Nigerian data to test whether this finding will hold, may be in order. This is apart from the less predictive modelling which the study (Iskandar, *et al*, 2012) used assuming that the behaviour of free cash flow towards agency cost, as variables that varies year in year out, could be static over time. Qualifying the result of such analysis in decisions that may cover years of firms' existence is obviously not a prerogative of logic. There is every

possibility that ineffective outcome may result there from and thus problems be compounded instead of solving them.

In light of the afore-arraigned gaps and problems identified, this study therefore raises and provide answers to the following questions:

(i) How does free cash flow affect agency costs of the Nigerian listed Conglomerates?

i. How does managerial ownership affect agency costs of the Nigerian listed conglomerates?

ii. What is the impact of free cash flow on agency cost, where managerial ownership is high?

1.3 Objectives of the Study

The objectives of this research are to:

(ii) assess the impact of Free Cash Flow on Agency Costof the Nigerian listed conglomerates.

(iii) examine the impact of Managerial Ownership on Agency Costof the Nigerian listed conglomerates.

(iv) to ascertain the impact of Free Cash Flow on Agency Cost in situation of High Managerial Ownership of the Nigerian listed conglomerates.

1.4 Research Hypotheses

Based on the research objectives raised, the following research hypotheses were formulated in null form:

Ho_1: Free Cash Flow does not have a significant impact on Agency Costof the Nigerian listed conglomerates

Ho_2: Managerial Ownership does not have a significant impact on Agency Costof the Nigerian listed conglomerates.

Ho_3: In situation of high Managerial Ownership, Free Cash Flow does not have a significant impact on Agency Costof the Nigerian listed conglomerates.

1.5 Scope of the Study

This study aims to assess the impact of Managerial Ownership and Free Cash Flow on Agency Costsof the Nigerian listed conglomerates. Conglomerates are known to have a myriads of interwoven agency relationships all traceable to one root of owners. It should be noted that it is not the intention of this study to find out the nature of relationship (whether linear or non-linear) which exist between different levels of managerial ownerships and agency cost. The period covered by the study is from firms' financial years 2007 to 2012.

1.6 Significance of the Study

This study is hoped to benefit the following categories of beneficiaries, in the following manners:

i. Corporate Boards may use the output of this research in deciding whether to encourage management ownership or not, for the purpose of interest alignment.
ii. Scholars and researchers in similar area: They will have a fresh evidence from Nigeria, as point of reference in academic discourse.
iii. Investors: they could use the output of this research in making investment decisions where one of the aims is to invest in firms after factoring in the expected agency costs

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapterlooks at theconceptual issues pertinent to the variables of the study and a critical review of the existing literature so far accumulated in the area of study. The main purpose of the chapter is to trace the contributions of studies that has been carried out in this line of research and also to identify any possible gap(s)that may be embedded within these studies, with a view to filling them.

In addition, the chapter provides a discourse on claims of the relevant theories that may possibly provide explanations on the relationships among the study variables. At the end of the discourse, the chapter identifies a more befitting theory as the underpinning thesis of this study.

2.2 The Concept of Agency Cost

The National Association of Securities Dealers Automated Quotation System-NASDAQsNASDAQs website accessed 17th November, 2013), defines agency cost as "The incremental costs of having an agent make decisions for a principal". The above definition of agency cost is not only blurry, but also falls short in explicitly identifying the limit or boundary. It is blurry and inexplicit in the sense that the cost involves is termed as incremental, without duly allotting it to anyone. It is to be incurred by the principal or the agent alone, or by both? Is it something that must be there as long as there is agency relationship, or it is subject to certain actions or inactions? Is it applicable to any agency relationship or it is restricted only to corporate firms? These questions which are unanswered by the definition, makes it to be hazy. In addition,

the definition failed to be explicit as to the parties involved. Though agent and principal were mentioned, debt holders were left out, and they too are integral part of the conflict (for levered firms). In the word of Tsuji (2012), "there are two kinds of agency costs: One is between debt holders and shareholders, the other is between external shareholders and internal managers".

In their original paper on Agency Theory, Jensen and Mecklings (1976), thoroughly explained the concept of agency costs in light of cooperative effort by human beings as they pursue economic activities. Their major focus is on the possible costs which might arise when one entity, the principal, hires another, the agent, to act on his or her behalf. Along that line, they developed agency theory within the context of the conflicts of interest between corporate managers and equity and debt holders who are not involved in the day to day running of the business. While they are at it, they constructed a definition of costs that the corporation might incur as a result of hiring an agent. Precisely, agency costs for corporations according to Jensen and Mecklings (1976), is "the sum of: (1) the monitoring expenditure by the principal, (2) the bonding expenditures by the agent, (3) the residual loss". Although this definition is not without shortcomings, it succeeded in explicitly identifying the sources of the costs (monitoring, bonding and residual loss), the specific circumstances in which agency costs might be incurred (resulting from the three kinds of agency costs mentioned above) and the parties that bears the costs in each situation.

The explanation for the Monitoring Expenditures by The Principal is that, the principal need to incur some monitoring costs to limit the agent's deviation from the principal's interest. Such cost might be direct or indirect. It is direct if the firm for instance, has to hire the service of additional agents like external auditors to look in to the accounts of the firm and ascertain how well the manager is so far running the affairs of the firm. It is indirectly incurred in firms even where the

manager is an owner, as long as his stake is much less than the stake of the creditors, the manager will be striving to transfer wealth to himself by engaging in highly risky and highly profitable projects and in the event where the risks involved took course and get reflect in the results of operation, the creditors suffers delay or non-payment of interest or even the principal amount (Jensen & Mecklings, 1976 as cited in Yero, 2011).

This kind of agency monitoring cost according to Jensen and Mecklings (1976) is termed as incentive effect associated with highly leveraged firms. Obviously, if it stops here without the debt holders having to do anything about it, the cost has to be then borne by the debt holders. For this reason, in order, to curb the incentive effect, the lenders impose several restrictions in form of agreement which may cover so many aspects of the firm's operation and which may limit some of the manager's optimal decisions that might have been beneficial to the firm (if allowed to take course). These restricts and conditions (otherwise known as covenants) have costs such as seeking the service of a lawyer to write the agreement, the cost of implementing them-monitoring and the reduced profitability for the firm by disallowing the manager to pursue high return (i.e. highly risky) projects. All these (the costs from the lenders side) are normally taking into account by the lenders before deciding on the price of the debt which will have to be borne by the firm. Jensen and Mecklings (1976) explained this as monitoring cost of debt. It is monitoring costs in the sense that the firm includes debt in their capital structure not only due to lack of fund but also due to its monitoring attributes- that is the lenders watches out the manager because of their money invested in the firm and that invested money costs the firm some money.

In addition to these cost, in order to mitigate the agent's divergent interest from interfering with the interest of the principal and solve the potential moral hazard problem, the principal has to establish incentives, like opinions to acquire stock of the firm, to bring the agent's action in tune

with that of the principal. Though not paid directly, this is also a monitoring cost in another form, in the sense that the firm has to dilute ownership and invite the manager to have a share in their residual profits. Empirical evidence exists to show that lenders indeed monitor firms they lend out money to, and that firms that default covenants have high borrowing cost (De-fond & Jiambalvo, 1994).

The explanation given by Jensen and Mecklings as regards to bonding expenditures by the agent is that, the principal has to along with paying the agent to work for him, spend resources in order to guarantee that the agent will not take certain actions which will harm the principal, or to ensure that the principal will be compensated if the agent does take such actions. This could be by way of seeking the service of a lawyer to write a bonding agreement between the two parties; paying premium for fidelity insurance and so on. On this one, the connotation here is that the cost is double edged. If the principal (firm) is found wanting in fulfilling obligations agreed upon, he will have pay damages. This is in addition to other amount spent by him to ensure the bond takes effects. To the best of our knowledge, no evidence so far exists on this kind of situation. The other edge of the cost is where the manager has to pay for breach of the bond.

There has been considerable number of cases for this kind of situation all over the world. Look at the Enron scandal, the managers were charged with misrepresentation of true and fir views of the financials and thus fined for breach of trust in addition to other sentences (see Mehta&Srivastavaare, 2009). The Nigerian cases of bank executives such as Oceanic Intercontinental banks, etc., are also points of reference in this regard (see Eagle, 2009). In addition to the principal-agent bonding cost, it is possible to incur this kind of cost by the principal (firm) in situation of debt covenant violations. These could take the form of litigation costs,collateral seizure, loosing the patronage of the lender and credibility in the debt market

which consequently leads to high cost of subsequent borrowings, and so on (see Sweeney, 1994; Healey & Palepu, 1990 and Defond & Jiambalvo, 1984).

In the case of the residual loss, Jensen and Mecklings (1976) infers that, in spite of the fact that that the monitoring and bonding costs are intended to align the differing interests of principal and the agent, divergences between the agent's decision and the maximization of the principal's welfare may still take place because the agreements and the arrangements are never completely perfect. The reduced welfare of the principal is the residual loss.

This study discovered staggering number of empirical evidence which is documented on residual losses in different form, by the firm due to manager's action. For instance, looking at earnings management which entails the use of selective judgement in the choice of accounting policies and in structuring transactions to alter financial report so as to either misled users or to influence contractual outcome that depends on the accounting numbers being reported (Healy & Wahlen, 1999), the tendency has been reported to questions the reliability and the information content of the reported earnings; and the practice of earnings management is carried out by firm managers mostly in pursuit of their selfish interests like, to earn their bonuses (Sun & Sun, 2007). Though some studies are of the opinion that the practice might be beneficial to the firm stabilizing the firm's market price or during initial public offer in order to secure favourable subscription (Teoh, Wong & Rao, 1998), still, as a going concern, this action of manager is susceptible to reversal in future and the basis for doing it mostly is built on manager's selfish desire- meet various targets at all cost (even at the cost of injuring the future of firm) in order to earn the promised reward. In addition, free cash flow at managers' disposal without adequate room for real growth was documented to incur residual loss to the firm. This kind of residual loss is what Jensen (1986) termed as agency cost of free cash flow. Yero and Shehu (2013), Wang (2010) and Lang Stultz

and Walking (1991) documented evidence in support of this tendency. In addition to the above, it is logical to assume that as a result of continued poor performance in running the affair of the firm by the agent (manager), financial problems might get out of hand, firm's liabilities might outweigh its assets and thus bankruptcy has to be filed, with the outside creditors having first claim, the equity holders takes home nothing and thus, the ultimate residual loss by residual holders (Jensen & Mecklings, 1976).

From the explanations and deliberations above, itis noticeable that the definition of agency cost forwarded Jensen and Mecklings (1976) is so precise and informatively far reaching, touching important aspects of agency relationship. The definition also gave room for researchers to figure ways on how to quantify and measure any aspect of the concept, depending on the need of the researcher. Perhaps, this could possibly be the reason for the universal usage of the definition in most researches in the field of corporate finance. In spite of this, the definition however is restrictive of the possible sources from which agency cost might be incurred by a firm. For instance, in trying to adhere to and take advantage of the idea behind specialization, corporate firms tend to contract out their researches to specialized research firms for the purpose of developing new techniques or products. Under this arrangement, there are chances that the research agent might fail the corporation in one way or the other and this failure could translate into cost to be borne by the firm. Note that this research agent is entirely independent of the management, shareholders and creditors.

Looking at this situation, it is apparent that this kind of agency cost is not covered by the definition forwarded by Jensen and Mecklings (1976) and hence the definition's restrictive nature of the cost to only circles around only normal regular players of the firm. Agency costs based on the definition of Jensen and Mecklings (1976) has of course covered virtually any

corporate activity where shareholders delegate responsibility to others directors, managers, or employees and as a result of this conceptual definition, burgeoning literature offering various agency cost analyses of different aspects of the corporate enterprise; nevertheless, it left out agency cost of corporate research and development (R&D) and it is a fact that agency costs in the corporate R&D context differs (see Cherensky, 1994).

Notwithstanding the above shortcoming identified in the definition, this study is of the opinion that the definition is more than adequate to stand as the conceptual definition of the term agency cost. This position has been arrived at having observed that the kind of agency cost which the study is concerned with (agency cost associated with free cash flow), has been captured in the definition forwarded by Jensen and Mecklings (1976).

As regards to measuring agency cost for research purposes, different measurements have been adopted by different studies over time. Based on existing literature, there are at least seven proxy variables in use for measuring agency costs: They are total asset turnover (Singh & Davidson, 2003); operating expense to sales ratio (Wang, 2010), administrative expense to sales ratio [Ang, *et al*, 2000], earnings volatility, advertising and R & D expense to sales ratio, floatation cost (Crutchley & Hansen, 1989), and Free cash flow (Firth & Kim, 2005). The total assets turn over, otherwise known as asset utilization ratio, operating expenses to sales ratio, administrating expenses to sales ratio, are together termed as efficiency ratios (Beshkooh, Soumehsaraei, Mahmoudi & Kazemtabrizi, 2013). The assets turn-over measures the efficiency with which the management utilizes a firm's total assets; operating expenses to sales estimates how efficient the management conducts the firm's primary operations; while the Administrative expenses measures the efficiency with which the management administer firm's affairs.

Of these three ratios, assets turn over seems to be broader and all-encompassing measure since the other two are both conducted by the firm's assets (liquid or illiquid). According to Fleming, Heaney and McCosker (2005), asset dis-utilization may increase agency costs because managers do not act in the best interests of the owners (Iskandar, *et al*, 2012). Earnings volatility estimates how unstable the firm's earnings are, from period to period. Here, it is assumed that erratic and risky actions of management can be the source of the instability in the earnings. Standard deviation of net operating income to sales ratio is used in measuring the earnings volatility (Wang, 2010). Advertisement and R&D expenses to sales ratio tries to capture the advertisement and R&D expense per naira of sales, whether these expenses are really paying or the management simply kept on expending for a different target and not the intended purpose. The floatation cost is concerned with estimates of cost of public issues of debt and equity.

The last but not the least free cash flow is also considered as a measure of agency cost. Jensen (1986) was the first to link the agency problem with free cash flows. The basic argument there was that management might abuse free cash flows at their disposal when investment opportunities were not readily available to the firm. For this reason, free cash flows to management are to be viewed as agency costs to stockholders. However, this is debatable. Note that firm growth is normally facilitated through injection of additional capital and internal source is mostly desired due to its numerous advantages over external sources. Free cash flow as the major internal source should be seen as fuel for the engine of growth because without it, a firm will find it more difficult to grow the shareholders' wealth. While arguing that free cash flow on its own ought not to be viewed as agency cost, the study is however with the opinion that free cash flow as a source of discretion for the management, could be regarded as a potential source

of agency cost. Thus, this study finds it imperative to state here that in estimating agency cost, the study does not recognize free cash flow on its own as a valid measure.

2.3 The Concept of Free Cash Flow

While the existing finance literature propounded almost uniform and so few definitions of free cash flow, accounting publications forwarded numerous and dis-uniform definition of the term. The reason for the dis-uniformity in the accounting definitions may not be unconnected to the discretions accorded to the managers by way of absence of regulations on the free cash flow definition, measurement and reporting. On the other hand, looking at the two sides, there seems to be no dispute over the classification of free cash flow into free cash flow to the firm (FCFF) and free cash flow to the equity (FCFE). There is no contention over the fact that FCFF is cash that belongs to entire providers of firm's capital and FCFE is solely for the residual owners (see Begovic, Momcilovic, & Jovin, 2013 for further details). Note that our focus is FCFE as it is the cash that a firm has discretion to either re-invest, pay out as dividend in full or partially. The classification mostly comes in handy for some other analyses that are not pertinent to agency conflict.

The historical definition of free cash flow can be traced back to the work of Jensen (1986), in which he defines free cash flow as "cash flow in excess of that required to fund all projects that have positive net present values when discounted at the relevant cost of capital". The definition forwarded by Jensen (1986) seems to recognize firm as a going concern and not a one-time venture. This is so considering that it regards free cash flow as excess cash after funding viable projects. Where the excess and the other part for funding viable project do comes from?

Obviously, it is from the previous period of firms' activities. In the same vein, why do the firm needs to fund new projects after previous engagements? The simple answer has to do going concern. In addition, unlike cash flow which may or may not actually reflect the real amount available to the providers of capital, the free cash flow definition forwarded here seems to have not only provided a cash flow measure which fully reflect the cash available to providers of capital (equity and debt); but also a useful way of partitioning a firm's cash flow that is necessary to maintain growth at its current rate and the cash left over for providers of capital to either plug back or withdraw out of the business (as dividend, in the case of equity holders).

The last part of the definition recognizes time value of money. This is to say, in recognizing the cash flow that is free, the cost of capital (both present and future), at its incremental value, has to be considered. In spite of how usefully informative the definition is, the definition has been criticized to be lacking in accounting precision (Wang, 2010). In other words, the information required for the calculation of free cash flow according to the definition of Jensen (1986) is not publicly available and, therefore, unobservable. Firms hardly disclose the actual set of positive Net Present Value (NPV) projects that are available to them at any point in time or even for a given year.

For this reason, Dittmar (2002) define free cash flow as net cash flows at the management's discretion without affecting corporate operating activities. The definition here also seems to be somewhat obscure, measurement wise. What is the red-line here that demarcates corporate operating activities? Is it everything contained in a firms' registered line of operations even where the firm is yet to cover all that is contained in the list? Do corporate operating activities include those firm's activities targeted at expanding firm's operations? Some firms may be registered to partake in so many kinds of operations but they end up restricting to maintain few

of them till more cash becomes available. Also, firms may want to expand their operations any time they see the chance (through capital availability). The pursuit of this therefore, becomes part of firms' operating activities. If this is the case, then, we can say that the definition forwarded by Jensen (1986) is more explicit as where viable project exists, the cash cannot be said to be free. Other definitions obtainable in finance are mostly synonymous with these versions.

In contrast with the finance literature, definitions of free cash flow forwarded by extant accounting literature seem to be more precise, pragmatic and considerate of publicly available information, and as well, numerously differing. The term has been defined differently between various academic articles, textbooks, professional articles, and reputable media outlets. In addition, free cash flow definition also differs among firms and, furthermore, some firms do not maintain single definition of free cash flow for long. For instance, Masky and Chen (2012) reported that Mandalay Resort (a tourist firm in United States of America) was one of the first firms to report FCF information in its 1988 annual report and over time, it has been changing its free cash flow definition. In 1988 it defined FCF as Operating Income; in the year, 2000, it defined it as operating income and preliminary expenses, abandonment loss, depreciation and amortization, interest, dividend, and other income, as well as proceeds from disposal of equipment and other assets. In the same vein, Masky and Chen (2012) added that before the year 1999, Coca-Cola defined its free cash flow as cash flow from operation less cash flow for investing activities.

In 1999, Coca-Cola changed the operational definition to cash flow less "business investment." Analysts' reports, after analysis of its 1999's Statement of Cash flow, indicates that by "business investment" Coca-Cola meant "acquisitions and investments" and the analysis also revealed that,

the change in definition increased the firm's free cash flow in its financial year of 1999 by almost $2 billion (Masky & Chen, 2012).

Looking into scholarly write ups in accounting field, as cited in Bhundia, (2012), Dechow and Ge (2006) define free cash flows as "the cash flows from operating activities plus the cash flows from investment activities". Even a cursory look at this definition, one could easily see the inadequacies embedded in it. First, the definition is silent about netting out capital expenditure from the two lumps. The cash flow from investing activities could have come from "financialization" (that is not from primary operations) and thus nothing deducted for assets replacements. Secondly, if not equity dividend, at least preference share dividend ought to be deducted before cash flow may be declared as free.

In essence, though it is convenient to measure, the definition is not sufficiently explicit as regards to its constituents of free cash flow. Len and Poulsen (1989) define free cash flows as operating income before depreciation expense after tax, interest expense and preferred and common stockholders' dividends. The idea here is cash that can be termed as free in a given firm, should be such that did not hinder returns to the providers of the firm's capital. But the definition has overlooked the need for replenishment of used up assets so as to facilitate sustenance of the doctrine of going concern. In another development, Bhundia (2012) documented the definition forwarded by Copeland (1995) where he define free cash flows as "the operating income after tax plus non-cash expenses after deducting the investments on working capital, property, plant, equipment and other assets". Apparently, this is an improvement over the definition of Len and Poulsen (1989), as the definition has taken care of assets replenishments expenditures. However, by using operating income instead of Net operating income, the definition fell short of

considering returns of capital providers, be it preference share or debt holders, and even equity holders' (sometimes).

Masky and Chen (2012) argued that free cash flow should be defined not just as the cash flow that is cost free (i.e., that is generated internally from operating activities) but also the cash flow that management has the freedom to do whatever it wants with it as long as management actions may not result to the firm getting out of business. They further enumerated those actions that may lead to the firm getting out of business to include (a) inability to maintain existing operating capacity (i.e. not replacing worn out fixed assets) and (b) not able to pay the annual installment of mandatorily redeemable preferred stock or the annual dividend on preferred stock. Expounding further, Masky and Chen (2012) argued that inability to maintain the existing operating capacity will lead to a gradual liquidation of the firm and eventually gets out of business; and though inability to be paying the annual installment of mandatorily redeemable preferred stock or the annual dividend on preferred stock by the firm will not lead to gradual liquidation of the firm but will amount to financial suicide. Arguably according to them, creditors and investors may deal with the company only if they are paid exuberantly high returns (which would be prohibitively high cost for the firm) or may stop dealing with the firm altogether if they determine that their downside risk is becoming too great compared to their upside reward.

Masky and Chen (2012) further contended that not paying the debt that becomes currently due may lead to the firm getting out of business since this will result to creditors forcing the firm into filing for bankruptcy. Masky nd Chen (2012) however noted that, most firms have lines of credit or refinancing programs such that debts that are currently due can be repaid from new borrowing occurring in the current period; hence, there is no need to pay the currently matured debt in

current period out of internally generated cash flow from operating activities in the same current period. This definition, (as forwarded by Masky & Chen, 2012) is similar to the one forwarded by an accounting text book authored by Subramanyam and Wild (2009).

As contained in Subramanyam and Wild (2009, p. 417), free cash flow is "cash flow from operations less Capital Expenditures required to Maintain Productive Capacity (CEMPC) less total Dividends". Just like Masky and Chen (2012), as well as other accounting definitions mentioned above, the authors here try to mitigate the shortcoming found in the definition given by Jensen (1986) in the area of measurement. Inasmuch as accounting information is meant to provide data for users' (especially investors) informed decisions, definitions of accounting terms ought to have room for measurability using data that is publicly available. CEMPC mentioned here may be easily measured using data from the financial statements using some firms' financial. However, for some firms, this might not be forthcoming because what may be necessary to maintain productive capacity differs among firms/industries and some part of the information may be an off-balance sheet data (example is a fee set aside for lobbying specific public officials to enable a firm maintain its grip on certain key resource or market. Also, by subtracting dividend, it means there is little or nothing to plug back (in case where dividend is 100% cash dividend).

In a nutshell, the two previous definitions made a gross oversight by portraying free cash flow in partial light of what and what is required to maintain current operations and these are not objectively revealed in the financial statements and are sometimes subjects of discretions. Owing to this therefore, Drakes (2010) observed that many analysts shy away from using this definition. Kieso, Weygandt and Warfield (2012, p. 234) defines free cash flow as cash flow from operations, less capital expenditures and total dividends. Here also, despite the accommodating

precision borne by the definition, by inclusion of "Total" dividend, there seems to be deviation from the whole idea of the term free cash flow. The concept is about cash availability to either the firm as a whole (equity and debt holders) or to the equity holders alone. Total dividend may include preference share holders' dividends and they are not part of equity owners of the firm.

The free cash flow definition forwarded by Kieso*et al* (2012) may not be seen as free cash flow to equity holders where the entire residual cash is defined as dividend. In the same vein, it is not free cash flow to the firm since every kind of share holders' dividend is deducted. Though, one may argue that the ordinary share dividends included in the total dividends do not comprise of all the cash (earnings) available to equity holders; that some part is retained. Under this assumption, (if this happened to be the case), then one could consider this measure as a good measure of free cash flow, as it has taken care of all capital expenditures (which may be substituted with Jensen's positive NPV investments) and has paid off returns to providers of capital. The leftover cash there is therefore free and this is where the agency conflict may start to steer up. With this cash at manager's disposal, the generation of agency cost as explained by Jensen (1986) may be inevitable.

As documented in the work Masky and Chen (2012), in which they tested so many definition with the objective of ascertaining which of the definition is the most value relevant for investors, their result revealed that the most value relevant definition is a modification of the definition forwarded by Kieso, *et al* (2012). The only difference here is, instead of subtracting total dividend; only preference share divided should be deducted along with capital expenditure, from cash flow from operation, to arrive at free cash flow. This definition also coincide with the one adopted by Yero and Shehu (2013), in which they stated that apart from its appropriateness accounting wise, the concept can be numerically estimated using data from annual reports of

firms in Nigerian. Thus, this study adopts the definition of free cash flow as applied in research by Yero and Shehu (2013), at its operational definition of the term. Henceforth, we define free cash flow as cash flow from operation, less net capital investment and preference shares dividend.

2.4 The Concept of Managerial Ownership

Existing literature on corporate ownership reveals that the concept of managerial ownership was not a known concept before the second half of nineteen century. The concept came to limelight of public corporation after the perceived conflict in the separation of ownership and control. This evidence was documented by Hilt (2008). According to Hilt's finding, records from around 1823 indicates that in spite of the popularity of the account of Berle and Means (1932) on the development of corporation, firms were dominated by large shareholders, who were represented on the board with strongly sweeping power which they use in exploiting the firm's resources for their own personal benefits; and managers are mere professionals hired with salaries to be giving professional opinions.

They arrived at this notion using what they termed as the earliest source of systematic evidence available on stock ownership, which provides a comprehensive cross-section of the ownership structure for more than 1,500 publicly traded United States corporations for the 1930s. This is in contrast to the account of Berle and Means (1932) in which they reported that firm's shareholders around that time ware normally few for each given firm and the managers who are normally professionals have to also be equity holders before they can be appointed with unchecked powers. Impliedly, in Hilt's account., firm managers that have no equity, have no executive powers- i.e. they are mere professionals whose opinions are consulted when the need

arise; while in Berle and Means' account, firm managers are also part of shareholders. Whatever the point of contention that exists between them, the two accounts agree that managers came aboard corporation, with the advent of joint stock firms. The two accounts also concur that as time went on, and corporations became more complicated and regulated, the need to delegate serious executive power to professional managers became inevitable. Thus, the popular separation of ownership and control actually took effect. As can be found in the position of agency theory as propounded by Jensen and Mecklings (1976), the separation of ownership and control was the major source of agency cost since each party has different goal. The managers do not necessarily have the maximization of the firm's value as their main objective.

Owing to this point (of agency cost), corporate finance literature has often stressed the importance of managerial ownership, that it is healthier for the firm to give managers some equity (or equity-like securities, such as stock options) in the company, since it will align their objectives with those of the shareholders (Cornelli & Li, 2006). A significant number of studies that buttress this principle exist. For instance, studies such as Morck, Shleifer and Vishny (1988), McConnell, Servaes and Lins (2005) and Cornelli and Li (2006), have all concluded with evidence suggesting that managerial ownership is indeed beneficial to the welfare of the firm. In addition, some theoretical researches on this area suggests that there are three main types of solutions to the problem arising from separation of ownership and control these are: (1) discretionary-based solutions, where the agent takes actions to mitigate the agency problem, (2) association-based solutions where the principal influences actions to reduce the agency problems also called corporate governance, and (3) efficiency-based solutions where the competitive capital market creates naturally occurring solutions (Verrecchia, 2001 as cited in Baek, Johnson & Kim, 2005).

Looking at the three solutions mentioned above, managerial ownership falls under the second solution which is corporate governance mechanisms. Furthermore, Bugshan (2005) classified the corporate governance mechanisms into three sub-categories- organizational monitoring, incentive alignment and governance structure. Based on this classification by Bugshan (2005), managerial ownership falls under what he termed as incentive alignment mechanism. This is to say, managers (agents) are allowed equity ownership by the firm (principal), so as to align their interest with that of the firm. The more stakes the manager has in a firm, the more his interest is aligned with the firm's interest. Notwithstanding this notion, Shleifer and Vishny (1998) and other similar studies have discussed the existence and relevance of what are popularly called incentive effects and entrenchment effects in the context of managerial ownership.

The incentive effect (otherwise known as convergence-of-interests hypothesis) predicts that larger managerial ownership stakesshould be associated with higher market valuation for a firm and thus, lower agency cost. Arguably, the cost of the managers' deviation from value-maximizing courses of actions has to decline as management ownership rises. This is logical since with the rise in their stakes, managers pay a larger share of whatever cost is resulted from these value decreasing endeavours and as such the managers are less likely to squander corporate wealth especially when their equity stakes rises.

On the other hand, the prediction of the entrenchment hypothesis is in partial opposition. It suggests that management's ownership when is at lower level, aligns the management's interest with that of the firm and hence motivate managers to act in best interest of the firm. This tendency reverses itself as the management's ownership gets larger and larger. This is to suggest that managers get themselves entrenched as they become more powerful, with considerably large voting rights. As observed by Shleifer and Vishnay (1998), the noticeable issue in this hypothesis

is that entrenchment is not just a consequence of voting power. They further argue that, by virtue oftheir tenure with the firm status as a founder, or even personality, some of the managers can be easily entrenched even when they have relatively small stakes. In addition, other managers, despite having a large outside shareholder or an active group of outside directors may be only weakly attached to the job despite high ownership (Shliefer & Vishnay, 1998). Even if more management ownership, on average, allows deeper entrenchment, diminishing returns might set in well before 50% ownership is reached (Shleifer & Vishnay, 1998).

From the existing literature, definitions of the concept of managerial ownership seem to have a universal congruency. Irrespective of the wordings, the meanings seem to conceptually tally with one another. They all point to the extent of stake which a firm manager has in a given firm where he serves. For instance, Mueller and Spitz (2002) define managerial ownership as" Ownership share of managers or the sum of ownership stakes held by the management of the firm". Also, Juliarto, Tower, Zahn and Rusmin, (2013) define managerial ownership as "percentage of shares held by insiders, such as CEO and directors". Cho (1998) defined the concept as insider ownership which is "the fraction of shares, not including options, held by officers and directors of the board". Davies Hillier and McColgan (2005) view managerial ownership as having a stake in a firm by managers including all board members' shareholding. In similar fashion, Ruan *et al* (2009), forward their definition of the concept as the "ownership stake of all board members". Though slight differences are embedded, all the foregoing definitions included managers' stake as part of their definition. As it can be observed however, when measuring managerial ownership using these definitions, huge differences will definitely surface. For instance, to measure managerial ownership using the definition of Mueller and Spitz (2002), all that is need to do is to identify the value of shares held by a firm's management. Using Juliarto,

et al (2013) the ratio of the management ownership to total ownership is employed. Statistically, this definition seems to be more advantageous over the former, especially when dealing with firms that have huge variations in managerial ownership. Serious measurement differences will be encountered when we compare any of the first two definitions with that of Cho (1998) and Davies, *et al* (2005), because, in measuring using these definitions, one has to combine the holdings of not only executive directors (managers) but also those of non-executive directors (dormant board members). The same is applicable using Ruan, *et al* (2009).

Apparently, the shortcoming of all the definitions above is they left the researcher in dark as to whether the shareholdings to be considered are in form of units, book values or market values. To solve this quagmire, Kroszner and Sheehan (1999) suggested the use of market value of the managerial shareholdings to the total market value of each firm (equity plus debt). Alternatively, other studies used book value. Noting that managers can own shares direct and indirect, Kroszner and Sheehan (1999) left unanswered question like, in calculating managerial ownership, do we includes direct and indirect holdings? Direct ownership of a manager implies that the manager holds title to the shares, has the voting rights associated with them, and receives any pecuniary benefits of share ownership, such as dividends and capital gains; while indirect ownership means that the manager does not personally hold title to the shares but exercises some control over the voting rights associated with those shares and may receive pecuniary benefits of the shares, albeit not directly (Hilt, 2008). Expounding further, Hilt (2008) noted that if a director of one company also is a partner in an organization with an ownership interest in that company, for example, these shares that are personally owned by the manager/director are regarded as the manager's "direct" ownership and the shares owned by the partnership as "indirectly" owned by the manager. Also, factoring in the fact that shares held in trust for a family member or an

organization by the manager are normally reported as indirect ownership, Hilt (2008) define total managerial ownership as the sum of direct and indirect holdings. From the foregoing deliberations, we define managerial ownership as the book or market ratio of executive directors holding (both direct and indirect), to the total book or market values of a firm's share. This study acknowledged the indirect holding considering that managers can exercise voting right using these holdings; and also, the quantum of these holdings can influence managers' actions or inaction since losses and benefit accrued to these holdings affect the managers as well.

2.5 Free Cash flow and Agency Cost

As cited in Yero and Shehu (2013) the free cash flow hypothesis of Jensen (1986) infers that owing to the nature of agency relation, corporate managers with diverse ownership are predictably bent on squandering their firms' free cash flow (the excess of internally generated cash that is required to maintain existing assets in place and finance profitable projects), at the expense of other shareholders. These opportunistic pursuits could take the form of perquisite consumption- expending on things that are directly beneficial to them (since no profitable investments are available), such as new cars and increased travelling expenses; "empire building" by continuously investing (over-investment) even when it is not profitable (investing in negative present value projects), and thus expanding the firm beyond its optimal size; Shrinking behaviour through of under-utilization of the firm's assets (under-investment), when the likelihood of being a takeover prey seems high (Yero & Shehu , 2013).

The resultant effect of these behaviours of the managers is the dwindling of firm's future performance and consequently firm value and as such, they are agency costs associated with free cash flows (Jensen 1986). Summing up the free cash flow hypothesis; though free cash flow is

much needed to generate more wealth for shareholders, it is disastrous to leave it in hands of managers with little or no stakes in the firm; especially where growth opportunities seems bleak. Thus free cash flow should be paid as paid out as dividend or interest; or managers should be encouraging to have more stakes so as to reduce agency cost associated with free cash flow. Looking at this explanation, it is thus expected that free cash flow should be inversely related with agency cost.

Despite the elaborately logical explanation forwarded by Jensen (1986), he did not make any attempt to empirically document these relationships. In addition, years after this thesis came into the public limelight, there seems to be little evidence that empirically prove the relationship between free cash flow and agency cost. Though there are some studies that indirectly looked at the relationship between free cash flow and agency cost, to the best of our knowledge, only two studies exist, which has directly looked at the impact of free cash flow on agency cost- the study of Wang, (2010) and that of Iskandar, *et al*, (2012).

In his study on the impact of free cash flow, agency cost on firm performance, Wang (2010) hypothesized among others, that free cash flows have a positive impact on agency costs. He used six different proxies of agency costs from which asset turnover and operating-expense-to-sales ratios are among. He measured free cash flow as the operating cash flow at time "t", less current period's tax, interest expenses, and common stock and preference shares dividend, scaled by a firm's sales at time "t". As expected, his results revealed that free cash flow has a significant impact on agency cost with two contrary effects. Interpreting the result further, Wang (2010) noted that, on one hand, free cash flow could generate agency cost due to perquisite consumption and shirking behaviour- that is deliberate expenditure by the managers that is personally directed at their benefits/refusal to expend on viable projects purposely to protect their thrones. On the

other hand, the generation of free cash flow, resulting from internal operating efficiency, could lead to better firm performance. Wang concluded that if other insignificant proxy variables of agency costs are to be excluded from his findings, and leave only total asset turnover and operating expense ratio as sufficient agency cost measures, his study can be said to have found sufficient evidence that support the agency theory. The study of Wang (2010) is laudable as it is pioneering (to some extent). However, the methodology applied indicates some loops.

Firstly, the measure of free cash flow adopted by his study contradicts the study's adopted measure; which was empirically tested by Masky and Chen (2012), to be superior measure. Secondly, the regression analysis applied for the study assumed that the study variables (free cash flow, agency cost and so on) are time invariant, as cross sectional method was used. Arguably, except where a firm incurs a fixed set of operating costs and a fixed revenue for all the years, level of free cash flow will undoubtedly vary as time passes. Also, the manner in which the managers squander free cash flow depends on growth opportunities (see Yero & Shehu, 2013). Being that growth opportunities are not static since they are influence by other external factors, such as fiscal and monetary policies of government, which are also in turns not static, the residual losses (agency cost) which may be generated by managers' perquisites would obviously not be static. Given this analogy, then, either time series or panel regression analysis ought to be more appropriate for this study.

The second evidence documented in this line of research on the relationship between free cash flow and agency cost is from the study conducted by Iskandar *et al* (2012). The study used firms listed on Bursa Malaysia stock exchange. They used asset utilization as a proxy for agency cost. Testing their hypotheses using cross sectional regression, the results show that free cash flow has a significant positive impact on agency cost (i.e negative impact on asset utilization). They thus

concluded that free cash flow may be invested unproductively, thus contributing to inefficient use of assets. As noted earlier, along with the assumption that firms' characteristics are the same, with no possibility of unobservable fixed effects due to peculiarity of firms' characteristics, cross sectional regression also assumes that the variables' variations are not affected by time. Considering the nature of the study variables which can arguably be said to be variable with time and firms' endogenous characteristics, the work of Iskandar *et al* (2012) has left a vacuum.

Other studies that indirectly tested the relationship between free cash flow and agency cost include the work of Richardson (2006); Chung, Firth, and Kim (2005); Harford (1999) Griffin, (1988); Shin and Kim (2002). Both Griffin (1988) and Shin and Kim (2002) found that firms with high free cash flow invest more in less profitable investments compared to companies with low free cash flow. The work of Chung *et al* (2005) concluded that firm managers tend to invest free cash flow in projects that bring personal perquisites by not adopting a proper planning procedure and ignoring the negative present value of the projects. Richardson (2006) documented that problem of over-investment are more associated with firms having high free cash flow. Harford (1999) discovered that firms with high free cash flow made more acquisitions and have subsequently experienced decline in operating performance after the acquisitions. All these studies are pointing to one direction- free cash flow is in one way or the other a source of agency cost for a firm. However none of these studies were conducted in Nigeria.

2.6 Managerial Ownership and Agency Cost

As explained in the seminal paper of Jensen and Mecklings (1976), a firm that is run by a manager who is the sole owner has zero agency cost since the sole owner is in control (no agent involved). Once a firm moved from being a 100% owner-manager firm to a firm with outside

equity, agency cost emerges. As elaborated earlier in sub-section 2.2, agency cost which is the sum of cost of monitoring, bonding and the residual loss borne by a firm resulting from entrusting to a third party (an agent) the task of running a firm's affairs, is obviously a cost to the firm and consequently to the investors.

Different studies have documented how harmful agency cost is to firm. It may take the form of over-valuation of a firm's equity and consequently affect investors (see Jensen, 2004). It may lead to firm value erosion (see Xia, 2007 and Jensen 1986), and so on. For reason of wealth maximization and cost minimization, agency cost therefore needs to be minimized to barest minimum. For this, a number of studies on the determinants/mitigants of agency cost exist. Identified by literature as part of these mitigants, managerial ownership seems to be among the effective ones. More so, the findings of these studies on the impact of managerial ownership on agency cost are mostly in agreement with the agency theory perspective.

The study conducted by Ang, *et al*, (2000) on the relationship between a firm's ownership structure and its agency costs for a sample of small companies in the U.S supports the notion that companies with an owner manager experiences far lower agency cost than those without; however as the ownership of the manager increases, the agency cost decreases. Their study used two measures of management efficiency to proxy for agency cost: the ratio of firms' total sales to total assets and the ratio of operating expense to annual sales of firms. Apart from the fact that the study is more than a decade old, the sample of the study comprised exclusively of small size corporation that are not publicly traded. As observed by Gesser, Halman and Sarig (2005), influence of managerial ownership on managerial agency cost and firm value is to a large extent, dependent upon a firm's size.

To justify the non-linear relationship they observed in their preliminary graphical analysis on the relationship between managerial ownership and firm value, they noted that if a manager's ownership ratio from a bigger firm is smaller than that of a manager from a smaller firm, a hump-shaped relation between firm value and fractional managerial stock ownership will emerge since low ratio, but high value, holdings will be associated with high firm value. It should be noted that since firm value and agency cost have a known relationship (inverse), it is thus logical to extend this analogy to the fractional relationship of managerial ownership and agency cost.

The gap identified in Ang *et al* (2002) was partially filled in by another study conducted by Florackis and Ozkan (2004). In their study Florackis and Ozkan (2004) used a large sample of corporations whose stocks are publicly traded in the United Kingdom (UK) Stock Exchange. Just like Ang *et al* (2000), this study employed two alternative proxies for agency costs: the ratio of total sales to total assets (asset turnover) and the ratio of selling, general and administrative expenses (SG&A) to total sales. In their analysis, they controlled for the influence of several internal governance mechanisms or devices that were ignored by previous studies (firm size inclusive). In addition, they examined the potential interactions between these mechanisms and firm growth opportunities in determining agency costs. Their test results reveal that the capital structure characteristics of firms, namely bank debt and debt maturity, constitute two of the most important mitigants of agency costs for UK listed firms. Importantly, managerial ownership, managerial compensation and ownership concentration also were found to be playing important roles in mitigating agency costs (as measured using assets turnover and SG&A to sales). Finally, their results suggested that the impact exerted by internal governance mechanisms on agency costs varies with firms' growth opportunities.

Apparently, Florackis and Ozkan (2004) did a great job here since their study focused on large sample of firms that are publicly traded. This gives them the necessary avenue to fully capture agency cost in its purest form since publicly traded firms are normally the firms with greater proportion of outside equity holders. As explained earlier based on the analogy propounded by Jensen and Mecklings (1976), firms with little or no outside equity have little or no agency cost. Thus, the study is laudable. However, despite their commendable achievement, their analysis failed to explicitly differentiates between fixed and random effects models. Using a panel approach, there is a need to not only control for these apparent but unobservable effects, but to also explicitly differentiate the two results emanating therefrom (McKnight & Weir, 2008). In addition, though the study came into the public limelight during a seminar conducted by University of York in 2004, Florackis and Ozkan (2004) used data covering the period from 1999 to 2003. With the rapidly changing business environment which interwoven across economies of the world, a different study is in order.

To mitigate some of the shortcoming noted in Florackis and Ozkan (2004), McKnight and Weir (2008) conducted similar study using the same UK listed firms, in which they reported both fixed and random effects results for their hypotheses tests, and as well, differentiated between the two models using Hausman specification test. The study adopted three different proxies of agency costs: asset turnover, free cash flow interaction with growth opportunity and mergers and acquisition. Their result is consistent with the agency theory, as they discovered the significant role played by managerial ownership in mitigating agency cost. This conclusion is arrived at for all the three measures of agency costs they employed in their study. However, the study period covered fell short of Florackis and Ozkan (2004). It spans between the years 1996 to 2000. In addition, despite that they hypothesized that "Agency costs will be lower the higher the

managerial ownership", they used total board ownership to represent managerial ownership mentioned in the hypothesis. Going by the discussions on managerial ownership in section 2.5, this measure seems to be a biased measure of the concept. Other non-executive board members too hold firm shares and their non-participatory dormant position with respect to day-to-day running of firms' affairs would obviously count them out as agents (managers)- with or without equity stakes.

A more recent study was conducted by Gogineni, Linn and Yadav (2011). Using data obtained from US public and private firms, their study documented that agency costs increase as firms move from a single owner manager ownership structure to more complicated ownership structures. In their methodology, their approach to measuring agency costs is based directly on the fact that such costs are absent in the single-owner single-manager firm, and as such are predicated on observing the efficient use of resources. This served as a benchmark when subsequently measuring agency costs for firms with multiple managers as well as diffused ownership. Their study discovered that, within each ownership structure, agency costs are significantly higher when firms are not managed by owners, and lower in firms with shared control of ownership. The study thus concluded that agency problems arise when managers or controlling shareholders have the ability to redirect or consume corporate resources in ways that benefit themselves but which are not in the best interests of the other owners, including minority owners. This study also validates agency theory. Though this study is recent (used data from 2005-2009), it is conducted using data from a developed economy. The macro-economic factors influencing the behaviour of the study variables in developed economies may significantly vary from that of developing economies. Thus a new study using data from a different economic setting may give a different result.

2.7 Free Cash Flow, Managerial Ownership and Agency Cost

Based on the empirical evidence discussed in the two previous sub-sections (2.5 and 2.4), it could be sufficient to predict that the positive impact which free cash flow has on agency cost, can be weakened by the existence of managerial ownership. This may be so since managerial ownership is empirically viewed as having a negative impact on agency cost. In addition, as argued by Warfield, Wild and Wild (1995), managers that have substantial shares of the firms they manage are able to directly influence the company decisions to apply free cash flow only for those projects that have positive net present values.

Warfield *et al* (1995) further noted that these managers monitor free cash flow and make sure that only viable projects that benefit shareholders are approved. In other words, the management would participate actively in the decisions that has to do with application of free cash flow to produce long term gains which will maximize shareholders' values. For this, managerial ownership can be considered to be directly contributing to the efficient utilization of assets, particularly when a large amount of free cash flow is available. Despite this apparent nexus among the three variables (managerial ownership, free cash flow and agency cost), there is paucity of studies that empirically looked at the moderating effect of managerial ownership on the impact of free cash flow on agency cost. However the work of Iskandar *et al* (2012) specifically examined the moderating effect of Ownership Structure on the relationship between Free Cash Flow and Asset Utilization, but only used Malaysian firms. Like many others they proxy agency cost using asset utilization. They hypothesized among other, that "the negative free cash flow-asset utilization dynamic is weaker when managerial ownership is high than when managerial ownership is low. Using hierarchical regression, they found among other findings that free cash flow has a negative impact on asset utilization (i.e. positive impact

on agency cost); but where high managerial ownership exist, free cash flow has significant positive impact on asset utilization. Based on this, they concluded that managerial ownership provides monitoring on the use of the firms' assets, especially in companies with high free cash flow. Here also a room for our study is available since this study used cross sectional regression. Given the observation we made regarding this in the previous section, using a different approach to test whether this finding will hold, may be in order.

2.8 Theoretical Framework

A number of theories and hypotheses provide explanations to the relationships that may exist among our study variables- the managerial discretion theory, the agency theory, the free cash flow theory, and the alignment hypothesis. For each of these theories and hypotheses, arguments were forwarded in respect of what to expect on the relationships between free cash flow and agency cost; managerial ownership and agency cost as well as between free cash flow and agency cost where managerial ownership is tangibly present.

The free cash flow theory first surface in the work of Jensen (1986). It predicts a positive relationship between free cash flow and agency cost. According to this work, this free cash flow to the firm is a serious source of agency cost; if not paid out as dividend or interest, it will end up incurring agency cost for the firm. This is so according to Jensen (1986) inasmuch as the manager's interest is different from that of the owners that the manager, in pursuit of his interest, will end up harming the firm. He may embark on various harmful undertakings such as perquisite consumption, empire building or shrinking behavior, solely for his personal interests and to the detriment of the firm. Studies such as Hartford (1999) and Richardson (2006) have consistently proven this notion to be correct.

The managerial discretion theory of managerial ownership was first propounded by Fahlenbrach and Stulz (2008) in their work titled "Managerial ownership dynamics and firm value". In their work, Fahlenbrach and Stulz (2008, p.5) posited that:

> …. managers own shares to maximize their welfare subject to constraints and that firms start their life with highly concentrated ownership (see Helwege, Pirinsky and Stulz (2007) for evidence). The highly concentrated ownership of young firms is partly explained by the fact that early in the life of the firm managerial ownership is a cheap form of financing for financially constrained firms. Later in the life of the firm, when the firm is doing well and their reputation has increased, managers start to reduce their stake to diversify. They do so in a way that does not endanger their position or reduce the value of their remaining shares. As a result, sales have little impact on firm value. By buying shares, managers bond themselves to pursuing policies that benefit minority shareholders more – at least as long as their ownership does not become so high that they become safe from removal. Managers buy shares when this bonding effect is valuable to them because it enables the firm to raise funds on better terms and reduces threats to their position. Managers also increase their holdings when the firm is financially constrained and they prevent the firm from becoming more constrained by receiving shares instead of cash.

From the above, it can be deduced that managerial discretion theory can be said to have asymmetric relationship with firm value and consequently agency cost. This is to say, while increase in managerial ownership may cause increase in firm value and consequently reduce agency cost, decrease in managerial ownership may not necessarily cause decrease in firm value since according to the theory, when firms are doing well, managers reduce their holdings in such a way that does not "endanger" their remaining shares or their positions as managers. Thus the theory predicts asymmetric relationship between managerial ownership and firm value and hence agency cost too. In essence, it can be deduced based on the prediction of managerial discretion theory, high managerial ownership should beget lower agency cost and that lower managerial ownership, may not beget higher agency cost.

A competing theory in this line of thought is the agency theory as forwarded by Jensen and Mecklings (1976). The theory posits that at the bottom, the simplest form of ownership structure is one in which a single individual owns and manages his firm's affairs. Such firms according to the theory have the zero-agency-cost base case with perfect alignment in the interests of the owner and the manager. Jensen and Meckling (1976) argue that when the owner-manager decreases his equity stake below 100%, incentives increase for the manager to consume or waste corporate resources for personal benefit because he gets benefit without having to shoulder the corresponding cost of such wastage or excesses. This kind of situations in which firm managers having incentives to use or consume resources in a fashion that is at odds with the objectives of the firm's owners is what the economic theory of agency termed as vertical agency cost (Gogineni*et al*., 2011). Thus, agency theory suggests that agency costs vary inversely with the manager's fractional ownership of the firm he manages; the higher the fractional ownership the lower would be the agency cost. This proposition has been documented empirically by studies discussed in sub-section 2.6.

On the other hand, whereas the vertical agency problem arises from owners (shareholders) and outsiders (managers), the horizontal agency problem results from situation when the owners themselves vie for resources, and importantly situations in which a controlling owner has incentives to exploit minority owners (Gogineni *et al*., 2011).

The horizontal agency problem obviously has to do with ownership concentration level and thus partly has to do with free rider hypothesis which predict that "as the number and type of shareholders increase, the incentive for each shareholder to incur all of the monitoring costs decreases because the benefits associated with monitoring are limited and are proportional to their ownership stake" (Gogineni*et al*., 2011). Impliedly, the free rider hypothesis suggests high

ownership concentration brings about reduced agency cost, since there will be high monitoring. Thus, in the event that firms' ownership is concentrated more in the hands of managers, managers will do the monitoring themselves. In other words, they will ensure things are done more efficiently.

The other side of this hypothesis is interesting to this study- the more the ownership types, the less likely that owners would be willing to shoulder monitoring costs. And therefore, agency problems would be more likely to prevail in such organization. This gives more footing in justifying our choice of population (conglomerates) which has multiple types of ownership.

Still under agency cost, managerial ownership level is viewed as the level of incentives for managers to avoid the misuse of free cash flow and hence prevent incurring agency cost associated with free cash flow. As noted by Iskandar *et al* (2012), the varying level of managerial ownership can be used as a measure of agency conflict between the manager and the owner. The greater the insider ownership, the lower the likelihood of agency costs being incurred and that, firms with high insider ownership are more likely to use free cash flow efficiently with the aim of maximizing the shareholders' value and hence minimizing agency cost.

The above notion is shared by the alignment theorists in which they argued that managerial ownership would align the interests of the management and owners, and hence directly contribute to the success of asset utilization (Ang *et al*., 2000; Jensen & Meckling, 1976; Singh & Davidson, 2003). As insiders with stakes, the managers would participate actively in monitoring of the use of the company's free cash flow, provide inputs into the decision-making process to ensure that only value-added projects are executed and that that free cash flow is only

used for the company's long term gains, which maximizes shareholders' interests (Iskandar *et al* (2012). From the foregoing, the alignment hypothesis under the umbrella of agency theory, predicts that managerial ownership helps reduces the positive impact of free cash flow on agency cost.

In conclusion, based on existing evidence, logical explanations and the discussions above, this study adopts free cash flow theory as the theory that underpins the relationship between free cash flow and agency cost. On the managerial ownership and agency cost, alignment hypothesis, under agency theory is adopted, so also on the impact of managerial ownership on the effect of free cash flow on agency cost.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design relating to the methods employed in data collection and tools of data analysis used in the course of the study. The chapter also discusses construction of the variables of the study. Along the lines, justifications for the methods and techniques are inserted. Finally, a summary of the chapter closes the chapter.

3.2 Research Design

The methodology of this study is structured to reflect a correlational research design in the arena of ex-post-facto structure. The correlational design aids the study in assessing the extent to which the dependent variable of the study is influenced by the independent variables. Also, in light of the fact that our data are not real time observations, rather based on an after-the-event records, the design seems appropriate.

3.3 Population of the Study

The population of the study comprised of the 8 conglomerate firms listed in the Nigerian Stock exchange as at 31 December, 2006 which remained listed as at 31st December 2012. These are AG Leventis, Chellerams, John Holt, PZ, Transnational Corporation, SCOA UACN and Unilever (see NSE Fact book, 2012).

3.4 Sample Size

The sample of the study comprised of 5 firms out of the population. These are AG Leventis, PZ, Transnational Corporation, UACN and Unilever. The remaining 3 (Chellerams, John Holt and Scoa) are screened out on the basis of inadequate disclosure of the requisite data (such as managerial ownership) for some year (or even all the years in some cases). Going by free-rider hypothesis as explained in Gogineni, *et al*. (2011), Conglomerate firms are normally firms with vast network and of multi-type ownership structure. Thus the sample seems to be a powerful context in which to study agency costs. As earlier explained in the theoretical framework, the more the types (and concentration) of ownerships, the more likely the problems of agency costs prevails and persist in an organization.

3.5 Methods of Data Collection

Data collected for this study comes exclusively from secondary source. Apart from the documented information collected and reviewed from journals, text books and other publications and newspapers, solely for the purpose of literature review, only NSE published fact book and published annual reports of the firms under study were consulted for the required data. The method employed for collecting the data entails examining these sources, identifying data of interest and collecting them for onward inputting into excel sheet for further computation and analysis. Along with spread sheet, other statistical software (Stata) was also employed. The use of these tools is to minimize, if not totally prevent errors that normally accompanies manual computations resulting from human shortcomings.

3.6 Variables Specification

Based on the hypotheses raised in section one, the relationships among the variables of the study is specified as follows:

a. Hypothesis one: the relationship is between Free Cash Flow (FCF) and Agency Cost (AC).
b. Hypothesis two: the functional relations is between Managerial Ownership (MOWN) and AC
c. Hypothesis three: the relationships are among MONW, FCF and AC

3.7 Method of Data Analysis

The analysis was conducted in linear fashion. This was set to capture the impact of free cash flow and managerial ownerships (as independent variables) on agency cost (as dependent variable), using multiple regression tool. In the same model, the interaction of managerial ownership and free cash flow was added as additional explanatory variable. Iskandar *et al* (2012) followed similar approach dealing with this same phenomenon, solely due to its convenience and appropriateness. In addition, since the study used panel approach to regression, The analysis controlled for fixed and random effects, as well as evaluated the more suitable of the two using Hausman specification tests. Other robustness checks were carried out after the regression (on the result) test. Thus:

Variables Measurements

The variables included in the equations are measured in the following manner:

Agency cost: is measured using proxy, as inverse of asset turnover. Asset turnover is viewed as utilization measures of which assets are capable of producing and what they actually produce (Ellis, 1998). If that is the case, it follows therefore, asset dis-utilization as indicator of losses in revenue in relation to the investment which may be attributable to the inefficient use of assets; can be seen as agency cost. For this reason, we adopt our measure of asset turnover (as a proxy of agency cost) as follows:

$$\text{ATO} = \frac{1}{(SALES)_{it} / (TOTAL\ ASSETS)_{it}} \qquad (2)$$

Note that, it is the inverse of assets utilization (turnover) that gives assets dis-utilization which represents agency cost

The above measure of agency costs seems appropriate especially when one consider the two important manifestations of agency costs underscored by Tirole (1986): inefficient choices of investment; and inefficiency coupled with insufficiency of the efforts being expended by managers. Agency cost measures should therefore depend on inefficient asset utilization (because of poor investments), excessive production costs and wasteful managerial perquisite consumptions.

Free Cash Flow: This is measured as free cash flow in light of cash claimable by the equity holders- i.e. after all short term reinvestments and other obligations such as tax and interest (to outsiders) are paid off. The leftover free cash flow is viewed to be at the discretion of the management and it is therefore what could actually generate agency cost (Yero & Shehu, 2013). Based on the arguments forwarded earlier in literature regarding the work of Masky and Chen

(2012), the study measures FCF as tested by Masky and Chen (2012) and adopted for research by Yero and Shehu (2013). Thus:

$$FCF = \frac{(OCF)it-(AA-AD)it-(PSDiv)it}{(SALES)it} \quad (3)$$

Where:

(FCF)it = Free Cash Flow for each firm at a given year end

(AA)it = Assets Acquisitions for each firm at a given year end

(AD)it = Assets Disposals for each firm at a given year end

(PSDiv)it = Preference Shares Dividends for each firm at a given year end

(SALES)it = sales revenue for each firm at a given year end

Managerial Ownership: Managerial ownership is defined as the ratio of total book value of shares owned by executive directors of a firm under study, to the total book value shareholdings of the firm. This ratio comprised of both direct (personally held) and indirect (held in trust or proxy for other firms in which the director has interest) holdings of the executive directors. Based on Hilt, (2008), the following measure seems appropriate:

$$MOWN = \frac{TOTAL\ HOLDINGS\ OF\ EXECUTIVE\ DIRECTORS}{TOTAL\ FIRM\ SHAREHOLDINGS} \quad (4)$$

Note that the quantum of managers' indirect holdings can also influence managers' actions or inaction owing to the fact that whatever losses or benefit accrued to these holdings also affects the managers as well.

Hypotheses test models

$$AC_{it} = \alpha_{it} + \beta_{1it}FCF + \beta_{2it}MOWN + \beta_{3it}(MOWN*FCF) + \mu_{it} \quad (1)$$

Where:

AC = Agency Cost

FCF = Free Cash Flow

MOWN = Managerial Ownership

α = Constant term

$\beta_1, \beta_2, \beta_3$ = the Coefficients of FCF, MOWN and MOWN*FCF, respectively

μ = the error term of the regression, and

$_{it}$ = firm "i" at time "t"

For each of the hypotheses, the decision rule is that if the probability (*p)* value obtained from the regression is above 5% level of significance, the study fails to reject the null hypotheses in all the three cases; and if otherwise, the null hypotheses is rejected. This is acceptable in social science researches (Gujarati, 2003).

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents and analyses the results of the hypotheses testing. Descriptive statistics are presented and analysed first, then follows the results of the panel regression executed for the hypotheses testing, together with discussions on inferences derivable from the results, as conceptualized in the reviewed literature. The chapter ends with a brief summary.

4.2 Descriptive Statistics

The study used four variables in testing the three hypotheses raised for the work. One dependent variable- Agency cost (AC) and three independent variables- Managerial Ownership (MOWN), Free Cash-Flow (FCF) and Free Cash-flow conditioned on high Managerial Ownership (FCF*MOWN); were used by the study. The result of descriptive analysis for these variables used, are forwarded in table 4.1,following the table is the discussion on the table's contents.

Table 4.1: Descriptive statistics

	AC	**MOWN**	**FCF**	**FCF*MOWN**
Mean	.886	.315	. 026	.007
Std. Deviation	.503	.255	.362	.355
Minimum	.120	.032	-1.689	-1.689
Maximum	1.878	.893	.492	.492
Number of observations	**30**	**30**	**30**	**30**

Source: Author's computations using Stata11

From the descriptive statistics in the table 4.1, the average (mean) agency cost AC is about 0.08, suggesting that about 88 Naira, 60 kobo worth of an asset is employed in generating 100 Naira sales revenue. This tendency ranges from a minimum of approximately 12Naira to a maximum of 188 Naira worth of assets-use in generating 100Naira sales revenue. These statistics suggests high assets dis-utilisation for some firms (as high as 188Naira assets to 100Naira revenue).

The average managerial ownership (MNOWN) of these firms under study stands at 31.5% of the total firms' ownerships. However, some firms' MNOWN is as low as 3.2%, while some have MOWN reaching as high as 89.3%. This staggering high ratio of MOWN for some firms' years' observations (as reflected in the maximum statistic), may be attributable to the inclusion of Transcorp from its early year of listing. It was listed immediately after its successful conduct of private placement but before it conducted a public offer of its shares (which was even grossly under-subscribed). Along with the foregoing observation, noting that the computation of the MOWN includes both direct and indirect holdings of the managers (directors at executive capacity), the seemingly high figure as reflected by the maximum statistics should be expected.

Also from table 4.1, the average Free Cash-flow (FCF) for the firms is approximately 3%. This suggests that for every 1Naira sales generated by these firms, about 3Kobo is cash that is free for the managers to exercise their discretion on it. 3% may seems insignificant a cash that is free, but when considered that it is a percent based on the gross sales of these firms, before deducting even the direct and indirect expenses incurred to produce the products of the firms, one would see that 3% of the total sales is indeed weighty percentage on the firms' cash flow. Though the cash that is free for managers' unfettered discretion, as shown from the maximum statistic, reached to almost half of the total sales generated (49.2% for some firms' years' observations), it sometimes fall as low as -168.9% of the total sales. This negative statistic implies that for some

firms' years' observations, the firms generate a negative cash flow from operation, to the tune of 168.9% of the total sales made. The explanation for this tendency (of free cash flow to be much more than the sales), is certainly not as a result of paying dividend over and above the generated net revenue (sales) or profit. Upon further investigation, of the components of firms' cash flow reports, this study found that for the affected firms' years- AG Leventis 2009, PZ 2007, 2011, Transcorp 2007 and UAC 2011) have certain things in common. Most of these firms' years' observations have either paid staggering amount of cash as interest, or incurred heavy loss on assets disposal (investment, investment property or fixed assets), or both. In addition, the free cash flow to sales is normally arrived at after netting out the investments on fixed assets. Thus, where serious acquisitions of fixed assets are made in a given year, it would not be a surprise if the free cash flow runs into negative and way over the year's sales.

The average of free cash flow conditioned on high managerial ownership (FCF*MOWN) stands at 0.7% of the total sales. This, when compared with the average free cash own (without factoring in managerial ownership) of 26% of the total cash; is sufficient to imply that where there is high managerial ownership, free cash flow tends to be very low, on the average. That is to say, the more owners are at the helms of the firms' affairs, the less they allow free cash around. This is cogent, knowing fully the implication of free cash flow to the well-off-ness of the firm. The minimum and maximum statistics of this variable (FCF*MOWN) are the same with those of FCF because, the variable was computed as a product of FCF and the above median values of MOWN.

Looking the standard deviations of the respective variables on table 4.1, it can be observed that in all cases, the statistic is positive and less than 1. The implication of this is of two folds. First, it implies that the spreads of the individual observations for each variable around the average

values are within close range of respective averages. That is to say, the mean could be taken as a near good reflection of the individual observations. Secondly on this basis, the data distribution for each set of variable could be said to be statistically normal, since the respective mean statistics are within the range of ±1. On this note, this study concludes that there is no alarming evidence of asymmetry in the distributions of all the variables described above, which may warrant further inquisition using theory driven tests. As such, the study went ahead with the analysis that is used for hypotheses tests.

4.3 Regression and Robustness Tests

The study carried out a panel regression analysis, on the impact of MOWN, FCF and FCF*MOWN on AC. While at it, the study first run the analysis while controlling for fixed effect, then rerun the analysis controlling for random effect. At the end, Hausman specification test was carried out to be able to ascertain which of the two sets of analysis better fits our data. The initial Hausman test result returned an error message with a negative Chi^2, suggesting that the error terms of the two sets of regression are seemingly unrelated –i.e from different sets of data. The negative sign in the wald chi-square hausman result can arise if different estimates of the error variance are used in forming variance of b and variance of B. This normally happens when a product of dummy and continuous variables (FCF*MOWN in this case) is used on a relatively small observations. Under such circumstances one needs to adopt the "sigmamore" option, which specifies that both covariance matrices are based on the (same) estimated disturbance variance from the efficient estimator. This notion is based on Micro-econometrics using Stata by Cameron and Trivedi (003: p. 261). As such, we applied the "sigmamore" option and yielded a positive chi^2 with a significant probability. The study therefore, selected the result which controlled for fixed effect.

Table 4.2 presents a summary of panel regression results which controlled for firms' fixed effects; as well as the results of robustness tests which the study carried out. Full results (direct outputs) can be found in the appendix section of this thesis.

Table 4.2: Fixed Effect Regression and Robustness Tests

$$AC_{it}=\beta_1 FCF_{it}+ \beta_2 MOWN_{it} + \beta_3 (FCF*MOWN)_{it} + \alpha_{it} + \mu_{it}$$

FIXED EFFECT REGRESSION RESULT			**ROBUSTNESS TESTS**	
Variable	*Coefficient*	*t-value/prob.*	*Test*	*Stats/prob.*
Intercept	*0.87*	*6.77****	*Multi-co-linearity(Mean VIF)*	*5.98*
FCF	*1.10*	*3.38****		
MOWN	*-0.01*	*-0.01*	*Heteroskedasticity (Chi^2)*	*2.18*
*FCF*MOWN*	*-1.16*	*-3.51****		
R^2-Between	*0.36*		*Normality (SWilk's "W")*	*0.97*
F-stat.		*4.15****		
			Contemporaneous Correlation (Chi^2)	*9.02*

Source: Author's computation using Stata11
*****, ** & * = probability significance at 1%, 5% &10% respectively.**

From Table 4.2,the intercept bears a coefficient of 0.87. This suggests that when all the explanatory variables are held constant (at zero), the value of assets dis-utilization (Agency cost) for the firms under study is 0.87. This is to say, for a firm with no free cash-flow and no managerial ownership, the mean agency cost of such firms is 0.87Kobo (of the firm's assets dis-utilized). The t-ratio of this coefficient is 6.77 times the estimation error and so, the p-value is significant even at 1%.

The coefficient of FCFis positive and so also its t-value; indicating positive impact of FCF on the proxy of agency cost (AC). The coefficient suggests that if FCF is fixed, then for every one unit change in FCF, AC increases by 1.10 units. FCF is scaled by sales at time "t", while AC is

measured by inverse of asset turnover. Therefore, if free cash flow increased from 1% of sales to 2%, agency cost will increase by 110%- the ratio of 1.10Naira assets to 1Naira sales (asset consumption increases to 110% of the increase in sales revenue). The t-ratio which is the impact factor is way above the normal 1.96 (for a 5% level of significance), and even greater than 2.56 (for 1% level of significance). That is why the corresponding p-value produced a significant figure even at 1%.

The coefficient of free cash-flow conditioned on high managerial ownership (FCF*MOWN) is -1.16. This signifies that the variable FCF*MOWN has a negative correlation with AC, and thus a negative impact. This coefficient suggests that where MOWN is high, an increase in FCF by 1 unit will lead to decrease in AC by 1.16, i.e. a reduction of 1.16 Naira of assets to be in generating 1 Naira sales. The corresponding t-value for this variable is significant. Looking at the coefficient of MOWN, it can be observed that the direction of relationship between the MOWN and AC is negative. The coefficient indicates that if MOWN is fixed, then, for every one unit change in MOWN, AC reduces by 0.01. In other words, if the pattern of behaviour of MOWN remain as in the sets of the observations used for this analysis, then, for every 1% increase in MOWN, AC reduces by 0.1%. If for instance, 10Naira is used to generate 1Naira sales, an increase in Management's ownership from 100 units to 101 units will lead to decrease in the assets utilization from 10Naira assets-use per 1Naira sales to 9Naira 90kobo assets-use per 1 Naira sales. This is apparently far less than proportionate- infinitesimally low effect. Looking at the corresponding t-value, it can be deduced that this estimate bears inordinately high prediction error. The portion that is able to predict the behaviour of the dependent variable in relation to the portion that MOWN failed to explain is merely 1:99. This is why the t-value bears an insignificant p-value, even at 10%.

The robustness tests conducted by the study did not revealed any cause for alarm which may affect the unbiasedness of the study's estimates. The average of variance inflation (VIF of 5.98) factor is not more than 10, neither less than 1. Also, all the individual VIF for each variable is consistently less than 10. The heteroskedasticity test as revealed by an insignificant chi^2, as well as the Shapiro Wilk's "W" of 0.97 (with insignificant p-value as well), respectively qualify our error term to be tagged as homoskedastic and normally distributed. Also from an insignificant chi^2 (last item in table 4.2), the coefficients estimated are also not marred by a contemporaneous correlation. This last one was expected, as the panels are not large enough to be labelled as macro-panel.

4.3 Hypotheses Tests

In this section, the three hypotheses raised by the study are re-presented and tested. As mentioned earlier, a null hypotheses is to be rejected if the probability of the t-value obtained from the regression analysis is not more than normal 5% level of significanceacceptable in social science researches; otherwise, the study will fail to reject the hypothesis. These hypotheses are tested in the following sub-sections

4.3.1 Hypothesis One (Ho1): Free Cash Flow does not have a significant impact on Agency Costof the Nigerian listed conglomerates.

From Table 4.2, the t-value for FCF is 3.38 and this is significant even at 1% level of significance. As such, the study hereby rejects the null hypothesis which states that Free Cash flow does not have a significant impact on Agency Cost.

4.3.2 Hypothesis Two (Ho2): Ho_2: Managerial Ownership does not have a significant impact on Agency Cost of the Nigerian listed conglomerates

The t-value for MOWN from table 4.2 is 0.01 and its corresponding p-value is not significant. The study thus fails to reject the null hypothesis raised in respect of the impact of managerial ownership on agency cost.

4.3.3 Hypothesis Three (Ho3): In situation of high Managerial Ownership, Free Cash Flow does not have a significant impact on Agency Costof the Nigerian listed conglomerates.

The third hypothesis (as stated above) tested whether the interaction between high managerial ownership and free cash flow could yield a significant impact on agency cost. From table 4.2, the result is not in support of the null hypothesis. The study therefore concludes on the basis of this evidence, that indeed, in situation of high managerial ownership, free cash flow does have a significant impact on agency cost. The null hypothesis(above) is hereby rejected.

4.4 Discussion of the Findings

Based on the evidence documented by this study, it is perceivable that the relationship between free cash flow and agency cost of a firm is actually positive- for conglomerate firms listed on NSE. This finding confirms our initial expectation which was based on the premise of free cash flow hypothesis as forwarded by Jensen (1986). The idle cash availed to the management's discretion tends to result to a situation whereby the management's decisions on how to utilize this free cash end up incurring agency cost to the firm. The more this free cash is at the management's disposal, the more likely that the management will pursue activities that are sub-optimal for the firm's wellbeing. This finding supports the findings of Iskandar *et al* (2012), Wang (2010), as well as free cash flow hypothesis of Jensen (1986).

As can be deduced from the write-ups of agency theorists such as Fahlenbrach and Stulz (2008), as well as Jensen and Mecklings (1976), the interest of outside-manager tends to conflicts with that of the interest of the firm which he manages. Where his interest clashes with that of that firm, the outside-manager pursues his interest to the detriment of the firm. On the other hand, an owner-manager tends to have his interest aligned with that of the firm he manages. The more his ownership stake, the more the tendency for this alignment and thus the less chance of having his interest to be conflicting with that of the firm, since the two interests are becoming the same. On this note, the study expected that an interaction of high managerial ownership with a firm's valuable resources such as free cash flow will have to impact on the firm's wellbeing in a positive way. The findings of this study turned out to be consistent with theory and the existing evidence. Where managers' stakes are high, free cash flow negatively impacts on agency cost. The implication here is that the managers channel free cash to usefully value increasing undertakings to maximize firms' wealth and consequently their wealth. As for the relationship between managerial ownership and agency cost, though the coefficient implies a negative impact, on the basis of the insignificant probability, the study find it not worth a while to forward the implication of this finding.

In general, the free cash flow hypothesis as propounded by Jensen (1986) seems to hold considerable water, whose extent transcends the boundaries of developed nation. Impliedly, the hypothesis is applicable also to Nigerian firms, particularly the listed conglomerates.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.1 Summary

This study looked at the impact of free cash flow and managerial ownership on agency cost, using Nigerian listed conglomerates as study population, over the period 2007 to 2012. Right from the onset, the study's expectation was that while free cash flow is to impact positively on agency cost, managerial ownership should have a positive impact; and where the managerial ownership is high, free cash flow ought to have a negative impact on agency cost- interactive effect. Three objectives and three hypotheses were formulated to test these expectations.

The relevant and related literature reviewed in chapter two revealed that the study's expectations are empirically and theoretically consistent. The study however observed that there seems to be dearth of similar empirical documentations from this part of the world. This is in addition to the methodological shortcomings perceived in some of these foreign studies. Basing on the thesis of agency theory as forwarded in Jensen and Mecklings (1976) and free cash flow hypothesis of Jensen (1986), the study maintained its apriori expectations.

In pursuit of the study's objectives, ex-post facto design was adopted using a correlational approach. Free cash flow measurement adopted by Yero and Shehu (2013) was applied owing to its appropriateness as observed by Masky and Chen (2012). In measuring managerial ownership, indirect holdings of the executive directors too were factored in considering the benefits of such holdings to the executive directors and the kinds of power they wield as a result. The inverse of asset turnover has been an undisputed and reliable proxy of agency cost, in the absence of availably reported figures of monitoring and bonding costs, as well as the residual losses for a

given firm. Regression tool was employed to estimate the relationship outlined. Robustness tests were carried out to ensure that any sorts of error in the hypotheses testing were avoided.

From the results, it was observed that two of the three hypotheses are reject-able. The findings emanating from the study implies that the leftover cash flow is empirically detrimental to a firm's wellbeing as the manager's interest is in conflict with the firm's interest. Thus, any opportunity available to the manager, he will use it to expropriate the firm's resources to him out advantage and at the detriment of the firm. Where however the manager has a high stake in the firm, his interest tends to get significantly synchronized with that of the firm. As such, a free cash avail to him will be used judiciously for the wellbeing of the firm which is consequently his own wellbeing. Even the descriptive statistics has in a way buttressed this notion, since it revealed that an average of cash that is free for the population where managerial ownership is high stands at less than 1% of sales. This when compared with the average of free cash flow without considering managerial ownership level (2.6% of sales), can be deduced to be a possible situation of avoidance of keeping idle cash by the managers with high stakes in firms. And this is rational, and positive for the well-off-ness of the firm.

5.2 Conclusion

Consistent with theory and extant empirical evidence, this study concludes that:

i. Free cash flow has a significant impact on agency costof the Nigerian listed conglomerates. To the detriment of the firm, this impact is positive.

ii. There is no sufficient evidence to conclude that managerial evidence has a significant impact on agency costof the Nigerian listed conglomerates - though a negative impact exists, this is not significant, empirically.

iii. The interaction between high managerial ownership and free cash flow significantly impact on agency costof the Nigerian listed conglomerates. In favour of the firm, this impact is negative.

5.3 Recommendations

In line with the conclusions of the study, the following recommendations are made:

i. Conglomerate firms of Nigeria should, through their board, enact policies that will ensure avoidance of keeping free cash for the manager's discretion so that agency costs will be minimized. This could be achieved by following the suggestion of free cash flow hypothesis- paying it out as dividend and/or committing the firms into more financial obligations which requires periodic interest payments.

ii. Firm investors/analyst should not mind factoring managerial ownership alone when looking for determinants of firm's agency cost.

iv. When enacting their policy in respect of free cash flow as recommended in (i) above, Nigerian listed conglomerates board should frame the policy in such a way that exceptions can be made to cater for a free-reign provision for the managers to decide the free cash flow level, but only where such managers have significant stakes in the firm. This may be good for the firms inasmuch as these managers are the expert on the opportunities available, the timing for investments, identifying the profitable investments. These are in addition to the reasonable confidence that they will make the best use of the cash flow in such a way that it will result to a reduced agency cost levels of the firm.

v. Further studies should consider other longer periods and more coverage, in addition to inclusion of other relevant variables (such as Leverage and Dividend) in their studies

5.4 Limitations of the Study

This study like other studies is not without limitations. The findings therefore should be viewed in light of the following limitations:

i. Aside the fact that the study restricts its self to 6 years and for only conglomerate of Nigerian listing, the result reported a low explanatory power, standing at approximately 36%. This low R^2 shows that the model's explanatory variables put together have succeeded in capturing not up to half of the variation in the dependent variable. With this, our regression model cannot be used for prediction.

ii. The study relies on secondary data gathered by a third party, though published.

iii. Data used for this study comes exclusively from conglomerate firms listed in Nigeria. Owing to peculiarities in structure and operations, the findings may not be applicable to other sector.

In spite of the limitations, the validity of the methodologies and the findings remains unaffected by these limitations.

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APPENDICES

APPENDIX A (Descriptive statistics and Regression Results)

DESCRIPTIVE STATISTICS

```
. summarize ac mwon fcf FCFMOWN
```

Variable	Obs	Mean	Std. Dev.	Min	Max
ac	30	.8863153	.5028594	.1202948	1.878296
mwon	30	.3144835	.2554133	.0320045	.89289
fcf	30	.0258043	.3619748	-1.689314	.4919399
FCFMOWN	30	.0065821	.3547041	-1.689314	.4919399

PANEL REGRESSION RESULTS

```
. xtset id years
       panel variable:  id (strongly balanced)
        time variable:  years, 2007 to 2012
                delta:  1 year

. xtreg ac mwon fcf FCFMOWN,fe

Fixed-effects (within) regression               Number of obs      =         30
Group variable: id                              Number of groups   =          5

R-sq:  within  = 0.3611                         Obs per group: min =          6
       between = 0.3021                                        avg =        6.0
       overall = 0.1717                                        max =          6

                                                F(3,22)            =       4.15
corr(u_i, Xb)  = 0.1554                         Prob > F           =     0.0180
```

ac	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
mwon	-.0046604	.3918661	-0.01	0.991	-.817341	.8080202
fcf	1.104406	.3263818	3.38	0.003	.4275319	1.781281
FCFMOWN	-1.158243	.330301	-3.51	0.002	-1.843246	-.4732409
_cons	.8669062	.1279618	6.77	0.000	.6015297	1.132283
sigma_u	.46904003					
sigma_e	.20471109					
rho	.83999313	(fraction of variance due to u_i)				

```
F test that all u_i=0:     F(4, 22) =    21.10                 Prob > F = 0.0000

. estimates store fixed

. xtreg ac mwon fcf FCFMOWN,re

Random-effects GLS regression                   Number of obs      =         30
Group variable: id                              Number of groups   =          5

R-sq:  within  = 0.2921                         Obs per group: min =          6
       between = 0.4806                                        avg =        6.0
       overall = 0.3918                                        max =          6

                                                Wald chi2(3)       =      14.93
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =     0.0019
```

ac	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
mwon	-.8253663	.3126195	-2.64	0.008	-1.438089	-.2126433
fcf	1.483198	.5257023	2.82	0.005	.4528402	2.513555
FCFMOWN	-1.37789	.5357445	-2.57	0.010	-2.42793	-.3278497
_cons	1.116676	.1287203	8.68	0.000	.8643889	1.368963
sigma_u	.07175618					
sigma_e	.20471109					
rho	.10942272	(fraction of variance due to u_i)				

```
. estimates store random
```

```
. hausman fixed random

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |      fixed        random       Difference          S.E.
-------------+------------------------------------------------------------
        mwon |     .339358    -.9109497        1.250308               .
         fcf |    .3291936     .4123476       -.0831539               .
     FCFMOWN |   -.3729738    -.2711546       -.1018192               .
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =   -26.77    chi2<0 ==> model fitted on these
                                        data fails to meet the asymptotic
                                        assumptions of the Hausman test;
                                        see suest for a generalized test


. hausman fixed random, sigmamore

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |      fixed        random       Difference          S.E.
-------------+------------------------------------------------------------
        mwon |   -.0046604    -.8253663        .8207059        .5787928
         fcf |    1.104406     1.483198       -.3787914        .1543591
     FCFMOWN |   -1.158243     -1.37789        .2196464        .1428987
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       17.84
                Prob>chi2 =      0.0005
```

MULTICO-LINEARITY

```
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
     FCFMOWN |      8.47    0.118000
         fcf |      8.46    0.118195
        mwon |      1.01    0.994261
-------------+----------------------
    Mean VIF |      5.98
```

HETEROSKEDASTICITY

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of ac

         chi2(1)      =     2.18
         Prob > chi2  =   0.1395
```

NORMALITY OF THE RESIDUALS

```
. predict e, resid

. swilk e

                    Shapiro-Wilk W test for normal data

    Variable |     Obs       W           V         z       Prob>z
-------------+--------------------------------------------------
           e |      30    0.97244       0.876    -0.274    0.60784
```

CONTEMPORANEOUS CORRELATION

```
. xttest2

Correlation matrix of residuals:

            __e1      __e2      __e3      __e4      __e5
__e1     1.0000
__e2     0.0828    1.0000
__e3    -0.3261    0.2519    1.0000
__e4     0.6046    0.7084    0.1927    1.0000
__e5    -0.0118   -0.3006    0.5511    0.1659    1.0000

Breusch-Pagan LM test of independence: chi2(10) =     9.017, Pr = 0.5304
Based on 6 complete observations over panel units
```

APPENDIX B

		PROCESSED DATA				
firms	**ac**	**mwon**	**Fcf**	**FCFMOWN**	**id**	**years**
UACN	0.653694	0.164064	-0.16932	0	1	2007
UACN	0.735243	0.135053	0.189112	0	1	2008
UACN	0.60175	0.147437	0.152056	0	1	2009
UACN	0.511013	0.210887	0.096264	0.096264	1	2010
UACN	0.490468	0.171354	-0.10424	0	1	2011
UACN	0.566229	0.169429	0.128559	0	1	2012
TRANSCORP	0.489977	0.36705	-1.68931	-1.68931	2	2007
TRANSCORP	0.902195	0.737042	0.49194	0.49194	2	2008
TRANSCORP	0.373932	0.63584	0.467917	0.467917	2	2009
TRANSCORP	0.324155	0.54832	0.18683	0.18683	2	2010
TRANSCORP	0.226143	0.7572	0.100766	0.100766	2	2011
TRANSCORP	0.175187	0.744484	0.125015	0.05015	2	2012
AG LEVENTIS	0.669185	0.379282	0.080114	0.080114	3	2007
AG LEVENTIS	0.813877	0.366368	-0.05717	-0.05717	3	2008
AG LEVENTIS	0.82699	0.543974	-0.14701	-0.14701	3	2009
AG LEVENTIS	0.682816	0.470574	-0.00141	0	3	2010
AG LEVENTIS	0.862934	0.606776	-0.06999	-0.06999	3	2011
AG LEVENTIS	0.715519	0.89289	-0.02221	-0.02221	3	2012
PZ	1.19718	0.06609	-0.05558	0	4	2007
PZ	1.30851	0.089272	0.083104	0	4	2008
PZ	1.16221	0.082944	0.061768	0	4	2009
PZ	1.06274	0.075668	0.146652	0	4	2010
PZ	0.955771	0.064984	-0.03699	0	4	2011
PZ	0.120295	0.106057	0.034724	0.45854	4	2012
UNILEVER	1.67007	0.032004	0.056638	0	5	2007
UNILEVER	1.59103	0.046307	0.097223	0	5	2008
UNILEVER	1.8783	0.166253	0.078821	0	5	2009
UNILEVER	1.80479	0.261206	0.45854	0.126855	5	2010
UNILEVER	1.69532	0.209982	0.123777	0.123777	5	2011
UNILEVER	1.52196	0.185716	-0.03246	0	5	2012