Residual Loss of Agency Cost in Organisational Asymmetric Cost Behaviour

Ishaku Thomas
&
A.O. Oladipupo, Ph.D
Department of Accounting,
University of Benin, Benin City, Nigeria

Abstract
Effective cost management requires significant appreciation of cost behaviour because of its critical role in determination of the most profitable adjustment of activities of an enterprise in relation to its environment. Conventional cost behaviour theory assumes a symmetrical and proportional relationship between cost and activity volume, however, in the recent years empirical studies proved otherwise. The revelation is that cost behaves asymmetrically in short-term in relation to volume of activity. One of the factors that cause asymmetric cost behaviour is observed to be agency problem. Hence the objective of this paper is to present a review of extant literature on the conceptualisation of identifying residual loss of agency costs through asymmetric cost behaviour. The study is believed to be of great contribution toward drawing the attention of empirical research in agency costs and cost behaviour. It can also be of importance for in policy making concerning agency problem.

Keywords: asymmetric cost behaviour, residual loss, agency cost, adjustment cost, cost behaviour.

Introduction

The main objective of any public company is to maximize its stock market value or rather shareholders' wealth. Managers of the company are charged with the responsibility of achieving the aim of maximising shareholders' wealth. Performance of a company in terms of maximising the shareholders' wealth is revealed by how successful the management in adapting to the changing circumstances (Jerzemowska, 2006). Such circumstances could be both endogenous (peculiar to a company) and exogenous (related general) business environmental challenges and the ability to quickly adjust to them characterises the quality of the management. Managers are expected to act on behalf of the shareholders (owners) in utmost effort to achieve the company's aim while dealing with these circumstances.

According to Fama and Jensen (1983), organisation is a nexus of contracts, written and unwritten between providers of capital and agents. These contracts specify the right of the agents, performance criteria on which agents are evaluated and the compensation they face. The principal-agent relationship is founded on these contracts. Therefore, an agency relationship exists between the agents (management) and the principals (owners or capital providers) when the principals agree to handover to the agent's resources to manage on their behalf (Caers, Bois, Jegers, Geiter, Schepers, & Pepermans, 2006). Agency problem arises if the management's goals differ from those of the owners, thereby making the owners to institute monitoring mechanisms. Agency theory predicts that there is a misalignment of interests between shareholders and managers which could lead to agency problems, that is, managers engage in activities for their own benefits rather than the benefits of the firm's shareholders (Jensen and Meckling, 1976). Incentives are put in place in order to reduce the adverse effects of the agency conflict. Agency theory states that agency cost must be incurred to motivate managers to make a decision that will favour

the owners. These costs are bonding cost, monitoring cost and residual loss. Monitoring costs are costs that are associated with watching and evaluating the performance of managers, example board of director's cost. The bonding costs incurred by the management to ensure the shareholders' interest are protected, for example, cost of external audit. While the residual loss is another cost of agency problem resulting from the inability of both monitoring and bonding activities to align the interest of the managers and that of shareholders. It is the sum of all irreducible agency costs which is borne by the principals as reduced return on their investments (Panda & Leepsa, 2017).

Among these costs, the residual loss is a silent cost, difficult to measure through accounts unlike the bonding cost and monitoring cost. Scholarly journals are replete with studies on agency problem measured through agency costs such as expenses ratio, Tobin's Q, dividend pay-out, managerial compensation, assets turnover ratio, ROA and ROE, board Compensation and Free Cash Flow (Wellalage & Locke, 2012; Pichetkun & Panmanee, 2012; Rashid, 2016; Faccio, Lang and Young, 2001; and Wellalage & Locke, 2011). These measures of agency problem have not explicitly given attention to the residual cost because it is silent and difficult to measure. We opine that residual loss are silent losses that shareholders have to borne when monitoring and bonding (corporate governance) mechanism failed to completely mitigate agency problem.

We proposed in this study that even though residual loss does not yet have an explicit measure, it could be observed through asymmetric cost behaviour. The inspiration for the suggestion is drawn from empirical studies on asymmetric cost behaviour and managerial opportunistic behaviour. Cost behaviour is asymmetric when costs respond faster to factors leading to their increase and slowly respond to the factors leading to decrease. Pichetkun and Panmanee (2012), Banker and Byzalov (2014), Lu and Lu (2011), and Zhang (2016) among others established that there is a significant relationship between managerial opportunistic behaviour and asymmetric cost behaviour. Opportunistic behaviour has been measured as the result of agency problem when managers take advantage of the firm's resources for their personal use and/or when managers take deliberate decisions that do not maximise shareholders' wealth. Other major studies of asymmetric cost behaviour like Anderson, Banker and Janakiraman, (2003), Weiss (2010), Huang and Janakiraman, (2007) and Banker, Byzalov and Chen, (2013) have also established that asymmetric cost behaviour is the result of adjustment cost theory when managers are faced with uncertainty and they take deliberate decisions to maximise shareholders' wealth.

Hence, the objective of this study is to explain how residual loss in agency costs can be identified through asymmetric cost behaviour. The idea is that when economic determinants (such as employee intensity and asset intensity) and agency problem measures (such as return on assets (ROA), return on investment (ROI), assets utilisation, dividend pay-out), are controlled for in asymmetry cost behaviour model, any observed asymmetry in cost behaviour represents residual loss in agency costs that is not taking care of by agency problem mitigating mechanisms.

The remainder of this paper is organised into four sections as follows: section two reviewed the concept of agency problem and agency theory and its measures followed by rasymmetric cost behaviour as a measure of agency problem and the concept of asymmetric cost behaviour. Section four summarised the study with the conclusion and recommendation.

2. Concept of Agency and Agency Problem

The concept of agency has been increasingly popular in management science, social science, psychology, education and many more disciplines for over four decades now, yet studies on managerial opportunism are still

germane. In addition, the concept of agency has been highly applied in researches associated with the challenges in understanding organisational complexity. Despite the appealing nature of the concept and the resonance it has gained among accounting researchers and policy makers, there is still an absence of an explicit definition of its core meaning. As put by Etelapelto (2013), this lack of explicit clarity has led to the confusion surrounding the concept, which leads to loosely associating the notions with active striving, taking initiatives, or having an influence on one's own life situation. In management science and accounting, in particular, the agency is viewed as a contractual relationship with an explicit incentive for performance (Casadesus-Masanell & Spulber, 2004).

The term agency has multiple applications depending on the context and field of its use. In the context of this paper, agency simply means the capacity to act. It connotes the capacity to take action on behalf of someone else with anticipated benefits which result in codified social interaction. The concept gained popularity in scholarly write-ups in the late 1970s as a result of a reaction to structural failure to take into account the action of individuals (Ahearn, 2000). On the account of this assertion, the agency is a means of holding someone accountable to his/her action when acting on somebody's behalf within the allowed freedom to act in the best interest of the person.

Furthermore, Sen (1999) described agency as a person's ability to act on behalf of what the person values and has reason to value. The focus here is on the person's ability or capability to freely do what he/she values and have reason to value, such as freedom to incurring costs and setting a budget for achieving the set goals. Alkire (2008) explains that these capabilities include setting a budget, authority to incur costs, conveys information on the range of valuable opportunities or benefits a person acting on behalf of someone else enjoys. This also includes process freedom related to opportunities of achieving what a person values. Based on the Sen (1999) argument, agency is an assessment of what a person can do in line with such person's conception of what is good. The implication of this assertion is that people who enjoy the high capacity to act on behalf of someone else are engaged in actions that are purely congruent with their value and not necessarily the interest of who they represent. On the other hand, when people are not able to exercise their capabilities such as, opportunity freedom and process freedom, they may be alienated from their behaviour, and coerced into presumably pursuing only their interest (Alkire, 2008). This means that agency is exercised with respect to multiple aims in relation to diverse purposes. Thus, the agency can be viewed as a capacity or ability that brings two or more parties with different interest together for achieving common goals.

Furthermore, according to agency law, agency is the fiduciary relationship that arises when one person (principal) establishes an assent to another person (agent) that the agent shall act on the principal's behalf subject to the principal's control, and the agent manifests assent or otherwise consents so to act (DeMott, 2016). This definition place the agent in the legal view of the relationship between the principal and the agent as legally obligated. In the context of law, the agency is an intentional action that results in a relationship built on trust between parties and subject to accountability under the law. Thus agency is a deliberate relationship between parties established based on trust and controls for the purpose of achieving the reason for the relationship. We describe agency in an organisational context as a relationship that results to a contractual arrangement between two parties – the principals and the agents.

As put by Ross (1973), an agency relationship is one of the oldest social interaction arising between two or more parties when one, designated as the agent, acts for, on behalf of, or as a representative for the other, designated as the principal, in a domain of decision problems. Essentially, it is a contractual

arrangement between employee and employer that separate ownership from management. The problem in agency emanates from this very separation where the principal gives authority to the agent for taking decision pertaining to the control and use of assets or capital entrusted to their care. The agents are given incentives that will motivate them to act in the best interest of the stockholders.

The conventional finance assumption is that firms' management will pursue policies aimed at maximising shareholders' wealth (Abor, & Biekpe, 2006). However, this is not always attainable because of the economic assumption that both the agent and the principal are utility maximizers (Lin & Huang, 2011). The agency problem now arises when managers tend to seek their personal utility different from that of maximising the shareholders' utility.

The existence and extent of agency problem in a firm is not easily observable since managers have privileged internal information (information asymmetry) that owners do not have. The development and growth of the modern organisation where business owners are rather seen and treated as investors with portfolios whose target is a return on their investment further compounded the agency problem. As stressed by Hall (1998) the need to overcome the problem by incurring agency cost is ever perpetual. For this purpose, the variation between the management goals and those of the firm owners become highly interesting to the fact of the effect it has on company's performance. Managers are presumed to maximise their utility even at the expense of the stockholders. Example of these utilities include empire building, fame, flagrant lifestyle, higher bonuses, beating analyst earnings forecast, avoiding reporting loss and so on. Therefore, agency theory describes the nature of the problem and propose a solution to such problem.

Review of Agency Theory, its Application and Measurement

Agency theory suggests that the separation of ownership and control in firms creates conflicts of interest between the principals and the agents (Abor & Biekpe, 2006). This is mainly because managers have the opportunity to use the resources of the firm in ways that benefit them personally to the detriment of shareholders' wealth maximisation.

Agency problem exposes the modern organisation to the risk of managers' opportunism. In order to find a solution to this problem, Jensen and Meckling (1976) harmonised the most popular theory used in organisational relationship studies – the agency theory. Agency theory describes agency problem as the misalignment of interests in agency relationship between managers and shareholders. The problem is that managers are predicted to engage in activities that seek to benefit them rather than the firm's shareholders. Jensen and Meckling (1976, p5) defined agency relationship as a "contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent". Both parties are assumed to be utility maximizers. As such, agents (managers) may not act in the best interests of the principals (shareholders). The principal then institutes measures for preventing the agents from taking a divergent interest by establishing appropriate incentives and incurring monitoring costs or what is called agency costs. Agency costs is the sum of monitoring expenditures (such as the cost of having board of directors, auditing cost), bonding expenditure (such as the cost incurred by the principal in committing to contractual obligations that limit or restrict the agent's activity even if the firm is acquired), and residual loss (costs incurred as a result of divergence in principal and agent interests despite the use of monitoring and bonding costs) in any situation involving cooperation efforts (Jensen & Mechling, 1976).

Empirical Measures of Agency Costs

Empirical studies are replete with the measures of these agency costs as a proxy for agency problem. Monitoring and bonding costs are

adequately covered by researchers but, the residual loss is under-studied, probably because it is a silent cost and due to difficulties in measuring it. It is difficult to observe and it usually evades the agency problem control measures. The rational justification for the use of agency costs as the proxy for agency problem is borne out of the fact that without agency problem, agency costs would not have been incurred. Therefore, the implication is that agency problem drives agency costs. It can be said that the extent of a firm's agency costs reflect the severity of its agency problem. The empirical literature uses agency cost as the direct measure of agency problem and is measured as presented in the table 1.

Drawing from the Jensen and Meckling (1976) discussion on agency theory, many authors have used different measures to capture agency problem. According to Panda and Leepsa (2017), the measures are divided into two schools of thoughts – the direct measures and indirect (reversal) measures.

Table 1: Agency Cost Measures

Direct Measures	Operationalization	Authors
Expense Ratio	Operating expenses divided by average total assets	Ang, Cole and Lin (2000); Li and Cui (2003); McKnight and Weir (2009); and Wellalage and Locke (2011); Pichetkun and Panmanee, 2012
Asset Utilisation Ratio or Asset Turnover Ratio	Net sales divided by average total assets	Rashid (2013); Florackis (2008); Ang et al. (2000); Singh and Davidson (2003); Fleming, Heaney and McCosker (2005); Pichetkun and Panmanee, 2012
Indirect measures		
Dividend payout ratio	Total dividend divided by net income	Faccio, Lang and Young (2001) and Wellalage and Locke (2011)
Tobin's Q	Total market value + liabilities divided by the total assets book value + liabilities	Pichetkun and Panmanee, 2012; Morch, Shleifer and Vishny (1988) and Agrawal and Knoeber (1996)
ROA and ROE	ROE - Net income divided by the shareholder's equity. ROA – net income divided by average total assets	Pichetkun and Panmanee, 2012; Li and Cui (2003) and Xu, Zhu and Lin (2005)
Board Compensation	Director's remuneration and other related expenses	Zajac and Westphal (1994) and Su, Xu and Phan (2008)
Free Cash Flow	Cash from operations less capital expenditure	Rashid (2016); Pichetkun and Panmanee, 2012; Lu and Lu, 2011; Henry (2010); Mcknight and Weir (2009); and Doukas, Kim and Pantzalis (2000)

Source: Authors' compilation (2018).

The direct measures of agency costs explain manager's efficiency in utilising assets and effectiveness in controlling expenses. Thus, lower expenses mean more profit. This set of measures depict the effort of management in generating higher revenue at a lower cost thereby increasing shareholders' wealth.

The first three indirect or reverse measures (Dividend pay-out ratio, Tobin's Q and ROA and ROE) explain the firm value and the returns shareholders get on their investments. The board compensation describes the role of incentives in aligning principal and agent interest for wealth maximisation. Lastly, the free cash flow (FCF) describes the cash flow

growth opportunity of the firm. FCF is commonly used as a proxy for agency problem as the result of empire building which is a mismatch between available cash flow and growth opportunity (Jensen 1986). Insights into this problem predict that when FCF is high, managers are likely to over-invest in operational costs and negative net present value investments as an opportunity for empire building (Lu & Lu, 2011).

Most studies (Pichetkun & Panmanee, 2012; Chen, et al., 2011; Jeon-Ho & Tae-Young, 2014; Asgari, 2014) that found positive relationship between asymmetric cost behaviour and agency problem, have not considered classifying asymmetric cost behaviour as a residual loss resulting from the inability of the internal motoring activities to prevent managerial self-interest like empire-building.

Applicability of asymmetric cost behaviour concept in explaining agency problem directly draws from manager's discretionary decision toward committed resources as sometimes influenced by the self-interest for utility maximization such as benefits that are not tied to profit and result in higher budget. It could be because managers want to avoid takeover in the long-run (i.e. avoidance of bounding costs), they may decide to hold some slack resources in anticipation of a better future or refuse to lay-off labour under them to secure more budget and relevance. This could likely lead managers to increase SG&A costs rapidly when demand increases. Several studies posit that managerial incentives and governance can mitigate or intensify asymmetric cost behaviour since cost asymmetry could stem from empire-building (Pichetkun & Pamanee, 2012; Banker, Flasher, & Zhang, 2013).

However, what we are trying to conceptualise here is that asymmetric cost behaviour is a consequence of agency problem and a residual loss in agency costs. The idea is premised on the fact that residual loss are costs shareholders borne as a result of the monitoring and bonding failures to completely control agency problem. These factors make it appropriate to say that asymmetry in cost behaviour is the direct reflection of agency problem even though the concept is subject to empirical confirmation.

Theories of Asymmetric Cost Behaviour

Cost Behaviour

The knowledge of how costs respond to a different level of activity or volume is known as cost behaviour. Cost behaviour is the responsiveness of cost to changes in activity level. It is critical for decision making, planning, control and evaluation of performance. Therefore, the concept of cost behaviour explains the relationship between costs and activities which by extension affects revenue (sales volume). According to Bornemann (1945), the study of cost behaviour is significant because of its critical role in the determination of the most profitable adjustment of activities of an enterprise in relation to its environment. Cost behaviour is identified as a factor that affects the volatility of earnings through its effect on the accuracy of earnings forecast (Weiss, 2010).

The current empirical inquiry into cost behaviour involves the measurement of the relationship between costs and outputs, within the organisation's operations, taken into consideration the effect of deliberate decisions by managers. The traditional or conventional cost and management accounting theory assume a mechanistic relationship between costs and levels of activities, i.e. costs changes proportionately with changes in the level of activity. The point is that activity volume is the only recognised driver of costs. Therefore, costs are classified as a fixed cost (FC) when they remain constant irrespective of changes in activities in short-run. Costs are classified as variable costs when they change proportionately with a change in the level of activity. Therefore, in the conventional view, cost is expressed as the function of the volume of activity. This view have not taken into consideration the effect of deliberate managerial intervention on cost behaviour. Therefore, for effective decision maki9ng using cost information requires analysis beyond the

traditional view of cost behaviour to include the effect of management deliberate decision to influence costs.

Asymmetric Cost Behaviour

Asymmetric cost behaviour is a new way of thinking about cost behaviour that challenges the fundamental assumption in cost accounting, that the relationship between costs and volume of activities is symmetric for both increase and decrease of activity levels. Asymmetric cost behaviour occurs because of the failure of cost behaviour to observe the traditional assumptions of proportional responsiveness of costs to changes in the volume of activity. Costs become asymmetric because of deliberate managerial intervention in resource adjustment.

In an attempt to explore the validity traditional view of cost behaviour, Noreen and Soderstrom (1994) empirically tested whether costs are strictly proportional to activity in specific industry. They used data collected from the Washington State Department of Health for about 100 hospitals budgeted data for 1989 and 1990. The result shows that average cost decreases as activity level decreases with less degree than when the cost increase as activity increased. This implies that cost is not strictly proportional to changes in activity as posited in accounting text. Following the argument that costs are not driven by volume alone, Banker, Potter, and Schroeder (1995) empirically validated the claim by testing whether overhead costs are driven by the volume of manufacturing activities. The study classified manufacturing transactions or activities as logistical, quality, balancing (purchasing and production personnel) and change (number of engineering change over). The cross-sectional data collected from 32 manufacturing companies were subjected to regression analysis. The study found that most of the variations in overhead costs are explained by their classification of manufacturing transactions and not the volume of activities.

Asymmetric cost behaviour is an economic phenomenon where cost behaviour does not conform to the conventional theory of cost linearity with activity level. Costs are termed asymmetric when they are sticky or anti-sticky. Sticky cost refers to the situation where costs increases faster as a response to factors leading to their increase and response slowly to factors leading to their decrease. Costs become anti-sticky when expediting downward adjustment of costs is higher when the volume of activity falls than when the volume of activity increases with an equivalent unit. These less than or more than proportionate adjustment of costs sometimes emerge from agency problem where managers have incentives that motivates their deliberate decision. These motives could be avoidance of reporting losses and earnings decrease, meeting financial analyst's earning forecast, securing larger budget, and/or empire building. Therefore, for the purpose of clarity and understanding, this paper used asymmetric cost behaviour as a term that means both costs stickiness and anti-stickiness.

More empirical studies in cost behaviour model started experiencing great innovations since 2003. Anderson, et al. (2003) in their seminal work were the first to empirically document evidence on the concept of "sticky cost behaviour" which opened the "black box" of proportional cost behaviour and served as the groundbreaking for researchers in cost behaviour. They investigated whether costs are sticky. Their paper used time series and cross-sectional data which was the weakness of Noreen and Soderstrom (1994) and Banker, et al. (1995). The study reported that for 7,629 firms over 20 years, their Selling, General and Administrative (SG&A) costs increased on average of 0.55% for 1% increase in sales, but decreased only by 0.35% for the same 1% decrease in sales. They concluded that sticky cost behaviour occurred because managers deliberately adjust and hold back some slack resources based on some incentives. The study used SG&A costs as a proxy for cost behaviour because it is the group of cost items that are easily adjustable under managerial delegated authority. Delegated authority here means the

power given to managers by the owners to incur certain costs without prior approval. Managerial opportunistic behaviour induced by agency problem could be involved in resource adjustment decision within their delegated authority when activity changes.

The recent proliferation of research in the area of cost behaviour continues to focus attention on asymmetric cost behaviour. Some explained that the integrated effects of both economic factors and managerial opportunistic behaviour have a significant influence on cost behaviour and firm performance (such as Golden & Rezaee, 2015; Abrokwa, 2014). Other researchers (such as Costa, 2014; Abu-Serdaneh, 2014; Warganegara & Tamara, 2014) that devoted their work to find the existence of evidence of asymmetry in cost behaviour observed that the phenomenon is pervasive across different setups, like county, industry, and events such as initial public offers, mergers and acquisition.

Still, some researchers that investigated the determinants of asymmetric cost behaviour (e.g. Paik and Koo, 2016; Zhang, 2016; Jeong-Ho & Tae-Young, 2014; Chen, et al., 2012; Kama & Weiss, 2011; Lu & Lu, 2011; Anderson & Lanen, 2009) found that agency problem has a direct positive relationship with asymmetric cost behaviour. Yet, another strand of researchers examined the impact or consequences of asymmetric cost behaviour on earnings management (e.g. Jeong-Ho, Song & Paik, 2015). If asymmetric cost behaviour is perceived to have negative relationship with corporate governance, then the motoring and bonding mechanisms as suggested in agency theory should have a negative or mitigating effect on asymmetric cost behaviour. However, these mechanisms will not eliminate in short-run, completely the instance of asymmetric cost behaviour since such cost behaviour is also influenced by the managerial deliberate decision to create firm value in the future. Hence, the degree of asymmetric cost behaviour can be reduced by corporate governance mechanisms, which is the main tool of agency theory.

Adjustment Cost Theory

The theory holds that when shocks such as changes in demand, change in government policies, economic recession, firm growth, financial crisis, occur, a firm cannot immediately change its factors of production without incurring costs (Lucas, 1967). This implies that changes in the prior factors of production or committed resources as a response to shocks would result in an implicit cost. The major challenge with adjustment costs in empirical studies have been the predictability or empirical surrogate for adjustment cost, as it is difficult to be observed from accounting records or financial statements (Banker, Byzalov, & Chen, 2013). Empirical studies such as Anderson, et al. (2003), Costa (2004), and Pichetkun and Pamanee (2012) used assets intensity (ratio of operating assets to sales) and employee intensity (number of employees to sales) as proxies for adjustment costs. Resource adjustment costs could arise from labour or capital (Pichetkun, 2012) or operational expenses. Operational expenses can easily change within a short period of time as an adjustment to changes in activities. The adjustment can result in short benefits like higher reported profit but, may result in loss of value creation in long run due to possible higher reacquiring costs.

The theory of cost stickiness as posited in management accounting research, is that costs are asymmetric because of economic and behavioural forces (economic downturn and empire building) that act in slowing downward resource adjustment more than an upward adjustment of SG&A activities (Chen, et al., 2014). According to Anderson, et al. (2003), these forces include, but are not limited to permanent sales decline, macroeconomic growth, and asset/employee intensity, employees' protection laws, and trade unions. In the period of uncertain future demand, managers would incur adjustment costs for reducing or retaining prior committed resources based on the anticipation of the future. Such decision result in asymmetric cost behaviour. When demand falls, managers are

faced with the decision of whether to maintain the level of committed resources and bear the costs of unutilized capacity. On the other hand, managers can reduce the committed resources and incur the adjustment cost of retrenching, disposal of assets, and costs of replacing committed resources in the future if the demand is restored. The claim of this theory is that when a manager is not self-interested, cost asymmetry would only be stronger in the circumstance where the assessed probability of a decline in volume (demand) is not permanent, or where costs of reacquiring resources are higher than retaining. The claim of this theory makes it important in empirical research of cost behaviour and rational managerial response to shocks. Adjustment cost theory provides for managerial intervention in cost behaviour through optimal decision making.

Measuring Asymmetric Cost Behaviour in Organisation

In this section, our intention is to present a review of model developed overtime for empirical investigation of asymmetric cost behaviour phenomenon. The first to model asymmetric cost is Anderson, et al. (2003) who presented the first empirical model that used large cross-sectional and time series data to explain the concept of asymmetric cost behaviour. They posited that understanding cost behaviour is an essential element of cost and management accounting. As stated earlier, they found what they called sticky cost behaviour, where costs increase with an increase in activity (measured by sales volume) but fail to decrease in the same proportion with an equivalent decrease in activity. This implies that manager's response to uncertainty in a different manner contrary to the mechanical or engineering specification of cost behaviour. Anderson, et al. (2003) popular model is presented as follows:

$$\mathbf{Log}\left[\frac{\boldsymbol{SG\&A_{i,t}}}{\boldsymbol{SG\&A_{i,t-1}}}\right] = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\ \mathbf{log}\left[\frac{\boldsymbol{Revenue_{i,t}}}{\boldsymbol{Revenue_{i,t-1}}}\right] + \boldsymbol{\beta_2} * \boldsymbol{Decrease_{Dummy_{i,t}}} * \mathbf{log}\left[\frac{\boldsymbol{Revenue_{i,t}}}{\boldsymbol{Revenue_{i,t-1}}}\right] + \boldsymbol{\varepsilon_{i,t}}$$

Where $SG\&A_{i,t}$ is the natural log of SG&A of company *i* in fiscal year *t*, $revenue_{i,t}$ is the natural log of sales revenue of company *i* in fiscal year t. decrease dummy is a dummy variable which takes the value of 1 when sales revenue decreases between periods t – 1 and t, and 0 otherwise. The asymmetry in cost behaviour is measured by the coefficient value of b1 and b2. The costs behaviour is asymmetric when the sum of b1 and b2 is negative.

Empirical Evidence of Asymmetric Cost Behaviour and Agency Problem

Several studies have investigated the effect of agency problem on asymmetric cost behaviour and how corporate governance mediates the relationship. Our justification for reviewing empirical literature that examined the relationship between agency problem and asymmetric cost behaviour, is to demonstrate the perceived application of the asymmetric cost behaviour model in identifying residual loss of agency costs. These studies considered corporate governance as agency theory mechanism or control system that can exert limiting pressure on asymmetric cost behaviour. If after all corporate governance variables and other variables as predicted by adjustment cost theory are used in asymmetric cost behaviour model, any other asymmetry observed could be identified as residual loss in agency costs.

Prior researches have mentioned that agency problem is one of the determinants of asymmetric cost behaviour (Zhang, 2016). However, few studies have examined directly

the relationship between agency problem and asymmetric cost behaviour. Chen, et al. (2011) used four measures to proxy corporate governance: free cash flow (FCF), chief executive officer (CEO) horizon, CEO tenure, and compensation structure. Following the same strand, Zhang (2015) proxied agency problem as FCF, CEO tenure, CEO age, and CEO fixed pay. They both suggest that agency problem has a positive relationship with asymmetric cost behaviour and corporate governance limit the degree of the relationship.

Xue and Hong (2016) examined corporate governance's effect on expense stickiness. Their study adopted the Anderson, et al (2003) model to measure asymmetric cost behaviour, while they used the factor analysis of corporate governance components. Their analysis seems to be having fewer measurement errors because of the used of principal component analysis to represent their independent variable. Their result revealed that good corporate governance reduces the degree of asymmetric cost behaviour. Despite the robustness of their measure for corporate governance, it failed to include external audit as one of the corporate governance mechanisms.

Malekvar and Abdoli (2015) tested the relationship between SG&A Costs Stickiness and corporate governance. They proxied corporate governance as the composition of the board of directors. They adopted the Anderson, et al. (2003) model as a measure of asymmetric costs behaviour. The study used single measure for corporate governance, however, the still found strong support for their argument that strong corporate governance has a positive impact on reducing the stickiness of SG&A costs. Chen, et al. (2011) examined the role of corporate governance in mitigating the effect of the agency problem on SG&A cost asymmetry. The response variable was the Asymmetric cost behaviour of SG&A estimated using Anderson, et al. (2003) model. They also found that in aggregate, corporate governance reduces the degree of asymmetric cost behaviour.

Asymmetric cost behaviour has an adverse effect on cost planning and control which in turn affects organisational performance. Its pervasiveness also affects analyst's earnings forecast as it reduces the ability of management to effectively control costs if they are induced by self-interest. since empirical literature have established that monitoring and bonding costs (cost of corporate governance) reduces the degree of cost asymmetry, residual loss in agency costs can be observed through asymmetric cost model. The general assumption of this study is that, if the monitoring and bonding variables are included in asymmetric cost behaviour model, any other degree of asymmetry revealed by the model could be related to residual loss in agency costs.

Summary, Conclusion and Recommendations

This study has examined the literature on the concept and measurement of agency problem and asymmetric cost behaviour. The discussion on agency relationship, agency conflict and its effect on shareholders' wealth has long been an unresolved issue in economic, management and corporate studies. The fascinating work of agency theory predicts that managers are likely to act in a manner detriment to the interest of the shareholders. In order to address this problem, two different models were provided in the literature; economic model and agency law model. Principal-agent relationship according to agency law is fiduciary in nature, build on the trust that agent will act in the interest of the principal. Obviously, this is not so. Managers are motivated by their rewards of performance and penalty if they do not perform. The economic model, which is the interest of this paper, viewed the principal-agent relationship as a nexus of contracts written and unwritten with the agents being motivated by the incentive to act in the interest of the principals. Following this, many authors have made extensive surveys on the agency problem and its costs to find the remedies. Literature on agency theory have established that separation of ownership from control, conflict of interest, risk averseness, information

asymmetry are the leading causes of the agency problem. Commonly used remedies found in the literature are: ownership structure, executive ownership and governance mechanism like board structure which can minimise the agency cost.

However, monitoring and bonding costs of agency problem have been adequately investigated in literature, while the identification of residual loss in agency costs is still understudied. This paper, therefore, recommends that agency problem can be identified through asymmetric cost behaviour. The suggestion is supported by evidence found in the literature that asymmetric cost behaviour exists as a result of deliberate managerial decision towards maximising their own interest. The paper thus suggests that to some extents, the asymmetry in cost behaviour is the indication of the residual loss of agency problem. This assertion is subject to empirical validation.

References

Abor, J., & Biekpe, N. (2006). An empirical test of the agency problems and capital structure of South African quoted SMEs. *South African Journal of Accounting Research, 20*(1), 51 – 65

Abrokwa, J. (2014). Accuracy of earnings forecast: evidence from Ghana. *Journal of Finance and Accountancy, 17*(Oct. 2014), 1 – 13.

Abu-Sardaneh, J. (2015). The asymmetrical of cost: Evidence from Jordan. *International Business Research, 7*(8), 113 -122.

Agrawal, A., & Knoeber, C. R. (1996). Firm performance and mechanisms to control agency problems between managers and shareholders. *Journal of Financial and Quantitative Analysis, 31*(3), 377–397

Ahearn, L. M. (1999). Agency. *Journal of Linguistic Anthropology 9*(1-2), 12 – 15

Alkire, S. (2008). *Concepts and Measures of Agency* (No. ophiwp009). Queen Elizabeth House, University of Oxford

Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general, and administrative costs "sticky?" *Journal of Accounting Research, 41*(1), 47 – 63.

Anderson, M., Banker, R. D., Huang, R., & Janakiraman, S. (2007). Cost behaviour and fundamental analysis of selling, general and administrative costs. *Journal of Accounting Auditing and Finance, 22*(1),

Anderson, S. W., & Lanen, W. N. (2009). Understanding cost management: What can we learn from the empirical evidence on "sticky costs?" retrieved from https://research.mbs.ac.uk/accounting-finance/Portals/0/docs/2008/UnderstandingCostManagementWhatCanWeLearnfromtheEmpiricalEvidenceonStickyCosts.pdf

Ang, J. S., Cole, R. A. & Lin, J. W. (2000). Agency cost and ownership structures. *The Journal of Finance, 55*(1), 81–106.

Asien, E. N. (2014). Exploring the state of the audit market in Nigeria. African Journal of *Accounting, Auditing and Finance, 3*(4), 287 – 307.

Banker, R. D., Byzalov, D., & Chen, L. (2013). Employment protection legislation, adjustment costs and cross-country differences in cost behaviour. *Journal of Accounting and Economics, 55*(1), 111 – 127.

Banker, R. D., Byzalov, D., & Threinen, L. (2013). Determinants of international differences in asymmetric cost behaviour. Retrieved from http://www.fox.temple.edu/cms/wp-ontent/uploads/2013/08/LucasThreinen.pdf

Banker, R. D., Potter, G., & Schroeder, R. G. (1995). An empirical analysis of manufacturing overhead cost drivers. *Journal of Accounting and Economics, 19*, 115 – 137.

Banker, Rajiv D., Flasher, R., & Zhang, D. (2013). Strategic positioning and asymmetric cost behaviour. AAA 2014 Management Accounting Section (MAS) Meeting Paper. Retrieved from http://dx.doi.org/10.2139/ssrn.2312852

Barandiaran, X. E., Di Paolo, E., & Rohde, M. (2009). Defining agency: Individuality, normativity, asymmetry, and spatio-temporality in action. *Adaptive Behavior, 17*(5), 367-386

Bleibtreu, C., Stefani, U. (2015). The interdependence between the structure of the audit market and the quality of audited financial statements: The case of non-audit services. Retrieved from http://dx.doi.org/10.2139/ssrn.2614860.

Blocher, J. B., Stout, D. E. & Cokins, G. (2010). *Cost management: Strategic emphasis.* New York: McGraw-Hill/Irwin.

Bornemann, A. (1945). Empirical cost study and economic theory. *Accounting Review, 20*(3), 327 – 331.

Bradbury, M. E., & Scott, T. (2014). Do managers understand cost behaviour? Retrieved from http://dx.doi.org/10.2139/ssrn.2424960

Caers, R., Bois, C. D., Jegers, M., De Geiter, S., Schepers, C. & Pepermans, R. (2006). Principal-Agent Relationships on the Stewardship-Agency Axis. *Nonprofit Management & Leadership, 17*(*1*), 25 – 47.

Casadesus-Masanell, R. & Spulber, D. F. (2004). Agency revisited. *Harvard Business School Working Paper, No. 10-082*

Chen, C. X., Lu, H., & Sougiannis, T. (2012). The agency problem, corporate governance, and asymmetrical behaviour of Selling, general and administrative costs. *Contemporary Accounting Research, 29*(1), 252 – 282.

Chen, J. V., Kama, I., & Lehavy, R. (2015). Management expectations and asymmetric cost behaviour. *Ross School of Business Working Paper Working Paper No. 1292.* Retrieved from http://ssrn.com/abstract=2684164

Chen, S., Ni, S. X., & Wu, D. (2014). Corporate governance and asymmetrical behaviour of SG&A costs: Evidence from state antitakeover laws. Retrieved from http://dx.doi.org/10.2139/ssrn.2336916.

Chu, L., Simunic, D. A., Yi, M., & Zhang, P. (2017). Transaction Costs and Competition among Audit Firms in Local Markets. Retrieved on 1/2/2017 from: https://ssrn.com/abstract=2378039

Ciftci, M., Mashruwala, R., & Weiss,D. (2016). Implications of cost behaviour for analysts' earnings forecasts. *Journal of Management Accounting Research, 28* (1), 57 – 80.

Cooper, R., & Kaplan, R. (1992). Activity based systems: measuring the cost of resource usage. *Accounting Horizons, (September),* 1 – 13.

Costa, P. S. (2014). Cost stickiness in Latin American open companies from 1997 to 2012. *European Scientific Journal,* Special Editi'on, 270 – 282.

DeMott, D. A (2016). Defining agency and its scope (II), in *Comparative Contract Law: A Tale of Two Legal Systems 396-413* (Martin Hogg & Larry A. DiMatteo eds.)

Doukas, J. A., Kim, C., & Pantzalis, C. (2000). Security analysis, agency costs and company characteristics. *Financial Analysts Journal, 56*(6), 54–63.

Drury, C. (2008). *Management and cost accounting (7th ed.).* London: Cengage Learning.

Eguasa, B. E., & Urhoghide, R. O. (2017). Audit market concentration and audit quality in Nigeria. *IOSR Journal of Business and Management,* 19(9), 01-09

El Ghoul, S., Guedhami, O., Lennox, C., & Pittman, J. A. (2007). Ownership structure, agency problems, and auditor choice: evidence from Western European firms. *Arbeitspapier der University of Alberta.*

Eshleman, J. D. (2013). The effect of audit market concentration on audit pricing and audit quality: The role of the size of the audit market (Doctoral dissertation). Louisiana State University and Agricultural and Mechanical College, USA.

Eteläpelto, A., Vähäsantanen, K., Hökkä, P. & Paloniemi, S. (2013). What is agency? Conceptualizing professional agency at work. *Educational Research Review 10,* 45 – 65. DOI: http://dx.doi.org/10.1016/j.edurev.2013.05.001

Faccio, M., Lang, L. H. P., & Young, L. (2001). Dividends and expropriation. *American Economic Review, 91*(1), 54–78

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

Fei L. C. (2015). The impact of managerial opportunism on earnings reliability. *International Journal of Economics and Finance, 7*(10), 222 – 234.

Fleming, G., Heaney, R., & McCosker, R. (2005). Agency costs and ownership structure in Australia. *Pacific-Basin Finance Journal, 13,* 29–52

Florackis, C. (2008). Agency costs and corporate governance mechanisms: evidence for UK firms. *International Journal of Managerial Finance, 4*(1), 37 – 59.

Florackis, C. (2008). Agency costs and corporate governance mechanisms: Evidence for UK firms. *International Journal of Managerial Finance, 4*(1), 37–59.

Gerakos, J. J., & Sverson, C. (2013). Competition in the audit market: Policy implication. *National Bureoue of Economic Research, working paper 19251.* Retrieved from http://www.nber.org/papers/w19251

Golden, J., & Rezaee, Z. (2015). Cost stickiness and sustainability performance: Integration of cost management and performance management. A paper presented at centre for Economic Sustainability and Entrepreneurial Finance (CESEF) worshop Dec. 14th, 2015, co-hosted with PolyU School of Accounting and Finance

Henry, D. (2010). Agency costs, ownership structure and corporate governance compliance: A private contracting perspective. *Pacific-Basin Finance Journal, 18*(1), 24–46.

Ishak, A. M., Mansor, N., & Maruhun, E. N. S. (2013). Audit market concentration and auditor's industry specialization. *Procedia –Social and Behavioural Sciences, 91*(2013), 48 – 56.

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review 76*(3), 323 – 29.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305 – 360.

Jeong-Ho, K., Song, S., & Paik, T. (2015). Earnings management and cost stickiness. *Advanced Science, and Technology Letters, 84,* (Business 2015), 40 – 44.

Jeon-Ho, K. & Tae-Young. P. (2014). Relationship between agency problem and cost stickiness: A direct test. *Proceedings of 29th International Business Research Conference 24 – 25 November 2014, Novotel Hotel Sydney Central, Sydney, Australia.*

Jerzemowska, M. (2006). The main agency problems and their consequences. *Acta Oeconomica Pragensia, 14*(3), 9 – 17.

Kallapur, S., Sankaraguruswamy, S., & Zhang, Y. (2010). Audit market concentration and audit quality. Retrieved from http://ssrn.com/abstract=1546356

Kim, J-B., & Wang, K. (2014). Labour unemployment risk and sticky cost behaviour. *Working paper, City University of Hong Kong*

Lee, W-J., Pittman, J. & Saffer, W. (2015). Political uncertainty and cost stickiness: Evidence from elections around the world. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2596506.

Li, H. & Cui, L. (2003). Empirical Study of Capital Structure on Agency Costs in Chinese Listed Firms. *Nature and Science, 1*(1), 12 – 20.

Lin, H-Y. & Huang, C-W. (2011). Exploring agency problems in corporate governance from the perspective of economic ethics of the capitalist market. *African Journal of Business Management, 5*(28), 11442 – 11449.

Lucas, R. E. (1967). Adjustment costs and the theory of supply. *The Journal of Political Economy, 75*(4), 321 – 334.

Malis, S. S., & Brozovic, M. (2015). Audit market concentration –evidence from Croatia. *Review of Contemporary Business, Entrepreneurship and Economic, 28*(2), 339 – 356.

Mamuneas, T. P., & Nadiri, M. I. (1996). Public R&D policies and cost behaviour of the US manufacturing industries. *Journal of Public Economics, 63*(1), 57 – 81.

McKnight, P. J., & Weir, C. (2009). Agency costs, corporate governance mechanisms and ownership structure in large UK publicly quoted companies: A panel data analysis. *The Quarterly Review of Economics and Finance, 49*(2), 139–158

Moctezuma, J. A. T., & Benau, M. A. G. (2017). Why the big 4 are leaders in the audit market? A literature review. *Achieves of Business Research, 5*(12), 227 – 244

Morck, R., Shleifer, A., & Vishny, R. (1988). Management ownership and market valuation. *Journal of Financial Economics, 20*(1–2), 293–315

Noreen, E. W., Brewer, P. C., & Garrison, R. H. (2011). *Managerial accounting for managers (2nd ed.).* New York, USA: McGraw- Hill.

Noreen, E., & Soderstrom, N. (1994). Are overhead costs strictly proportional to activity? Evidence from hospital services departments. *Journal of Accounting and Economics, 17*(1-2), 255 – 278.

Noreen, E., & Soderstrom, N. (1997). The accuracy of proportional cost models: Evidence from hospital service departments. *Review of Accounting Studies 2*(1), 89-114.

OECD (1993). *Glossary of industrial organisation economics and competition law*. Paris: Author.

Pervan, M., & Pervan, I. (2012). Sticky costs: Evidence from Croatian food and beverage industry. International *Journal of Mathematical Models and Methods in Applied Sciences, 8*(6), 963 – 970.

Pichetkun, N. & Panmanee, P. (2012). The determinants of sticky cost behavior: A structural equation modeling approach. *Journal of Accounting Professional, 8*(23), 29 – 61.

Pichetkun, N. (2012). The determinants of sticky cost behaviour on political costs, agency costs, and corporate governance perspective (*Doctoral dissertation*). Raja Mangala University of Technology, Thanyabari, Thailand.

Pichetkun, N., & Pamanee, (2012). The determinants of sticky costs behaviour: A structural equation modelling approach. *Journal of Accounting Professions, 8*(23), 29 – 61.

Rashid, A. (2013). CEO duality and agency cost: Evidence from Bangladesh. *Journal of Management and Governance, 17*(4), 989–1008.

Rashid, A. (2016). Managerial Ownership and Agency Cost: Evidence from Bangladesh. *Journal of Business Ethics, 137*(6), 609–621.

Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. *The American Economic Review, 63*(2), 134 – 139

Shank, J. K. & Govindarajan, V. (1993). *Strategic cost management*. New York, NY: The Free Press.

Singh, M., & Davidson, N. (2003). Agency cost, ownership structure and corporate governance mechanisms. *Journal of Banking & Finance, 27*(5), 793–816.

Su, Y., Xu, D., & Phan, P.H. (2008). Principal–Principal conflict in the governance of the Chinese public corporation. *Management and Organization Review, 4*(1), 17–38.

Topazio, N. (2010). Auditors: Market concentration and their role retrieved from http://www.cimaglobal.com/Documents/Insightdocs/HoL%20Auditor%20report%20September%202010.pdf

Velte, P., & Stglbuar, M. (2012). Audit market concentration and its influence on audit quality. *International Business Research,* 5(11), 146 – 161.

Weiss, D. (2010). Cost behaviour and analyst's earnings forecast. *The Accounting review, 85*(4), 1441 – 1471.

Wellalage, N., & Locke, S. (2011). Agency costs, ownership structure and corporate governance mechanisms: A case study in New Zealand unlisted small companies. *Journal of Business Systems, Governance and Ethics, 6*(3), 53–65

Xu, L., Zhu, T., & Lin, Y. (2005). Politician control, agency problems, and ownership reform: Evidence from China. *Economics of Transition, 13*(1), 1–24.

Yasukata, K., & Kajiwara, T. (2011). Are "sticky costs" the result of deliberate decision of managers? Retrieved from http://dx.doi.org/10.2139/ssrn.1444746

Zajac, E. J., & Westphal, J. D. (1994). The costs and benefits of managerial incentives and monitoring in large U.S. corporations: When is more not better? *Strategic Management Journal, 15*(1), 121–142.

Zhang, Y. (2016). The stickiness of SG&A costs, agency problems and competition intensity. *Economics.* Retrieved from http://hdl.handle.net/2105/33799