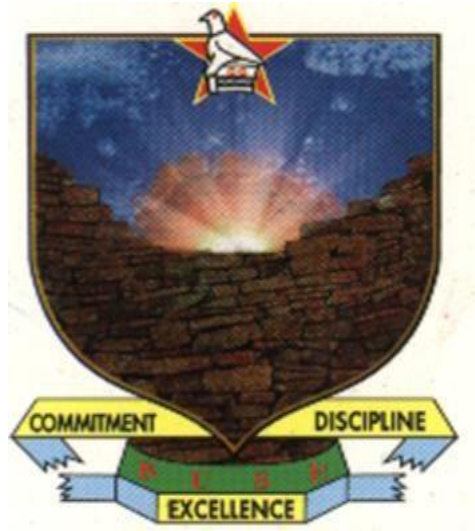


BINDURA UNIVERSITY OF SCIENCE EDUCATION



FACULTY OF COMMERCE

DEPARTMENT OF ECONOMICS

AN IMPACT ASSESSMENT OF RETRENCHMENT STRATEGY ON FIRM PERFORMANCE. EVIDENCE FROM PRIVATE LIMITED COMPANIES IN ZIMBABWE. A CASE OF NATIONAL FOODS HOLDINGS LIMITED (NFHL).

BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN ECONOMICS.

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I declare that this research project herein is my original work and has not been copied or extracted from previous sources without due acknowledgement of the source.

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Dedication

This research is dedicated to my beloved parents, Mr. E Chibaya and Mrs. J Mhandu and wife Alice Nyemba not forgetting my brother Admire for their support, love and encouragement during the undertaking of the study.

Acknowledgements

I would like to direct my heartfelt appreciation to my project supervisor Mr. T Bindu for his firm support and guidance throughout the research. My deepest gratitude also goes to my fellow Economics colleagues, Wisdom, Tanyaradzwa, Clifford, Moses, Tinotenda, Pual and Violah, for their persistent support and love during the undertaking of this project. My beloved parents, Mr. E. Chibaya and Mrs J Mhandu and wife Alice Nyemba and brother Admire are worthy to be mentioned on this page because of their continued support and encouragement which they exhibited during my research. I love you all. Lastly, I extend my sincere gratitude to the Almighty Lord for giving me the strength and effort throughout the whole study.

ABSTRACT

The research was premised on discovering the effects of retrenchment on firm performance in Zimbabwe with the utilization of National Foods Holdings Limited (NFHL) as a case study. Agency theory, Resource Base View Theory, Competitive dynamics theory and Strategic factor market theory and downsizing model fastened the research serving as its theoretical framework. Probing study techniques were adopted by the researcher in detection of the matters included in the relationship between retrenchment and firm performance. Hence this study targets to explore the relationship between retrenchment strategy and firm performance for NFHL in Zimbabwe over the period of 1990 to 2020. Using financial reports, the data was retrieved for the purpose of the study. The research outcomes recognized that the firm size and the ratio of operating income in line with quality planning are vital fundamentals in enduring firm performance through retrenchments. The findings established that NFHL commenced retrenchment impulsively and its performance did not exactly improve as projected. The study concluded that selling unproductive assets enables retrenching firms to fully focus on assets they can utilize most efficiently, also there is need for the management to comprehend the inferences of retrenchment, properly plan, whereas taking into deliberations workers needs for the advancement of firm performance through retrenchment. There is requisite for a different study to be conducted at a different entity so as to decide if retrenchment is really effective in improving firm performance.

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CHAPTER I

INTRODUCTION

1.0 Introduction

In the current downtrend economy condition, for the firm to survive it has the survival capabilities. One way to keep firms afloat is to use the retrenchment strategy through use of strategic management and finance literatures document, Ung et al (2018). Therefore, for the organisations that facing poor financial performance they managed to use mutual strategy, that is, retrenchment strategy, Morrow et al (2004). The reduction of costs by selling the assets and eliminating sticky fixed cost as a means of increasing firm efficiency has been recommended as the base upon which organisations should improve their turnaround determinations, Pearce and Robbins (1993). Actually, as firms find it difficult to respond to reduced performance, publications of the plant closings (asset retrenchment) and layoffs (cost retrenchment) seem almost daily in the media, Carey (2003).

This study sought to analyse and examine the degree of successful retrenchment strategy amongst impediments and challenges that could be faced by the manufacturing sector in Zimbabwe. In the business creation today, mutually developed and developing economies are persistently experience continuous decline in performance. Globally, the financial crisis that has been experienced, for example needs not to be over highlighted, with respect to its undesirable impact on the performance of the worldwide business. Due to various reasons that come up from internal and external environmental conditions may completely affects firms operating in different sectors in the economy. Factors like competition, technological, high costs of capital and other factors cause more and more businesses to occasionally face hard times, Zimbabwean`s manufacturing sector inclusive. This is what leads firm`s management to express retrenchment strategy in order to revive the declining organization.

Manufacturing companies in Zimbabwe are threatened with the manufacturing and business challenges. Where challenges that has been experienced within the plant is the use of outdated equipment, shortages of spare parts of the equipment, poor electrical supply and water and lack of skilled labour. Business challenges include competition, high cost of labour, low demand for some products and lack of working capital, Zimwara and Mbohwa (2015:155).

Adding on to that, as shown by the table 1.1 below, shared restrictions that met by the firms over the years are concentrated around low demand, outdated equipment, working capital, completion from imports and high cost of doing business.

Table 1: Common Constraints

Common Constraints	2011	2012	2013	2014	2015
Low product demand	18%	13,3%	17.60%	28.80%	28.4%
Raw materials	13%	5.30%	5.90%	6.20%	6.90%
Energy	7%	9.90%	8.60%	3.80%	6.40%
Lack of working capital	17%	32%	40,20%	20.50%	18%
Outdated equipment	8%	11.40%	9.80%	7.30%	12.30%
General cost of production		8%	5.20%	6.20%	8.50%

Source: CZI Surveys

As shown by the table above, in 2014, 28.8% of all respondents informed a low aggregate demand as the main obstacle of the capacity. Decrease in aggregate demand can cause some of the companies to close or else to reduce its costs by downsizing leading to an increase in unemployment CZI (2015:13).

1.1 Background of the study

The manufacturing sector plays a fundamental role in the economy. Retrenchment has become one of the modern operational restructuring strategy approved by the worldwide administrations in order to reduce costs, increase competences and to match competition, Khan and Cheema (2010). Economic growth, catch-up in the worldwide developments has been all driven from manufacturing. Special opportunities for reaching the economies of scale, employment opportunities, progress in technology and learning and profiting from spill overs to other sectors

are located in the manufacturing sector. In Africa, companies are suffering high financial constraints, high cost of labour, deprived cash flows as well as diminishing returns are led by the poor economic growth due to high global competition and heavy dependence on importing raw materials. These constraints are consequently forcing firms to adopt retrenchment strategies to stand for competition.

Retrenchment is associated with different variables knotted by exact, linked events which can be confidential in the interior sectors of the economic, environmental, social and technical climate which the business operates, Gwisai (2006). Firm performance is a dependent variable which are largely confidential in the interior the limitations of the economy in which the firm operates, Gwisai (2006).

Zimbabwe has been ranked number 109 out of 117 amongst countries with the poorest macroeconomic environments in the World Economic Forum's 2005 Global Competitiveness Report,

Lopez-Claros and Schaw (2005). Zimbabwe's economy dropped by more than 40% of its real GDP later 1997 and its exports collapsed by a ratio of more than half. During the time period of 1998 to 2004, foreign direct investment (FDI) has fallen from USD 444 million to USD 9 million respectively. Capacity utilization has been fallen to below 40% and 90% of people get unemployed since the industrial official indicated that more than 400 firms closed between years of 2000-2012 (CZI 2013: 18). The World Bank (2012: 24-27) indicated the capacity utilization has been declined to 10% in 2011 as compared to 60% in 1996 due to poor firm performance in the manufacturing sector in Zimbabwe. The Zimbabwean manufacturing sector has consequently been associated with great de-industrialization, firm closures and the downsizing in capacity utilisation by 5.3% between 2012 and 2013 (CZI 2013: 8).

In Zimbabwe, the influence to manufacturing productivity from the textile industry fallen from 11.3% in 1985 to 7.9% in 1995 and other 87 firms in the sector had closed down by 1994 (Gadzikwa, 2013). Companies that were forced to cut back some of their staff and sell their assets, where in 1992 25,000 employees were reportedly retrenched. During the period of 2000 that marked the start of deindustrialization, the manufacturing companies were suffering poor cash flows that forcing them to fetch the turnaround strategies to curter the consequences and some other firms decided to close.

In attempt to turn around, numerous manufacturing firms commenced asset and cost retrenchment as a way of improving the performance of their firms. The cost reduction of employee layoffs, sale off of the asset, and closing off of other loss-making branches led some other firms to remain competitive in the manufacturing sector.

A study by Ochieno (2011) under the focus of retrenchment process that could be approved by Telkom Kenya in groundwork for privatization in May 2006, specified a progressive change at TKL by way of improved service delivery through the overview of new wireless technology and brands that were competitive in the market. Generally, through these developments a cultural change has been cited in the organization and financial statements trend also indicated the improvements. The study also exposed that the implementation of the new TKL products had expected a greatly good rating of 76% in the market as compared to other services from competitors such as Safaricom and Airtel.

National Foods Holdings Limited was not excluded by the economic recession from the period 1990 to 2020. High cost of production reduced the sales that lead to market decline both domestically and internationally. In a determination to reduce the costs of production which has been continuously affecting the firm, National Foods Holdings Limited employed downsizing as a turnaround strategy. Therefore, the study sought to measures the usefulness of downscaling at National Foods Holdings Limited.

1.2 Research problem

The manufacturing sector of Zimbabwe since 1980s has been suffering challenges in operations due to the state of economic crisis in the economy that forced many manufacturing companies to close and others companies forced to relocate in neighboring countries for the reason of eliminating the poor financial performance. Gross domestic product was rapidly decreases year by year. The National Foods Holdings Limited allegedly reducing its labor force from nearly 1500 workers to 700 because of the highly economic challenges, according to a newspaper article from Newsday in 2015. Spokesperson of the company, reported that the cost retrenchment has been done basing on the state that the company has decreased is level of operation by 40%. Adding on to that, according to a newspaper article from the Independent in (2013), many firms were realizing

one form of cost retrenchment precise to their needs. Companies like, Colcom has been reduced its workers where it closed its meat processing department, the Dairy board also reduced most of its labor force countrywide including Pretoria Portland Cement (PPC) restructured its head office to meet operational requirement. According to Confederation of Zimbabwe (2014), due to the adoption of the multi-currency system in the period of 2009 many companies failed to yield any significant results leading to company closures, liquidation and some firms being placed under judiciary management. Zimbabwean manufacturing sector has struggled to attain expressive capacity utilization. Therefore, this study sought to analyze and examine the extent of retrenchment strategy on firm performance of the National Food Holdings Limited Zimbabwe.

1.3 Research objectives

- To determine the drivers of retrenchment in National Foods Holdings Limited.
- To identify the relationship between the retrenchment and firm performance.
- To identify whether there is relationship between firm size and firm performance
- To identify the relationship between growth opportunity and performance
- To identify the effects of cost and asset retrenchment on firms operating in manufacturing industry.

1.4 Research questions

- Does effective application of retrenchment have any effects on firm's performance?
- Does firm size have effect on the firm's performance?
- Does operating income have effects on firm's performance?
- Does capital expenditure have effects on firm's performance

1.5. Research hypothesis

1.5.1 Hypothesis one (H1)

H_0 : There is a positive relationship between retrenchment and firm performance.

H_1 : There is negative relationship between retrenchment and firm performance.

1.5.2 Hypothesis two (H2)

H_0 : There is a positive relationship between firm size and firm performance.

H_1 : There is negative relationship between firm size and firm performance.

1.5.3 Hypothesis three (H3)

H_0 : There is a positive relationship between growth opportunity and firm performance.

H_1 : There is negative relationship between growth opportunity and firm performance.

1.5.4 Hypothesis four (H4)

H_0 : There is a positive relationship between leverage and firm performance

H_1 : There is negative relationship between leverage and firm performance

1.6 Purpose of the Study

The significance of this study pivots on the fact that failure of the local production industry and the falling of employment sector, the wicked adaptation of the Labour act chapter 12c by many

companies in mid-1989 influenced the researcher to assess the impact of retrenchment on National Foods Holdings Limited. The topic is value the consideration since it offers a better understanding on the validation of firms who are retrenching and also it clearly showed a better understanding on the fruits of retrenchment. The study will benefit the following in many different ways.

1.6.1 National Foods Holding Limited

The study provided information to the management of the National Foods Holding Limited with respect to the retrenchment course on whether was fit for its drive and if it can perform as guiding manual through the ideas offered by the employees. For the purpose of strengthening the employee loyalty, this study provided the information they could also use on producing and participation policies during the negotiating procedures thereby improved efficiency which may leads to high productivity.

1.6.2 Related Organizations

They benefited information all about the way of retrenchment and also the resolutions to make sure that they take it up in a correct way that will not affect the firms' performance. They can also the study to increase the productivity, staff self-esteem, quality of the work and also reducing the costs from now gaining comparative advantage.

1.6.3 Human Resource Practitioners

The research might brighten effective and efficient methods to retrenchment through acceptance of the approvals grounded on the evidence obtained.

1.6.4 Bindura University of Science Education (BUSE)

The study enhances the body of knowledge for Bindura University of Science Education and its members as it is source of information for academics and non-academics purposes. Other universes might access the information through online and the library.

1.7 Assumptions

- The continuing retrenchment practice had some effect on worker's motivational levels.
- All variables under consideration were held constant throughout the time of the study.
- The data was accurate and a true representation of the annual reports.

1.8 Delimitations of the study

The research was limited to examining the usefulness of downsizing efforts on the financial performance of the company. The research was also confined to one manufacturing company namely Steelmaking Private Limited which was the illustrative of the entire population. The research narrates to the period from January 1990 to December 2020. The period permitted the researcher to fold enough information about the problem.

1.9 Limitations of the study

The narrow database, short time period and nominated variables remained certain of the main limitations of this research in contrast, future researchers should have to work on more variables that affect the firm performance. The researcher was alert of the limits of the research instrument and wisely keep observation notes, and avoided summarizing information where possible. The research was limited only to National Foods Holding Limited from the period of 1990-2020.

1.10 Definition of key terms.

Retrenchment- can be defined as the way of reducing cost and assets, Hofer (1980). Retrenchment denotes the reduction of employees in the firm for the determination of reducing costs and adjusting to technological transformation, The Labour Act 1996 [Chapter 28:01].

Cost retrenchment- can be defined as a fall in costs, for example selling, general and administrative expenses, and cost of goods sold and interest expenses. Precisely, selling, general and administrative expenses (SGA) includes advertising expense, bad debt expense, commissions, director's fees, engineering expense, foreign currency adjustments, indirect costs, lease expense, marketing expense, administrative services, pension, retirement, profit sharing, employee insurance, stock-options, R&D, salaries, and interest expenses Barker & Mone (1994).

Asset retrenchment- can be defined as a fall in assets (long-term and short-term) as a way of justifying circumstances responsible for a financial decline Robbins & Pearce, (1992). Precisely, plant closings, layoffs, divestitures, drops in property and equipment and inventories entirely fall under the strategy of asset retrenchment.

Stakeholders- can be defined as individuals that take an attention in an organization and can also affect or be affected by the business, (Ochieno, 2013). The principal stakeholders in the business are its investors, employees, customers, suppliers, government, owners, unions and the community from which the organization draws its resources.

1.11 Chapter Summary

This chapter has emphasized key aspects counting the background of the study, research problems, research objectives, limitations and delimitations. The following chapter will have an understanding in theoretical and empirical literature review. The concentration of the third chapter is to outline the practice that is going to be used in the study in analytically examining the effects of firm size, ratio of operating income, capital expenditure and the ratio of debt to common share equity on firm performance. The explanation and justification of variables used in the model and approximations to be approved and also presented in the same chapter. The discussion and

assessment of the approximation process are going to be presented in chapter 4 and also the interpretation of results found. The final chapter focuses on the conclusion of the study and policy recommendations.

CHAPTER II

LITERATURE REVIEW

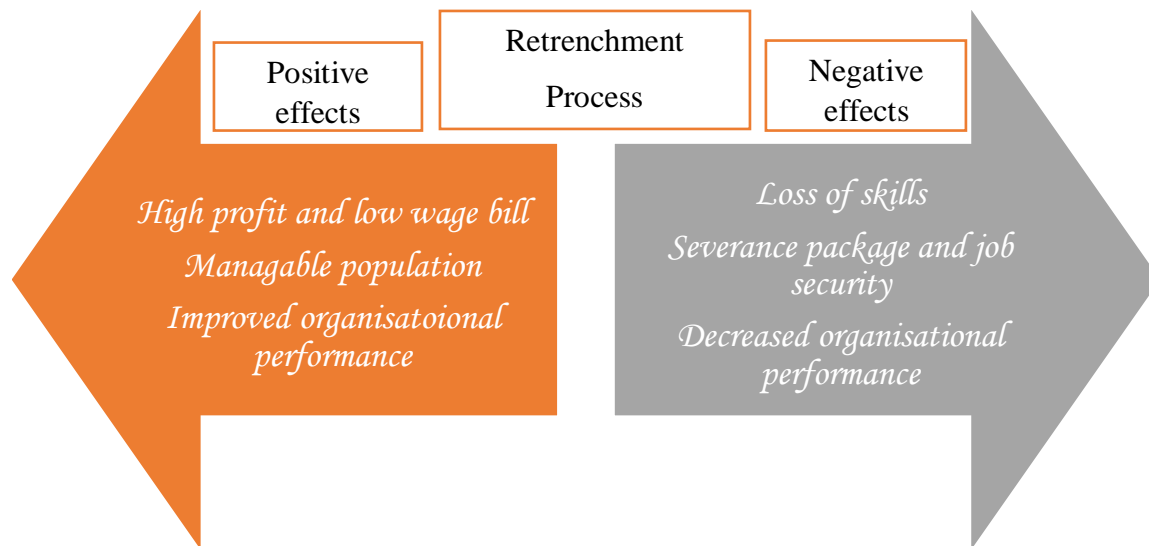
2.0 Introduction

This chapter will disclose a number of conceptual and theoretical concepts as well as empirical evidence relating to the relationship between the firm performance and retrenchment. This was absolutely done through regarding the research to the theories, also showing a conceptual framework to guide the research, analysis of the retrenchment motives, ways of communication used in informing the retrenchment procedure, and providing means to avoid retrenchment. Above all it tries to find and cover the knowledge gap building from the first chapter.

2.1 Conceptual framework

The conceptual framework, Mullins (1999) attributed that retrenchment process takes either positive or negative effects at the organization, thus causing in either success or failure of the organization.

Figure 2.1 Conceptual framework Retrenchment



Source: Mullins (1999)

2.1.1 Firm performance

Performance of the firm can be attained using indicators in efficiency, effectiveness, relevance to stakeholders and financial viability (Dunford 1998). Firm performance is determined by targets and goals. Mullins (2001) defined firm performance as the degree attainment of goals and firm's objective that come from a set of financial and non-financial indicators. Adding on to that, one can indicate that employee morale and firm performance work hand in hand for the reason that of the standing relationship.

2.1.2 The strategy of Retrenchment

Retrenchment is the practice of eliminating costs or expenses in relation to economic challenges spreading in the economy where the firm has been located, Giger (2013). Retrenchment include the reduction number of workers due to redundancy and also the reduction in number of assets within the firm to improve the firm performance. According to the Labour Act (Chapter 28.01), section 12C, reduction of workers is a hash way of sacking an employee's contract for the

determination of decreasing firms' expenses, for the reason of get used to technological variations, and changing the procedure in which the worker is engaged. Mishra (1998) defined retrenchment as deliberate or automated act involved to systematically limit the number of employees in the organization with the main aim of supporting the attainment of firm's mission and vision to meet the profit maximization strategies of the shareholders.

According to Hambrick & Schechter (1983), the cost and asset retrenchment are certainly correlated to turnarounds and firm performance. Business and production slumps also characterize an opportunity to create desirable changes in a company (Whitney, 1987).

2.1.3 Asset Retrenchment

Asset retrenchment is well defined as a decrease in assets for the reason of lessening circumstances accountable for a financial downturn (Robbins & Pearce, 1992). Precisely, asset retrenchment includes the cutbacks in property, plant closings, layoffs, divestitures (sell-offs, spin-offs and equity carveouts), cutbacks in property and equipment and inventories.

2.1.4 Cost Retrenchment

Reliable with previous research, Barker & Mone (1994), cost retrenchment defined as a decline in costs for example the selling, general and administrative expenses, cost of goods sold and interest expenses. Precisely, selling, general and administrative expenses (SGA) comprises advertising expense, research and development (R&D), bad debt expense, commissions, director's fees, engineering expense, foreign currency adjustments, freight-out expense, indirect costs, lease expense, marketing expense, administrative services, pension, retirement, profit sharing, employee insurance, stock-options, salaries, and interest expenses.

2.1.5 Relationship between the retrenchment strategy and Performance

Rendering to the broad evaluation of the retrenchment literatures, typically studies have specified that firm's performance would be influenced by implementing retrenchment that improved

efficiencies carried out by the reduction of costs and the elimination of assets, Miles et al. (1993) DeWitt (1998). These researchers indicated that due to reduction of costs and the elimination of asset, retrenchment has a positive effect on firm performance. A lot of studies have specified that the firm's would be brought by implementing retrenchment, O'Neil (1986); Miles et al. 1993. Lim et al. (2013) identified that there is a statically major relationship between retrenchment and firm performance. Adding on to that, Love and Nohria (2005) discovered that in retrenched year the firm performance is positive. Currently, Lim et al. (2013) and Dominic et al. (2013) discovered that there is a high substantial correlation between retrenchment and the performance of the firm. This is reliable by Schmitt & Raisch (2013), a study sort analysis scholar that specified that retrenchment generate a major and positive influence on firm performance. More interesting outcomes, Morrow et.al (2004) discovered that use of retrenchment strategies will yield different possessions on the performance of the firm, where asset retrenchment is absolutely related to performance development whereas in growth industries cost retrenchment is not related whilst in declining industries, cost retrenchment is absolutely related to better performance although asset retrenchment had a undesirable effect on firm performance. According to the Pearce & Robbins (2008) argues that retrenchment and recovery cam create additional costs that impact turnaround performance negatively. More so, Castro Giovanni & Bruton(2000) depicted that there is no significance retrenchment performance association. Hence, this research hypothesizes: H1: There is a positive relationship between retrenchment and firm performance.

2.1.6 Methods of retrenchment

2.1.7.1 Voluntary retrenchment

According to Mugenda, (2013), voluntary retrenchment is the arrangement among the owner and the worker to be retrenched through the procedure of downscaling, not to claim partial notice and not to claim extra pay in return for compensation of a retrenchment package. An arrangement will come interested in power on taking of the voluntary retrenchment proposition. Voluntary retrenchment provide the room for the workers to decide whether he or she is keen to overturn their contracts and left the organization. This sort of retrenchment implementation offers both parties the benefit. Workers can evaluate the measures and terms and the retrenchment package offered earlier they choose to apply for it. In attendance, no force to receive such retrenchment

and they can still choose to carry on occupied, (Mullins, 2011). Aimed at the owner, this process can assist him or her in eliminating manpower costs such as medical and wage bills.

2.1.7.2 Compulsory retrenchment

Shan (2011) advocated that because of the poor firm performance, companies can reduce the number of workers through use of the compulsory retrenchment. In addition, Wahla (2012) argued that the collection standards for compulsory retrenchment ought to be in good faith, reasonable and clear to all workers and workers must not be nominated for the reason that they are union leaders, pregnant or because of gender. Compulsory retrenchment can also be expressed as the situation on which the firm can select on its own the workers it needs to leave the job in the plant, Schmitt (2013). Harsh economic conditions is the common reason why firms employ compulsory retrenchment since it is no longer in the position to pay its workers.

2.2 Theoretical Literature

2.2.1 Agency Theory

Towards the firm performance, there are only limited studies that had been completed when connecting retrenchment strategy on the way to firm performance with agency cost theory. The accessible source that is capable to relate the topic with the agency theory is developed by Robert T. Kleiman. He advocated that since agency relations in a firm is difficult than any prescribed associations in line for the terms and conditions of between the owner and the manager where the agency theory transmits this in exact moral issues and problems among these two parties. The traditional procedure of agency agreements adopts that leaders must always act in owner's interest.

Jensen and Meckling (1976) and Baker and Anderson (2010) clarify that the agency problem get out of bed as soon as firm managers shot to make best use of their interest at owners' cost. Robert advocated that, in the situation of reduction in costs and reduction of asset in large firms, the shareholders are remunerated because of the reduction in operating costs, which in theory may result in reasonable profits.

Conversely, with the notice about the amount of workers retrenched, it should be in light that the shareholders are satisfied or not. Agency theory advocated that administration is responsible for downscaling and they has the aims to please owners and to maximize their prosperity. In this case it is noted that workers are predominantly affected by the shareholders' interests and this situation may arises the question on whether the harm of large number of workers are serve the shareholders' interest or the advantage to the shareholders are corresponding with the hurt perpetrated on the retrenched workers, as specified by Robert.

Robert revealed that customary agency theory marks fewer evidences of what responsibilities and moral shareholders have to their managers, as it was discovered by some spectators. The prominence relies merely on the managers debating what they have a duty to do for the principal with depend on the assumptions that shareholders will pay managers sufficiently for their act. Some academics claimed that shareholders have responsibilities as well. Through use of the above example concerning downsizing workers, a number of scholars would debate that those arrangements are immoral which is hurting the employees in directive to attain improved performance concerning with make the most of owner's prosperity as same as with the agency theory, managers are seen as to consume moral duties to the owners.

According to Robert, in any situation with the undesirable assumption where the managers only satisfy their own interest forgetting their owners' interests, it proves the declining state of moral obligations. Managers will be unwilling to reorganize the corporate such as eliminating assets, since commanding a protective strategy such as the retrenchment showing their incapacity to hold difficult task. The agency theory correspondingly indicating that there is an option for administrator to execute retrenchment as the short way of pertain their position, and as a way of presenting their authority as a result of superiority and self-regard. (Anderson and Reeb, 2003)

2.2.2 Resource Base View Theory

It is notable that researches on the Resource Based View originated in 1980 by Wernerfelt (1984) and was followed by Barney (1991) and Barney and Hesterly (2007) who developed the conventional hubs of RBV acceptance in strategy and are also the pioneers to hypothesizing about this approach. Resource base view (RBV) theory advocated that there should be a relationship between the retrenchment strategy and firm performance. Theory clarifies retrenchment as fresh

basis for firm to realize competitive advantage (Reddy and Xie, 2017). RBV theory claims that organization should have to look inside the institute to treasure the best and efficient bases rather than looking at the competitive environment for it. They advocated that firm is more possible to feat chances using current properties rather than annoying to procure new skills and properties for each corporate encounter. Narrate back to retrenchment strategy, reducing assets and eliminating cost influence abundantly more capable source for the company to achieve its greatest performance. Barney and Hesterly (2007), precisely indicated that RBV can be clarified by the features control and diverse volumes that can be employed by firm to generate and implement strategy for the reason of the competitive advantage.

In Barney's vision and Hesterly (2007) and Hitt, Ireland and Hoskisson (2008) the changes in the performance of firm over a period of time are mostly due to their resources and competence regardless of sector's characteristics. Penrose's thoughts (2009) concerning RBV, is that firms must be understood as a set of dynamic resources, and that various firm have different sets of these dynamic resources. He indicated that, resources themselves are not the inputs in the production process, but the services they can provide. Strength and weaknesses of the firm must be directed to the firms' resources that contain tangible and intangible assets (Wernerfelt 1984). Collins (1994) advocated that tangible assets are those which can be recognized quantitatively and are at ease to assess while the intangible assets are those whose identification and dimension are more problematic and it includes brand, culture, technological knowledge, learning and accumulated knowledge.

Daft (1983) clarifies that the firm's resources comprises all assets and competences, skills, processes and organizational attributes, information and knowledge that are obtainable and controlled by the firm, as well as allowing them to be used in order to trace strategy more adherent to the business, creating value above the market average over a period of time.

According to Massukado and Teixeira (2008) there are plenty of concepts that address the meaning of organizational resource within the literature. Barney (1991) proposes the Organization of resources and capabilities in four dimensions, namely: financial, physical, individual and institutional capital. Organizations can obtain competitive advantages in the market or industry in which they operate in a sustainable manner if they take into account two basic aspects: the heterogeneity of resources between organizations and immobility of resources (Barney and

Hesterly, 2007). The heterogeneity of resources indicates that, for certain classes of activity, some companies may be more relevant than others to carry out their operations. Immobility of resources means that if a company has valuable resources and capacities that a few other companies have, competitors may consider it very expensive to copy them. This will give the company that already has such resources and expertise, competitive advantage that is sustainable and not just temporary (Barney and Hesterly, 2007).

2.2.3 Competitive dynamics theory

Competitive dynamic can be defined as the way on which the firm compete within the operational environment (Hitt, Ireland & Hoskisson, 2001). Outcomes of the organization's strategies can be influenced by the competitive interface. The effectiveness of any strategy chosen by any firm is determined by anticipating the moves and countermoves of its competitors within the industry (Chen, 1996). Firms within an industry have mastered the art of anticipating and taking into consideration the likely responses of their rivals when formulating strategy (Gimeno, 1999).

It is suggested that companies use a wide range of factors in accessing competitive dynamics within their industries (Chen, 1996). Competitive dynamics theory considers stages of industrial evolution. These include evolving, growth, maturity, and decline stages. According to Folta (1998), these stages are recognized as having a significant influence on a firm's competitive dynamics. The growth rate of an industry regularly influences any firm's competitive dynamics. For instance companies in growth industries will dedicate resources to innovation, development of new capabilities and market research (Dodge et al., 1994). These firms have to keep developing, exploiting new products and opportunities to fend off existing competitors and new entrants into the industry (Tegarden, Hatfield & Echols, 1999). All these efforts will require substantial amounts of investments in research and development, production, and marketing in order to keep pace with the ever-growing industry (Herbert & Deresky, 1987). The above arguments have negative implications in reversing the declining performance of firms in growth industries.

According to Hitt et al (1996), cutting and implementing strict cost controls tend to reduce new innovations yet firm there are a central part of competition in growth industries. The nature of competition is such that firms should take an aggressive competitive posture (Grimm & Smith,

1997). To avoid declining performance, firms must increase their marketing efforts. If firms incurring losses, cut their costs while their competitors are increasing expenditures, they are likely to fall behind in terms of innovations and likely miss out markets gains (Herbert & Deresky, 1987). If a firm in a growth industry engages in cost retrenchment strategy, it is unlikely to enhance its competitive position. Cost retrenchment strategies may lead to declines in firm performance. The theory suggest that cost retrenchment have a positive effect on performance amongst poorly performing entities in declining industries.

2.2.4 Strategic factor market theory

The strategic factor market theory is generally applied in analyzing the cost of acquiring resources necessary in the implementation of a firm's marketing strategies (Barney, 1986). If the strategic factor market for any market is perfectly competitive, the resource costs will be the same as its economic value. Companies that utilize markets in acquiring resources required, generally are unable to earn greater than a normal return from the use of those resources (Barney, 1986). The strategic factor markets concept sheds light in understanding the impact of asset sales by lowly performing firms. For instance many firms in growth industries that are acquiring assets such as property, plant and equipment will exploit the new opportunities that are developing in the market whilst the poorly performing are likely sell assets they have been underutilizing. These assets are of great importance to the competing firms in growth industries. Growth firms can quickly acquire and deploy these assets in order to increase their capacity and take advantage of the growth opportunities. Selling unproductive assets enables retrenching firms to fully focus on assets they can utilize most efficiently. In relation to this argument, asset retrenchment will have a positive effect on the performance of poorly performing firms in growth industries.

Strategic factor markets theory also provides an important insight on asset retrenchment for firms in declining industries. While they are supposed to focus on efforts that increase efficiency (such as cost retrenchment), the efficacy of asset retrenchment strategy in increasing firm performance may however be hampered if the firm's resources have limited value outside the company (DeWitt, 1998). Assets that are firm-specific will attract a lower price in the strategic factor markets.

2.3 Empirical Literature

2.3.1 Competitiveness

Competitiveness refer to the capacity and performance of a company to provide the goods and services in a specified market in response to the capacity and performance of other companies in the identical market. In research carried by Jane et al (2001) discovered that for the period of the recession in 1999 continental airlines changed its strategy and get on a restructuring exercise through downscaling lead to removal of some workers for the reason of them to become more competitive largely from Delta airlines.

Also, a research carried out by Ochieno (2011) on retrenchment method implemented by Telkom Kenya in try to get ready of privatization in May 2006 in contrast point out a positive change at TKL with better service delivery with application of new wireless technology and trademarks that were competitive in specified market. In these developments, a change in universal values and at the workplace has been mentioned and also the improvements in financial criteria has been indicated through the firm's revenue cycle. As compared to the other rivals of TKL like the Safaricom and Airtel, goods and services that has been provided by the TKL had been rated 76% in the market.

The study carried in Japan by Chalos (2014) demonstrates that productivity of Japanese companies increased continuously due to retrenchment procedures. Experimental evidence on survey conducted by Redman and Wilkinson (2013) in America specified that productivity of American Companies increased continuously after retrenchments process. Also, Redman and Wilkinson (2013) emphasized that the main motive why American companies' profits improved after retrenchment was because firms turn out to be focused on their essential trade after shutting down all unproductive segments.

2.3.2 Cloning

This motive includes copying rival's guidelines and policies of refining business for the reason of remaining competitive in the market. For instance, Econet Zimbabwe discovered the internet

services that led to firms such as Telecel and Netone to copy the strategy. Independent Communications Authority of South Africa in 2014 conducted survey that indicated the retrenchment that has been done by MTN in 2014, and that led all companies in Telecommunications business to retrench their workers by the year ended.

Kwamboka, Nyakundi, Nassiuma and Bernard in 2017 carried out the research assessing the effects of retrenchment strategies on firm performance in a manufacturing sector. The study was conducted in Kenya at Unga milling companies' ltd and it was grounded on the Institutional Theory on downscaling where the research was targeting 436 workers of that company. A sample of 148 workers was chosen for the research. The questionnaire was mainly used as tool to collect the corresponding and inferential statistics techniques were used for the data analysis and results indicated that there is negative relation between the reduction of workers and the firm performance since the outstanding workers were indicating a poor attitude in the direction of the company's performance. Companies who improperly addressing retrenchment are more likely to make poor decisions.

In the research carried out by Ozkanli and Bumin (2006), directing to measure the development in financial performance due to retrenchment concerning companies listed on the Istanbul Stock Exchange, the studies decided that most of the companies find it difficult to realize their anticipated aims concerning retrenchment. In addition, retrenchment had general negative influence on stock market prices of the correlated companies.

2.3.3 Technology

Introduction of the new technology into the firm's system can directly retrench the workers who could not highly skilled to cater for the new technology. Appleton et al (2004) carried out a survey in Toyota Motor Company downscaling because of the arrival of effective and efficient technology which completed processes easier. In contrast, this led to lose of revenue in training of the workers. The technical reason for downscaling is conversely comprehensive, it can be due to internal and external technical change and mutually the firm cannot proceed without employing the retrenchment strategy. For instance, ZIMPOST and Telone their tasks were troubled by the technological evolution of internet gadgets that caused the reduction in their income, and for them to improve the workforce they had to adapt the technology through retrenchment.

In the research carried by Cascio et al. (1997), retrenchment processes carried out within the period of 1980s and 1990s indicated that they failed to stand for the improvements of productivity. Cascio (2014) postulated that once more reputable that firms which had applied retrenchment between 1981 and 1990 failed to cater reasonable financial performances as supported by the research carried by Cascio and Young (2003) presented that firms that acquired retrenchment appreciated lower profitability than stable employers due to technological advancement.

2.3.4 Cutting Costs

Companies downscaling only because of reduction in returns or because of anticipating that the profit will drop in near in the future. Research carried out by Riley (2012) indicated that Phillips electrical company reduced its costs through downsizing especially the reduction in wage bill, and because of that the firm had undertook a wrong area it resulted in financial instability. As compared to a research carried out by Burda (1993) in United States of America hospitals were reducing their workers so as to reduce the pointless expenditures and focus more on procurement of drugs and 23 valuable medical equipment and this enhanced the organizational performance since their main aim is to offer better medication facilities.

In the research carried out by Bailey et al (2009) MG Rover a car manufacturing industry weakened due to layoff of 300 employees which was intended to reduce costs and uphold a competitive advantage. This was caused by the reduction of skilled workforce and insecurity of the remaining workers as they fear that any time the management might get on to another downscaling exercise. Adding on to that, workers lost their self-esteem due to long operational hours for the reason of covering the gap of the retrenched workers.

Adding on to that, Chalos (2014) specified that, shutting down of unproductive segments; removal of outdated assets and come to a close the production of other goods and services ultimately increase the returns of the firm. In contrast, retrenchment may not always cause an improved productivity. “Retrenchment merely is not sufficient, the reduction of wokers, which could be the corresponding of company downfall” (Hamel and Prahalad, 1990).

Hitt et al. (1994), discovered that engaging retrenchment without education leads to some kinds of harms. The loss of energetic firm's memory is one of the undesirable and costly effects organization have experienced in retrenchment. Poor management in the firm increased the loss of skills and experiences in the workplace as workers leave the organization. A number of firms in Zimbabwe have also downsizing to maintain their companies alive. Sengwe (2013) carried out a study on National Foods Holding Limited Bulawayo indicated different results from other investigators who studied on the same topic.

2.5 Research Gap

Studies carried out by Sikayena, Amoah and Ankomah (2017) concentrated on the influence of retrenchment on workers performance and firms' productivity in the mining sector but with no correspondence on financial performance aspect of retrenchment. Adding on to that, the research was mainly directing on the mining sector whereas the researcher targets to examine the influence of asset and cost retrenchment on financial performance of the firms operating in the manufacturing sector. This research will supplement to present literature on retrenchment and it drives a slight additional by evaluating the encounters faced, endorse methods to increase the usefulness of the retrenchment process.

2.6 Chapter Summary

The chapter was concentrated on investigating the views of other studies and literature associated to the research in concentration for the reason of discovering a research gap under which the researcher will commence on his research. The following chapter will be concentrating on the research methodology, expressing how the study will be coordinated and managed, the instruments to be used and finally the techniques which will be used in conducting the study.

CHAPTER III

Research Methodology

3.0 Introduction

This research will be in a position to use the secondary data from annual published financial statements of National Foods Holding Limited Zimbabwe for every year because the data are deliberated dependable and the annual reports are prepared centered on consistent accounting principles in the firm from 1990 to 2020. Quantitative method will be implemented in for the reason to test the relationship between the independent variables and dependent variable. Main aim of using the quantitative method is that, it is appropriate to examine the data and make evaluations from large quantities of data and the results produced work as a measure of the firm's performance.

3.1 Research Design

Research design defined as a comprehensive technique used for conducting the study, which allow the researcher to interpret the theoretical hypothesis into real situation, Akhtar (2016). This type of design has a major influence to the accuracy of the outcomes, Creswell (2014). Under the study, a combination of correlation and descriptive designs are going to be used for the prediction of the essential and external strength to the study.

3.1.1 Descriptive Research

Creswell (2014) advocated that a quantitative type of search design always in position to express the state of the current research through make most use various topics to define the phenomenon.

Descriptive research typically takes unprocessed data and summarizes it in a practical system and it is proper for this research since it involves the management of unprocessed data to make it possible for predictions and approximations without any altering the state of the respondent's operational environment.

3.1.2 Methodology

Trying to find out the impact of retrenchment on firm performance the study will employ the Ordinary Least Squares (OLS) technique to estimate firm performance equation using Performance as the dependent variable. Also, the study is considering the use of National Foods Holdings Limited annual financial reports data from 1990 to 2020. The parameters created by the OLS method suit the best linear and unbiased estimator (BLUE) conditions. In the model, there is an error term for the OLS process to satisfy the influence of undetermined aspects.

3.2 Theoretical Model Specification

3.2.1 Baseline Model

In line with the past study, the baseline model of this study contains of firm performance factors, such as firm size, growth, leverage, and profitability (Schmitt & Raisch 2013). The size of firm (SIZE) is measured using the log of total assets. Meanwhile, growth opportunity (GROWTH) is measured by the capital expenditure to sales ratio. The profitability is measured by the operating income to sales ratio (OIS), and leverage (LEV) is measured by using the ratio of debt to common share equity. Baseline model is now presented as follows.

$$Firm\ Performance = f(SZ, GRO, PRO, LEV)$$

Where:

SZ = Size

GRO = Growth opportunity

PRO = Profitability

LEV = Leverage

In this study, to empirically estimate the model proposed above the researcher combined all financial reports and estimate the following regression model:

$$PER_{it} = \beta_0 + \beta_1 SZ_{it} + \beta_2 OIS_{it} + \beta_3 GRO_{it} + \beta_4 LEV_{it} + \mu_{it} \dots\dots\dots(1)$$

Where:

PER = firm performance

SZ = log of assets or the firm size

OIS = the ratio of operating income

GRO = the capital expenditure

LEV = the ratio of debt to common share equity

3.2.2 Retrenchment Strategy (RET)

Retrenchment strategy (RET) is defined as the practice of eliminating costs or expenses in relation to economic challenges spreading in the economy where the firm has been located, especially in action of the reduction of the finished goods and inventory, the reduction of the number of employees, the reduction of SGA, the reduction of PPE, and the reduction of R&D costs, Giger (2013). Following accounting calculation of reduction, the difference is calculate by assets/cost of t year period minus assets/costs of t-1 year period. For example, 2019 is equal to inventory from 2019 minus inventory from 2018. This method is common method to reveal the reduction movement. Note that reduction of number of employees is included in the sales, general, and administrative expenses. The formula calculation is presented in index measurement. Higher value

of retrenchment indicates how active a firm imposing retrenchment strategy. The formula is as follows.

$$RET = \Delta Inventory + \Delta Sales\&General\ Expenses + \Delta Research\&Development\ cost + \Delta Properties,\ Plant\&Equipment\ cost \dots\dots\dots (2)$$

The above calculation is presented in index measurement. A higher value of RET indicates how active a firm is at imposing retrenchment strategy. Hence, RET is introduced into Model 1, and the model is as follows:

$$PER_{it} = \beta_0 + \beta_1 SZ_{it} + \beta_2 OIS_{it} + \beta_3 GRO_{it} + \beta_4 LEV_{it} + \beta_5 RET_{it} + \mu_{it} \dots\dots\dots (3)$$

Where:

RET = the retrenchment value.

3.3 Model Specification Test/ Measure of goodness of fit

The researcher will employ the specification tests for the reason of choose the best model can suit the data. The research will employ F- test and the R squared in this model. Regressors explained that, R squared measures the ratio of variation in return. R squared fall in region criterion between zero (0) and one (1), where 0 denote the total absence of fit and 1 denote a perfect fit. However, the most consequence of employing the R squared is the accumulation of more regressors in the model that will be forcing the increase in the value of R squared. The F-test regulates the significance of the entire model. Both F-test and R squared yield the same results.

3.4 Definition and Justification of the Variables

3.4.1 Controlled Variables

This study realized the previous research baseline model which comprises of firm performance factors such as firm size, growth, leverage and profitability (Schmitt & Raisch, 2013). In contrast, the researcher will eliminate the variable profitability for the reason to avoid any joblessness which a profit variable is assessing a profit ratio of performance. Hence, it leaves out with implementing the firm performance influences of firm size, growth opportunities and leverage.

3.4.2 Firm Size

Firm size is measured by total assets logarithm. Also, firm size has been revealed to affect the capability of managers to make essential changes in the face of environmental pressures. Firm size was operationalized as the log of total firm workers. (Klapper & Love, 2004) postulated that growth opportunities can be result from firm size and this will later on positively affect firm performance. In contrast, Pignatelli (2014) propose that a large firm size may generate major agency conflicts between managers and owners, which will negatively influence firm performance.

3.4.3 Growth Opportunities

Growth opportunities are measured by the Market-To-Book ratio. Gul (1999) proposed that there is inverse correlation between growth opportunities and firm performance. According to Smith & Watts (1992) an intensification in growth opportunities may perhaps result in retrenchment in managerial performance. In contrast, the presence of growth chances can lead to money making investment projects that will positively influence firm performance.

3.4.4 Leverage

Debt to equity ratio is very important ratio to measure the financial leverage. This ratio shows that how much companies use debts to operate its financial activates. It also shows the relationship of debts and the value of equity. Debt equity ratio use by (Pignatel 2014) under their studies.

3.5 Diagnostic Tests

In this research, Diagnostic tests will be employed which includes testing for multicollinearity, normality, heteroscedasticity, autocorrelation, stationarity and others.

3.5.1 Multicollinearity

Multicollinearity denotes to a condition where the variables of the model move together in a logical mode. For instance, when firm size, growth opportunities, retrenchment and leverage have a systematic relationship in which they collectively change in the same way. Multicollinearity can be tested using the correlation matrix between the variables and it denotes that maximum correlation coefficient should be below eighty percent.

3.5.2 Normality

Normality shows whether the stochastic are normally distributed. Stochastic refers that the explanatory variables, that are size, growth opportunities, leverage and retrenchment might not completely depicts the exact outcomes, and might end result in contrasting outcomes in the real world standings. Jargue-Bera test used to test the normality and when the residuals for the variables are not normally distributed, then the hypothesis test and interval estimation would be affected and the OLS assumption of normality can be violated.

3.5.3 Auto correlation

In this research, Auto correlation test used to regulate whether the model used to depict the tendency of relationship among the explanatory variables (size, growth, leverage and

retrenchment) and performance as a dependent variable. Auto correlation described as the relationship amongst records in the sequence of observations arranged in time. Also, Classical Linear Regression Model (CLRM) adopts such correlation excludes in the error term ($\mu = 0$). When the expectation is not equal to zero ($E(\mu) \neq 0$), it means that there is presence of auto correlation. The problematic associated with auto correlation is that even though estimators are unbiased in contrast, they will be inefficient since they are not consume smallest variance. If there is large variance it intends that tests for significance are weak and they will yield large confidence interval that will be tested using Durbin Watson (DW) test statistics (Gujarati, 2004). In the criterion region two (2), DW test statistics indicates the nonexistence of auto correlation. The nearer the value to zero, the larger the indication of positive serial auto correlation. In contrast, if the DW statistics is in the locality of 4, then there is larger indication of negative serial auto correlation (Gujarati, 2004). If DW statistics falls in the uncertainty zone, LM becomes the alternative test.

3.5.4 Heteroscedasticity

Heteroscedasticity come into effect when the variance of the error term for explanatory variable firm size is not constant for all other error terms of the explanatory variables which are growth, leverage and retrenchment. The Breusch-Pagan-Godfrey test will be used to test for heteroscedasticity. The null hypothesis under the estimated model is that the error terms are heteroscedasticity against the alternative hypothesis which states that the error terms are heteroscedastic. The null hypothesis will be that the error terms have a constant variance.

3.5.5 Coefficient of determinant (R^2)

Goodness of fit can be measured using the coefficient of determinant (R^2). R^2 shows the explanatory variables (size, growth opportunities, leverage and retrenchment) that clarifying the variation of the model and the greater the value that is nearer to 100% intends that the model acceptable for the data. For the purpose of confirming the quality of the data the adjusted \bar{R}^2 is also used.

3.5.6 F- test

In this research, the implication of the entire model the F-test is used and the probabilities shall be used. Each variable's influence tested by the t-test separately.

3.5.7 Test statistics (t- statistics)

T-statistic is used to regulate whether the projected coefficients of separate explanatory variables are statistically significant or not. If the coefficient value falls in the rejection region, that is, greater than 2 at 5 % significance level, the indicator is said to be statistically significance and we reject the null hypothesis (Gujarati, 2004). Using the same demonstration, a test is alleged to be statistically insignificant provided that the value of test statistic falls under the acceptance region. Under that condition we fail to reject the null hypothesis. Using the rule of thumb if the t-value is greater than 2 at 5% significance level therefore the null hypothesis can be rejected (Gujarati, 2004). This intends that if the t- value calculated for a variable such as leverage exceeds 2 then the variable will be significant in explaining changes in firm performance at 5% level of significance.

3.5.8 Stationarity Tests

Stationarity tests prepared by means of the Augmented Dickey Fuller (ADF) events, where variables that are not stationary are corrected to be stationary by first differencing. In this study all the explanatory variables were made stationary by first differencing. Testing for cointegration between two or more non-stationary time series using the Engle Granger approach, involves running an OLS regression, saving the residuals and then running the ADF test on the residual to determine if it is stationary. The variables are said to be cointegrated if the residual is stationary.

3.6 Data Source

In this research, data for performance and retrenchment are fetched from the annual reports of National Foods Holdings Limited include the total revenue and total market of the firm. This basis

of data delivered modernised statistical data on variable approximations. In order to ensure accuracy, reliability and objectivity of the secondary data, precautions were made.

3.7 Data Choices

The researchers chose secondary data.

3.8 Data Collection

The analysis in this research will use time series dataset of firm size, growth opportunity, leverage and retrenchment for National Foods Holdings Limited from 1990-2020 retrieved from Annual Reports.

3.9 Conclusion

This chapter focused on the methodology to be used and the several events to be undertaken in the analysis before the interpretation of results and these procedures include normality, multicollinearity, heteroscedasticity, autocorrelation and stationarity as diagnostic tests. Validation of the explanatory variables (size, growth, leverage and retrenchment) was also included. The chapter covered the technique for data presentation and analysis. The next chapter covers data presentation, interpretation and discussion of the research findings it makes an analysis of the data and the data is presented in the form of tables. The software to be used by the researcher for regression analysis will be Econometric Views.

CHAPTER IV

DATA PRESENTATION AND INTEPRETATION OF RESULTS

4.0 Introduction

This chapter presents and analyses the information collected from National Foods Holdings Limited through annual reports. The researcher would see that it makes no sense to conclude that firm size, the ratio of operating income, growth, leverage and retrenchment are the determinants of firm performance without use of actual data to do some empirical tests. In this study regression analysis used in order to answer the research questions in chapter one and to realize if there is relationship between firm performance and retrenchment. In this chapter, the main focus of presentation and analysis of data are firm performance (PER), size (SIZ), operating income (OIS), growth (GRO), Leverage (LEV) and retrenchment (RET) where the outcomes of empirical tests will show the bases of conclusion drawn. Econometric views (E-Views) software will be used for data analysis through Ordinary Least Squares (OLS).

4.1 Empirical analysis

Empirical analysis carried out to show the outcomes which indicates the degree on which the firm performance, firm size, operating income, growth, leverage and retrenchment determine National Foods Holdings Limited using time series data from 1989 to 2020. The main assumption is that, the time series variable are stationary, therefore it is difficult to carry out the Augmented Dickey Fuller Unit root test. All variables are then presented in log form for the reason to get rid of variability in statistics set.

4.2 Descriptive statistics

Descriptive statistics be responsible for the suggestion that this model have no extreme values and the data set is open from the effect of outliers as shown by the table 2. Across all six variables there are small standard deviations and range across and the small range indicates that observations are gathered around their means, intends that there is no extreme behaviour within variables. Kurtosis and Skewness are also measured confirming acceptable ranges of the used data.

Table 2: Descriptive statistics of all the used variables in the study

	PER(\$b)	SZ(\$b)	OIS(\$b)	GRO(\$b)	LEV(\$b)	RET(\$b)
Mean	0.029097	0.030935	0.034516	0.031065	0.021871	0.017258
Median	0.028000	0.032000	0.035000	0.031000	0.022000	0.017000
Maximum	0.038000	0.037000	0.043000	0.038000	0.028000	0.025000
Minimum	0.021000	0.021000	0.023000	0.025000	0.014000	0.012000
Std. Dev.	0.005055	0.003847	0.005105	0.003376	0.003170	0.003678
Skewness	0.091891	-1.253923	-0.583518	0.255282	-0.250194	0.542700
Kurtosis	1.701038	4.210099	2.899704	2.649914	2.826200	2.334025
Jarque-Bera	2.223057	10.01510	1.772208	0.495013	0.362436	2.094585
Probability	0.329056	0.006687	0.412259	0.780745	0.834254	0.350886
Sum	0.902000	0.959000	1.070000	0.963000	0.678000	0.535000
Sum Sq. Dev.	0.000767	0.000444	0.000782	0.000342	0.000301	0.000406
Observations	31	31	31	31	31	31

Source: E- views Statistical Package (2019)

R-squared 0.668478 Durbin-Watson stat 0.957608

Adjusted R-squared 0.622173

Prob(F-statistic) 0.142369

Prob(F-statistic) 0.142369

The table 4.2.1 portrays the descriptive statistics usually used in this study that comprise standard deviation, mean, maximum, minimum and other measures of dispersal of National Foods Holdings Limited. Measures of minimum and maximum are typically used to look out for the outliers in the data set. The number of observation is 31 for each single variable. As shown by the table above Leverage (LEV) and Growth (GRO) have the smallest standard deviation 0.03170 and 0.03376 correspondingly representing that inconsistency is at its lowest level shows that there is uppermost consistency in these variables when it comes to explaining variations in Firm Performance (PER).

Firm Performance indicated by PER has the average of \$0.029 billion and this indicates that from 1989 to 2020 National Foods Holdings Limited has experienced \$0.0029billion annual performance rate and the minimum and maximum was \$0.021 billion and \$0.038billion respectively. This implies that there is no outliers in the Firm Performance inconstant since there is a minor difference between the minimum and maximum. Adding on to that, the Retrenchment rate is increasing by

The average firm size value is \$0.031 billion with a maximum of \$0.037billion and a minimum value of \$ 0.021billion. Also, the table shows that operating income for the firm is increasing by \$0.035 billion on average. Retrenchment value of the National Foods Holdings Limited has a maximum of \$0.025billion and the minimum of \$0.012 billion and the leverage's participation in firm performance increased by an average of \$0.022 billion.

4.2 Results of the Model's Diagnostic Tests

4.2.1 Stationary Results

Granger et al (1987) postulated that the time series data used in the study is typically related with false results that caused by non-stationarity of data, therefore is more reliable to test whether the data is non or stationary earlier the approximation of any econometric with time series data. Gujarati (1995) articulated that, when the data is stationary it really suggests the rationality of all convectional approximation techniques in order to produce expressive and suitable results used for forecasting. This research make use National Foods Holdings Limited annual report time series data and the stationarity test for all variables will be completed and presented as shown by the results below.

4.2.1.1 Unity root test 1990-2020

This study use the unit root tests to look for stationarity of six variables (PER, SZ, OIS, GRO, LEV and RET). For testing stationarity, the null hypothesis (H_0) state that data is non-stationary meaning that there is unit root while the alternative hypothesis (H_1)state that data is stationary meaning that there is no unit root. When Augmented Dickey-Fuller (ADF) t-statistic exceeds the critical value of 1% and 5%, we reject the null hypothesis.

Table 3: Stationary results at level

VARIABLE	T-STATISTICS	1% SIGNIFICANCE LEVEL	5% SIGNIFICANCE LEVEL	ORDER OF INTERGRATION
PER	-2.810197	-3.670170	-2.963972	Non-stationary
SZ	-2.115350	-3.670170	-2.963972	Non-stationary
OIS	-5.041131	-3.670170	-2.963972	Stationary
GRO	-4.085212	-3.670170	-2.963972	Stationary
LEV	-4.923932	-3.670170	-2.963972	Stationary
RET	-5.750138	-3.670170	-2.963972	Stationary

Source: E-views Statistical Package (2019)

The table above shows that, at level only firm performance (PER) and firm size (SZ) suffer nonstationarity at t-statistic -2.810197 and -2.115350 respectively. The ADF test statistics for PER and SZ are less than critical values of 1 and 5 percent. This possibly means that the researcher failed to reject the null hypothesis which state that variable are non-stationary and conclude that at level, variable are not stationary. Consequently, the approximation of non-stationary model yield inefficiency results that forced the researcher to further take into account an ADF test at first difference. The table 4 below specifies the ADF test statistics at difference.

Table 4: Unit Root Test at first difference

VARIABLE	T-STATISTICS	1% SIGNIFICANCE LEVEL	2% SIGNIFICANCE LEVEL	ORDER OF INTERGRATION
PER	-6.446479	-3.679322	-2.967767	Stationary
SZ	-5.559720	-3.679322	-2.967767	Stationary

Source: E-views Statistical Package (2019)

Table 4 above shows that there stationarity in firm performance (PER) -6.446479 and firm size (SZ) -5.559720 t-statistic exceeds the critical values of 1% and 5%, therefore we reject the null hypothesis and conclude that there is no unit root test at first difference.

4.3 Diagnostic tests

4.3.1 Autocorrelation

Durban Watson (DW) statistic used to test for autocorrelation. The problem of autocorrelation can be indicated when the DW static value strays prominently from 2. In chapter III, it was indicated that the DW test can be tested using the null hypothesis states that there is autocorrelation in the model and the alternative hypothesis state that there is no autocorrelation in the model. For the researcher not to reject the null hypothesis, the Durbin Watson should be equal to 2 and provided that the F-test probability value is significant at 10%, the researcher fail to accept the null hypothesis if the value is less than 10% that is 0.1, that means the model is suffering autocorrelation. Therefore, from the least squares estimated equation number three in chapter III, the researcher found a DW statistic of 0.957608 which is less than 2 hence failed to make a sound decision that leads the researcher to use the Breusch-Godfrey Serial Correlation LM test.

Table 5: Breusch-Godfrey Serial Correlation LM test

F-statistic	3.936185	Prob. F(2,23)	0.0339
Obs*R-squared	7.904916	Prob. Chi-Square(2)	0.0192

Source: E-views 7 Statistical Package (2019)

As shown by the table 5 above, the F-statistical probability value for the serial correlation LM test is 0.0339 which is less than the 0.1 the significant level at 10% therefore, the researcher reject the null hypothesis and conclude that the estimated model is suffering from autocorrelation.

4.3.2 Multicollinearity

Multicollinearity is the situation where by the model's independent variables are highly correlated. The correlation matrix table below shows that there is multicollinearity in the estimated model, subsequently all the variable have values below the rule of thumb 0.8. This indicates that the association amongst the explanatory variable is not that strong thus the effect of one variable to the other is easy to establish.

Table 6: Correlation matrix

	PER	SZ	OIS	GRO	LEV	RET
PER	1.000000	0.341453	0.309293	0.042593	-0.336146	0.257029
SZ	0.341453	1.000000	0.254697	0.169759	-0.019841	0.240284
OIS	0.309293	0.254697	1.000000	0.069575	-0.214092	0.018452
GRO	0.042593	0.169759	0.069575	1.000000	0.084905	0.037546
LEV	-0.336146	-0.019841	-0.214092	0.084905	1.000000	-0.207011
RET	0.257029	0.240284	0.018452	0.037546	-0.207011	1.000000

Source: E-views 7 Statistical Package (2019)

4.3.3 Heteroscedasticity test

Under this study, the researcher use the Breuch-Pagan-Godfrey to test the heteroscedasticity in the estimated model. The null hypothesis state that the error terms are heteroscedasticity whilst the alternative hypothesis which states that the error terms are heteroscedastic. We can fail to accept the null hypothesis if the p value in relative with the F-statistic significant at 10% is less than 0.1.

Table 7: Breusch-Pagan-Godfrey Test

F-statistic	0.979824	Prob. F(5,25)	0.4494
Obs*R-squared	5.079506	Prob. Chi-Square(5)	0.4063
Scaled explained SS	2.543950	Prob. Chi-Square(5)	0.7699

Source: E-views 7 Statistical Package (2019)

The above results shows the F-statistic p value of 0.4494 is greater than 0.1. Therefore, we accept the null hypothesis and conclude that the model is not suffering the heteroscedasticity. This implies that the variables of the model are homoscedasticity.

4.4 Estimation of results

Below are the results obtained from the estimation of equation.

Table 7: OLS estimation results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.020872	0.012490	1.671048	0.1072
SZ	0.335695	0.243291	1.379808	0.1799
OIS	0.183301	0.180466	1.015708	0.3195
GRO	0.005303	0.261352	0.020292	0.9840
LEV	-0.419836	0.288166	-1.456923	0.1576
RET	0.023611	0.031061	0.760137	0.4543

Source: E-views 7 Statistical Package (2019)

R-squared 0.668478 Durbin-Watson stat 0.957608

Adjusted R-squared 0.622173

F-statistic 1.835063

Prob(F-statistic) 0.142369

$$PER_{it} = 0.020872 + 0.335695 SZ_{it} + 0.183301 OIS_{it} + 0.005303 GRO_{it} - 0.419836 LEV_{it} + 0.023611 LEV_{it}$$

The outcomes proved that the adjusted R-squared is 0.648478 showing that 64% of the variations in PER are described by the changes in the explanatory variables (SZ, OIS, GRO, LEV, and RET). The Durbin Watson of 0.957608 is less than 2 which means that there is serious problem of serial correlation and also F-statistic of 1.835063 and the probability (F-statistic) of 0.142369 is statistically significant at 1%. All the statistical significant showed that the model is correctly specified.

4.5 Interpretation of the results

The outcomes of the research are very motivating since they follow the same sequence of other researcher`s results and showing the relationship between retrenchment and firm performance of National Foods Holdings Limited. Estimated coefficients of the parameters were interpreted as the elasticity of the individual explanatory variable.

4.5.1. Intercept (C)

Holding other things constant, the coefficient of the intercept is 0.020872 which implies that it is statistically significance in the model since the t-static is 1.671048. The intercept reflects the mean effect of other variables not included in the model. For instance, the experience of the workers has influenced firm performance on average, positively.

4.5.2 The Firm Size (SZ)

The results suggest that the coefficient of 0.335695 shows that firm size has a positive relationship with firm performance. This implies that if the National Foods Holdings Limited`s size increase by 1 billion, its performance will go up by 0.34 billion on average. Klapper & Love (2004) postulated that firm size positively affect firm performance. The results of this research indicated that the firm size has statistically significant at 10% significance level; with a probability value of

0.1799 which is greater than 0.1.

4.5.3 The ratio on operating income (OIS)

The results indicated that the coefficient of 0.183301 of ratio on operating income for National Foods Holdings Limited is significant in explaining variations of its performance. For each 1 billion increase in OIS leads to firm performance increases on average by 0.18 billion. This means that the company has maximizes its operation before taxation. OIS has a p-value of 0.3195 indicating the statistically significant at 10% significant level and this proved that there is positive relationship between the operating income and the firm performance. This is reliable by Schmitt & Raisch (2013), a study sort analysis scholar that specified that the ratio on operating income generate a major and positive influence on firm performance.

4.5.4 The Capital expenditure (GRO)

The outcome indicated that capital expenditure of National Foods Holdings Limited has a probability value of 0.9840 which is statistically significant at 10%. It was found that, capital expenditure has the positive effect on firm performance. For each 1 billion increase in capital expenditure, the firm performance go up by 0.01 billion. This implies that an increase in capital spending has not severely affect the firm's performance. Theoretically, capital expenditure affects economic growth positively. According to Folta (1998), these stages are recognized as having a significant influence on a firm's competitive dynamics. The growth rate of an industry regularly influences any firm's competitive dynamics.

4.5.5 Leverage (LEV)

The results indicated that the probability value for the variable leverage for National Foods Holdings Limited is 0.1576 which is statistically significant at 10% and its coefficient is -0.419836, therefore it severely explaining negative effect on firm's performance. The relationship

between leverage and performance is negative. This implies that, for each 1 billion increase in leverage, leads to a decrease in firm's performance by 0.42 billion.

4.5.6 Retrenchment (RET)

The results indicated that retrenchment of National Foods Holdings Limited has a probability value of 0.4543 which is statistically significant at 10% with the coefficient of 0.023611. It was found that, retrenchment has the positive effect on firm performance. For each 1 billion increase in retrenchment, the firm performance go up by 0.02 billion. This implies that an increase in reduction of assets and costs has a severely little effect on the firm's performance. Theoretically, retrenchment affects economic growth positively. Rendering to the broad evaluation of the retrenchment literatures, typically studies have specified that firm's performance would be influenced by implementing retrenchment that improved efficiencies carried out by the reduction of costs and the elimination of assets, Miles et al. (1993) and DeWitt (1998).

4.6 Hypothesis Testing

Under this study, the major hypothesis in chapter one was mentioned as follows:

4.6.1 Hypothesis one (H1)

H₀: There is a positive relationship between retrenchment and firm performance.

H₁: There is negative relationship between retrenchment and firm performance.

From the results it was recognised that there is a significant relationship between retrenchment and firm performance in National Foods Holdings Limited. Therefore the study accept the null hypothesis.

4.6.2 Hypothesis two (H2)

H₀: There is a positive relationship between firm size and firm performance.

H₁: There is negative relationship between firm size and firm performance.

The results indicated that National Foods Holdings Limited's size has a significant positive effect on its performance, therefore the study accept the null hypothesis.

4.6.3 Hypothesis three (H3)

H₀: There is a positive relationship between growth opportunity and firm performance.

H₁: There is negative relationship between growth opportunity and firm performance.

The study indicated that growth opportunities have a positive influence on performance of National Foods Holdings Limited.

4.6.4 Hypothesis four (H4)

H₀: There is a positive relationship between leverage and firm performance

H₁: There is negative relationship between leverage and firm performance

The results from the study indicated that there is a negative relationship between the leverage and performance of NFHL, therefore we reject the null hypothesis. The complete outcome is that the model is the interpreter of firm performance. Adding on to that, the variables that had impact on the results were internal controls that retrieved from annual reports.

4.7 Chapter summary

In this chapter, results estimated and interpreted the regression results which has indicated that firm size, growth opportunities, operating income and retrenchment positively affect performance of National Foods Holdings Limited. The results reject the null hypothesis that leverage have that positive impact on firm performance, since leverage has no relationship performance. Also, the research bring about to answer the research questions and achieve its objectives of examining the relationship of firm size, growth opportunity, operating income, leverage and retrenchment on NFHL. This chapter covered the way for chapter 5 as these findings are the ones used in the overall summary, conclusions, recommendations and suggestions for further studies.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

Basing on this study, the chapter's core determination is to appeal conclusions and make executive recommendations from the outcomes of the study. The research's core purpose will be reaffirmed and the prominence of the study will be confirmed. In addition, the findings will be summarized in relation to each research objective. The constraints that could affect the internal and external validity of the research would also be debated. Last but not least, capacities for more research on the topic will be proposed.

5.1 Summary

The outcomes from chapter four indicated that, generally, the model of the study is an analyst of the results. This really implies that firm size, operating income, growth opportunity, leverage and retrenchment have an influence on business performance in NFHL. The outcomes from data analysis showed that at NFHL retrenchment was done in an attempt to increase firm's performance through cost cutting, improving quality and competitiveness. This is in agreement with several authors in the literature review who were advocating for owner-manager duality for companies quoting the agency problem and the advantages of value creation through technology innovation, entrepreneurial activities, information advantage, investment efficiency, low agency costs and the continued presence of the owner which may lead to establishment of strong ties with the stakeholders of the business. However, only 66.84 % of the variation in firm performance is described by the stated variables.

The study used 30 years sample size of time series data for firm size, operating income, growth opportunity, leverage and retrenchment of National Foods Holdings Limited from 1990 to 2020.

The data used are retrieved from Annual Reports of National Foods Holdings Limited. Data analysis was completed using E-views 7 Statistical Package (2019). Trying to find out the impact of retrenchment on firm performance the study employed the Ordinary Least Squares (OLS) technique to estimate firm performance equation using Performance as the dependent variable. The parameters created by the OLS method suit the best linear and unbiased estimator (BLUE) conditions. Under the study, case study approach design are used for the prediction of the essential and external strength to the study. The narrow database, short time period and nominated variables remained certain of the main limitations of this research. The study was only directed to NFHL. However the future researchers should have to work on more variables that affect the firm performance.

5.2 Conclusion

The study was directed by the requirement to extract the relationship between retrenchment and firm performance in Zimbabwe with the use of NFHL as a case study. Retrenchment was assumed as a universal remedy to firm performance. Though retrenchment failed to fully revive the NFHL over successful firm performance due to inside slight significant effect to the firm performance, this is due to challenges such as failure to properly plan the retrenchment process and lack of employee dedication also government policies. Generally the study proved that retrenchment have to be taken as a last option since increase in reduction of assets and costs has a severely little effect on the firm's performance.

5.3 Recommendations.

5.3.1 Reduce retrenchment

The study recommend that the NFHL should have to reduce retrenchment process risk since reduction in asset and reduction in cost leads to the firm losing its best performs. Some of the expert workers move on to seek other job security elsewhere.

5.3.2 Financial management before retrenching

National Foods Holding Limited should have to avoid retrenchment as a remedy for its performance because compensation packages and also brain drain can take the firm back into the trough. The firm should have to forecast on its financial position. In addition, proper financial analysis management should be applied in the firm and independent auditing should be in a position to facilitate proper financial management.

5.3.3 Planning

Future retrenchment exercises at NFHL should be carefully planned for and involve consultations with key stakeholders, in order to enhance the overall effectiveness of the exercise. It is important for NFHL to do conferences on the development and application of retrenchment as a plan to problem solving. If conferences are not done the firm risk making incorrect decisions resultant in the gap of lawful rules, cooperative agreements and community. Employees are skilful of giving the firm vital visions and also offer another conducts of doing the process to reduce the influence on the labor force and the public.

5.3.4 Communication Channels

It is suggested that NFHL should have to consume two-way communication on impending retrenchment exercises so as to reduce costs, scoffers and stayers condition which are triggered by poor communication. It is crucial to inform workers on how they want to reduce the assets and costs.

5.3.5 Training and development

In light with the results, it is recommended that after retrenchment the organization must care towards the residual assets and workers so as to increase efficiency of NFHL. Outstanding workers

should go through training in the abilities that recount to their occupations and the gap that desires to be marched. Workers should be provided the chance to adjust their knowledge on how could they operate some of the equipment

5.4 Conclusion

The research concluded that, from the data explored above the main variable of this research which the retrenchment strategy has a significant relationship with any of the firm performance. Furthermore, the result enhance the Agency Theory about the advantage of lay-offs for to achieve improved performance for the NFHL. As for the controlled variables, the only variable that has insignificant influence towards firm performance is leverage. As this study follows previous research such as (Riley 2012) firms can quickly acquire and deploy these assets in order to increase their capacity and take advantage of the growth opportunities. Selling unproductive assets enables retrenching firms to fully focus on assets they can utilize most efficiently. Also, there is need for the management to comprehend the inferences of retrenchment, properly plan, whilst taking into deliberations workers needs for the improvement of firm performance through retrenchment. In the matter of theoretical aspect, Robert T. Kleiman stated that investors are satisfied when the NFHL reduced their workers because operating costs are lowered, which in theory may lead to better profits. This research indicated the support on the way to the Agency Theory concerning retrenchment practices being realized in the company.

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APPENDIX A

Raw data in millions before converted into billions retrieved from National Foods Holdings Limited (NFHL).

YEAR	PER(\$M)	SZ(\$M)	OIS(\$M)	GRO(\$M)	LEV(\$M)	RET(\$M)
1990	23.399	31.345	35.463	27.5	19.162	13.99
1991	26.367	32.024	41.034	27.1	19.369	13.51
1992	22.147	34.041	32	37.9	20.396	16.55
1993	21.423	31	44.439	30.7	23.396	16.92
1994	33.251	31.784	34.199	32.8	30.893	17.55
1995	34.334	33.986	37.764	31.2	21.344	15.04
1996	26.452	34.321	39.546	32.4	21.364	13.46
1997	27.349	32.675	23.343	33.4	15.144	12.77
1998	31.055	31.634	41.205	43.4	13.447	14.49
1999	32.489	33.034	33.596	42.32	11.338	14.58
2000	33.379	31.983	36.968	37.3	14.404	18.96
2001	28.467	36.033	23.023	30.85	24.605	22.91
2002	34.357	31.436	36.322	25.435	21.424	24.91
2003	37.352	32.746	34.383	29.22	18.037	20.17
2004	28.453	34.328	42.574	30.8	26.86	25.2
2005	33.486	29.294	56.555	37.184	12.76	23.42
2006	27.097	32.567	35.572	40.103	25.8	23.75
2007	23.986	37.453	29.345	30.026	28.4	19.53
2008	25.399	31.456	30.751	25.092	23	14.87

2009	22.487	28.023	26.764	23.88	26.135	20.35
2010	23.456	26.345	31.263	29	19.032	16.01
2011	25.498	28.945	33.042	27.081	23.601	9.24
2012	28.183	28.067	31.053	32.265	20.011	9.18
2013	24.367	21.254	28.439	34.274	20.828	9.66
2014	26.448	21.368	32.621	29.393	23.507	9.54
2015	32.377	22.897	37.608	31.195	20.571	9.96
2016	36.359	34.497	38.977	23.94	18.348	8.89
2017	37.195	33.493	35.741	30.077	23.073	13.73
2018	34.435	31.256	38.742	41.195	21.194	13.68
2019	36.345	29.277	35.175	32.6443	17.866	13.67
2020	33.451	37.453	37.727	37.127	127.614	12.92

Raw data used in the study in billions

YEAR	PER(\$B)	SZ(\$B)	OIS(\$B)	GRO(\$)	LEV(\$B)	RET(\$B)
1990	0.023	0.031	0.035	0.028	0.019	0.014
1991	0.026	0.032	0.041	0.027	0.019	0.013
1992	0.022	0.034	0.033	0.038	0.021	0.017
1993	0.021	0.031	0.043	0.034	0.023	0.016
1994	0.033	0.032	0.039	0.033	0.025	0.018
1995	0.034	0.034	0.037	0.031	0.021	0.015
1996	0.026	0.034	0.039	0.032	0.021	0.013
1997	0.027	0.033	0.023	0.033	0.025	0.012

1998	0.031	0.032	0.041	0.031	0.023	0.019					
1999	0.032	0.033	0.033	0.032	0.017	0.014					
2000	0.034	0.032	0.036	0.037	0.014	0.18					
2001	0.028	0.033	0.023	0.031	0.024	0.022					
2002	0.034	0.031	0.036	0.025	0.021	0.024					
2003	0.037	0.032	0.034	0.029	0.018	0.02					
2004	0.028	0.034	0.042	0.031	0.026	0.025					
2005	0.033	0.029	0.39	0.037	0.022	0.023					
2006	0.027	0.032	0.035	0.032	0.025	0.017					
2007	0.024	0.032	0.029	0.031	0.028	0.019					
2008	0.025	0.031	0.031	0.025	0.023	0.015					
2009	0.022	0.028	0.026	0.029	0.026	0.021					
2010	0.023	0.026	0.031	0.028	0.019	0.016					
2011	0.025	0.029	0.33	0.027	0.023	0.024					
2012	0.028	0.028	0.031	0.032	0.021	0.018					
2013	0.024	0.021	0.028	0.034	0.023	0.016					
2014	0.026	0.021	0.032	0.029	0.023	0.014					
2015	0.032	0.023	0.037	0.031	0.021	0.016					
2016	0.036	0.034	0.38	0.027	0.018	0.019					
2017	0.038	0.033	0.035	0.031	0.023	0.013					
2018	0.034	0.031	0.038	0.029	0.021	0.013	2019	0.036	0.036	0.035	0.032
	0.018	0.18									
2020	0.033	0.037	0.037	0.037	0.027	0.013					

APPENDIX B: DISRIPTIVE STATISTICS

	PER	SZ	OIS	GRO	LEV	RET
Mean	0.029097	0.030935	0.034516	0.031065	0.021871	0.022484
Median	0.028000	0.032000	0.035000	0.031000	0.022000	0.017000
Maximum	0.038000	0.037000	0.043000	0.038000	0.028000	0.180000
Minimum	0.021000	0.021000	0.023000	0.025000	0.014000	0.012000
Std. Dev.	0.005055	0.003847	0.005105	0.003376	0.003170	0.029464
Skewness	0.091891	-1.253923	-0.583518	0.255282	-0.250194	5.164155
Kurtosis	1.701038	4.210099	2.899704	2.649914	2.826200	28.13941
Jarque-Bera	2.223057	10.01510	1.772208	0.495013	0.362436	954.1076
Probability	0.329056	0.006687	0.412259	0.780745	0.834254	0.000000
Sum	0.902000	0.959000	1.070000	0.963000	0.678000	0.697000
Sum Sq. Dev.	0.000767	0.000444	0.000782	0.000342	0.000301	0.026044
Observations	31	31	31	31	31	31

APPENDIX C: UNIT ROOT TEST: FIRM PERFORMANCE

Null Hypothesis: D(PER) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.446479	0.0000
Test critical values: 1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(PER,2)

Method: Least Squares

Date: 06/20/21 Time: 00:46

Sample (adjusted): 1992 2020

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PER(-1))	-1.215756	0.188592	-6.446479	0.0000

C	0.000338	0.000864	0.391209	0.6987
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R-squared	0.606168	Mean dependent var	<u><u>-0.000207</u></u>	
Adjusted R-squared	0.591581	S.D. dependent var	0.007248	
S.E. of regression	0.004632	Akaike info criterion	-7.845295	
Sum squared resid	0.000579	Schwarz criterion	-7.750998	
Log likelihood	115.7568	Hannan-Quinn criter.	-7.815762	
F-statistic	41.55709	Durbin-Watson stat	2.089503	
Prob(F-statistic)	0.000001			
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UNIT ROOT TEST: FIRM SIZE (SZ)

Null Hypothesis: D(SZ) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.559720	0.0001
Test critical values: 1% level	-3.679322	
5% level	-2.967767	
10% level	-2.622989	

*MacKinnon (1996) one -sided p -values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SZ,2)

Method: Least Squares

Date: 06/20/21 Time: 00:47

Sample (adjusted): 1992 2020

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SZ(-1))	-1.067526	0.192011	-5.559720	0.0000

C	0.000184	0.000612	0.300547	0.7661
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R-squared	0.533763	Mean dependent var	<u><u>-5.38E-19</u></u>	
Adjusted R-squared	0.516495	S.D. dependent var	0.004736	
S.E. of regression	0.003293	Akaike info criterion	-8.527520	
Sum squared resid	0.000293	Schwarz criterion	-8.433223	
Log likelihood	125.6490	Hannan-Quinn criter.	-8.497987	
F-statistic	30.91049	Durbin-Watson stat	2.032407	
Prob(F-statistic)	0.000007			
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UNIT ROOT TEST: RATIO OF OPERATING INCOME (OIS)

Null Hypothesis: OIS has a unit root Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

*MacKinnon (1996) one -sided p -values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(OIS)

Method: Least Squares

Date: 06/20/21 Time: 00:34

Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OIS(-1)	-0.955505	0.189542	-5.041131	0.0000
C	0.032968	0.006597	4.997174	0.0000

R-squared	0.475783	Mean dependent var	6.67E-05	Augmented Dickey-Fuller test statistic	-5.041131	0.0003
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Adjusted R-squared	0.457061	S.D. dependent var	0.007163
S.E. of regression	0.005278	Akaike info criterion	-7.586249
Sum squared resid	0.000780	Schwarz criterion	-7.492835
Log likelihood	115.7937	Hannan-Quinn criter.	-7.556365
F-statistic	25.41300	Durbin-Watson stat	1.972524
Prob(F-statistic)	0.000025		

UNIT ROOT TEST: GROWTH OPPORTUNITY (GRO)

Null Hypothesis: GRO has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.085212	0.0036
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

*MacKinnon (1996) one -sided p- values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GRO)

Method: Least Squares

Date: 06/20/21 Time: 00:40

Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GRO(-1)	-0.788302	0.192965	-4.085212	0.0003

C 0.024632 0.005988 4.113657 0.0003

R-squared 0.373447 Mean dependent var 0.000300 Adjusted R-squared

0.351070 S.D. dependent var 0.004187

S.E. of regression 0.003373 Akaike info criterion -8.481948

Sum squared resid 0.000318 Schwarz criterion -8.388535

Log likelihood 129.2292 Hannan-Quinn criter. -8.452064

F-statistic 16.68896 Durbin-Watson stat 1.843919

Prob(F-statistic) 0.000334

UNIT ROOT TEST: LEVERAGE (LEV)

Null Hypothesis: LEV has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.923932	0.0004
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

*MacKinnon (1996) one -sided p -values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LEV)

Method: Least Squares

Date: 06/20/21 Time: 00:36

Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEV(-1)	-0.960992	0.195168	-4.923932	0.0000
C	0.021120	0.004276	4.939175	0.0000
R-squared	0.464065	Mean dependent var		0.000267
Adjusted R-squared	0.444924	S.D. dependent var		0.004339
S.E. of regression	0.003232	Akaike info criterion		-8.566864
Sum squared resid	0.000293	Schwarz criterion		-8.473451
Log likelihood	130.5030	Hannan-Quinn criter.		-8.536981
F-statistic	24.24510	Durbin-Watson stat		1.934020
Prob(F-statistic)	0.000034			

UNIT ROOT TEST: RETRENCHMENT

Null Hypothesis: RET has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.750138 0.0000
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

*MacKinnon (1996) one -sided p -values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RET)

Method: Least Squares

Date: 06/20/21 Time: 00:43

Sample (adjusted): 1991 2020

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RET(-1)	-1.083288	0.188393	-5.750138	0.0000
C	0.024666	0.007011	3.518217	0.0015
R-squared	0.541465	Mean dependent var		-3.33E-05
Adjusted R-squared	0.525089	S.D. dependent var		0.044039
S.E. of regression	0.030349	Akaike info criterion		-4.087781
Sum squared resid	0.025789	Schwarz criterion		-3.994368

Log likelihood	63.31671	Hannan-Quinn criter.	-4.057897
F-statistic	33.06409	Durbin-Watson stat	2.006800
Prob(F-statistic)	0.000004		

APPENDIX D: ORDINARY LEAST SQUARES

Dependent Variable: PER

Method: Least Squares

Date: 06/20/21 Time: 00:49

Sample: 1990 2020

Included observations: 31

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.020872	0.012490	1.671048	0.1072
SZ	0.335695	0.243291	1.379808	0.1799
OIS	0.183301	0.180466	1.015708	0.3195
GRO	0.005303	0.261352	0.020292	0.9840
LEV	-0.419836	0.288166	-1.456923	0.1576
RET	0.023611	0.031061	0.760137	0.4543
R-squared	0.668478	Mean dependent var		0.029097
Adjusted R-squared	0.622173	S.D. dependent var		0.005055
S.E. of regression	0.004737	Akaike info criterion		-7.695044
Sum squared resid	0.000561	Schwarz criterion		-7.417498
Log likelihood	125.2732	Hannan-Quinn criter.		-7.604570
F-statistic	1.835063	Durbin-Watson stat		0.957608
Prob(F-statistic)	0.142369			

APPENDIX E: DIAGNOSTIC TESTS

HETROSKEDASTICITY

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.979824	Prob. F(5,25)	0.4494	Prob.	Variable
Obs*R-squared	5.079506	Prob. Chi-Square(5)	0.4063		
Scaled explained SS	2.543950	Prob. Chi-Square(5)	0.7699	Coefficient	Std. Error
					t-Statistic
Test Equation:			F-statistic		
Dependent Variable: RESID^2			0.979824		
Method: Least Squares			Durbin-Watson stat		
Date: 06/20/21 Time: 00:53			1.507126		
Sample: 1990 2020			Prob(F-statistic)		
Included observations: 31			0.449410		
C	-3.63E-05	6.03E-05	-0.601826	0.5527	
SZ	0.000589	0.001174	0.501321	0.6205	
OIS	0.001256	0.000871	1.441777	0.1618	
GRO	0.000439	0.001262	0.348152	0.7306	
LEV	-0.000769	0.001391	-0.552663	0.5854	
RET	-0.000179	0.000150	-1.191644	0.2446	
R-squared	0.163855	Mean dependent var	1.81E-05		
Adjusted R-squared	-0.003374	S.D. dependent var	2.28E-05		
S.E. of regression	2.29E-05	Akaike info criterion	-18.36214		
Sum squared resid	1.31E-08	Schwarz criterion	-18.08459		
Log likelihood	290.6132	Hannan-Quinn criter.	-18.27167		

SERIAL CORRELATION

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.936185	Prob. F(2,23)	Dependent Variable:
Obs*R-squared	7.904916	Prob. Chi-Square(2)	0.0339 RESID
			0.0192
Test Equation:			Method: Least Squares

Date: 06/20/21 Time: 00:54

Sample: 1990 2020

Included observations: 31

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	.001288			
SZ	-.096011	0.011334	-0.113666	0.9105
OIS	-.024523	0.163775	-0.149735	0.8823
GRO	.121061	0.239749	0.504948	0.6184
LEV	.080045	0.262773	0.304615	0.7634
RET	-0.014901	0.029797	-0.500085	0.6218
RESID(-1)	.486053	0.217109	2.238754	0.0351
RESID(-2)	.110628	0.224994	0.491694	0.6276
R-squared	0.254997	Mean dependent var		-1.33E-17
Adjusted R-squared	0.028257	S.D. dependent var		0.004324
S.E. of regression	0.004262	Akaike info criterion		-7.860379
Sum squared resid	0.000418	Schwarz criterion		-7.490317

Log likelihood	129.8359	Hannan-Quinn criter.	-7.739748
F-statistic	1.124624	Durbin-Watson stat	1.875728
Prob(F-statistic)	0.381961		

MULTICOLLINEARITY

	PER	SZ	OIS	GRO	LEV	RET
PER	1.000000	0.341453	0.309293	0.042593	-0.336146	0.257029
SZ	0.341453	1.000000	0.254697	0.169759	-0.019841	0.240284
OIS	0.309293	0.254697	1.000000	0.069575	-0.214092	0.018452
GRO	0.042593	0.169759	0.069575	1.000000	0.084905	0.037546
LEV	-0.336146	-0.019841	-0.214092	0.084905	1.000000	-0.207011
RET	0.257029	0.240284	0.018452	0.037546	-0.207011	1.000000