COMPARATIVE VALUE RELEVANCE OF ACCOUNTING INFORMATION FOR CONSOLIDATED AND SEPARATE FINANCIAL STATEMENTS IN LISTED FINANCIAL SERVICE FIRMS IN NIGERIA

BY

KASSIM BUSARI
P16ADAC8353

DEPARTMENT OF ACCOUNTING
A.B.UBUSINESS SCHOOL
AHMADU BELLO UNIVERSITY, ZARIA

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KASSIM BUSARI, B.Sc. 2009, ACA 2011
P16ADAC8353

BEING A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY ZARIA, IN PARTIAL FULFILMENT OFTHE REQUIREMENTS FOR THE AWARD OF MASTERS OF SCIENCE (M.Sc.)DEGREE IN ACCOUNTING AND FINANCE

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MAY, 2019

DECLARATION

I declare that the work in this dissertation entitled "Comparative Value Relevance of Accounting Information for Consolidated and Separate Financial Statementsin Listed Financial Service Firms in Nigeria" has been performed by me in the Department of Accounting, Ahmadu Bello University Zaria. The information derived from the literature reviewed has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at any other Institution.

______________________	______________________	______________________
Kassim Busari	Signature	Date

CERTIFICATION

This dissertation entitled "Comparative Value Relevance of Accounting Information for Consolidated and Separate Financial Statementsin Listed Financial Service Firms in Nigeria"by Kassim BUSARI meets the regulations governing the award of degree of Master of Science (M.Sc.) in Accounting and Finance of the Ahmadu Bello University and is approved for its' contribution to knowledge and literary presentation.

______________________	______________________	________________
Dr. Salisu Abubakar Chairman, Supervisory Committee	Signature	Date

______________________	______________________	________________
Dr. Muhammad Mustapha Bagudo Member, Supervisory Committee	Signature	Date

______________________	______________________	________________
Dr. Mohammed Habibu Sabari Head of Department	Signature	Date

______________________	______________________	________________
Prof. Sadiq Z. Abubakar Dean, School of Postgraduate Studies	Signature	Date

DEDICATION

This literary work is dedicated to my parents, my entire family members and all those who have contributed to my academic and professional success.

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ABSTRACT

In a company with a group structure, financial information is presented in two folds; via the consolidated and separate financial statements. The availability of the same class of information in two different statements carrying two differing figures may be confusing. Therefore, the investors and other financial information users having the two differing information available to them need to be guided as to which set(s) of information to base their decisions and predictions on. This study aims to provide evidence about the comparative value relevance of accounting information for consolidated and separate financial statement of listed financial service firms in Nigeria. The study described value relevance theories and was based on signaling theory, decision usefulness theory and equity value theory. The study population is the entire listed financial services firms throughout the period 2012- 2016. Accounting information was represented by earnings per share, book value per share, dividend per share and cash flow per share; these proxies were regressed against the market price per share. Data for accounting information were sourced from the annual reports of sampled firms and market prices from Nigerian stock exchange fact book. A census sampling was used after a 3-point filter was applied to the original population. It was found on the overall that both consolidated and separate accounting information were value relevant. However, consolidated accounting information was found to be more value relevant than the separate accounting information. The study therefore recommends the strengthening of firms' operations, reevaluation of the dividend policy and enhanced implementation of IFRS standard to ensure value relevant accounting information that will be useful to the shareholders in making informed decision and taking adequate actions.

TABLE OF CONTENTS

CHAPTER TWO: LITERATURE REVIEW

CHAPTER THREE: RESEARCH METHODOLOGY

LIST OF TABLES

LIST OF APPENDICES

CHAPTER ONE

INTRODUCTION

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1.1 Background to the study

Accounting is the measurement, processing and communication of financial information about economic entities. It is a systematic process of providing information about the wealth and the effects of economic events. It reveals profit or loss for a given period, and the value and nature of a firm's assets, liabilities and owners' equity. In order for accounting information to be useful, it must possess certain qualities – relevance, reliability, comparability and consistency; and meet certain standards (e.g. International Financial Reporting Standard - IFRS). Accounting means different things to different stakeholders and the conceptions held by every user may influence the impact of accounting information on their behaviour. Accounting information is meaningfulif it is relevant. The primary decision-specific qualities that make accounting information useful are relevance and reliability (Barth, Beaver & Landsman,2012).

Value relevance is the ability of the information contained in the financial statement to capture and summarize firm value; explain and reflect stock market measures. Accounting information is measured based on how accounting numbers translate to share price. Investors are guided on the pricing of shares to make investment decisions (Vishnani & Shah, 2008).An indication of relevant accounting information is market reaction at the time of announcement of information observed through the movements in stock prices (Naimah, 2012). The reaction of the stock market to accounting information is dependent on the efficiency of such market. An efficient market is one in which stock prices behaviour reflect publicly available information - this done on a sophisticated manner.

As accounting numbers are available in the financial statements, the share price measurement are based on two perspectives; information perspectives and measurement perspective; information perspective measures the usefulness of accounting to individuals without much emphasis on the structural precision of the relation between accounting data and firm value and measurement perspective; share price movement is based on the degree of volume or price change following the release of the information – this is rooted from theoretical framework of equity valuation model (Ohlson, 1995). The Ohlson model expressed firm value as a function of book value and earnings. The Ohlson model assumes that there is no information asymmetry between managers and investors.

The most important criterion in choosing an accounting measurement method is the decision usefulness of accounting information for users. According to the decision-usefulness theory, the best accounting standards is the one that provides the most helpful financial information to users in their decision process. Equity shareholders require adequate, complete, relevant, comparable, verifiable, timely and understandable information that has high level of information content. Information content is the information about risk conveyed by accounting income numbers. Accounting numbers that is relatedto decision making of investors include; Earnings per share (EPS), Book value per share (BVPS), dividend per share (DPS), cash flowand so on as used in various researches.(Jabbari, Sadeghi & Askari, 2013; Du, 2008; Vijitha & Nimalathasan, 2014)

EPS is the profit attributable to each unit of outstanding ordinary share in a company. EPS is arguably the most important significant single measure of an entity's performance that is required to be published in financial statements (Ijeoma, 2015). The objective of presenting the

EPS is to enable the user to assess a company's current performance and compare this with that of previous years at a glance.

Book value of the equity represents past performance and current earnings as indicative of future performance. Book value is the total assets minus the total liabilities of a company; the stockholder's equity or net assets. Therefore, the book value of equity per share is the book value of common equity per total number of shares outstanding. BVPS is a factor that investors use to determine whether a stock price is undervalued or otherwise. If the BVPS of a firm increase, its investors may view the stock as more valuable, and the stock prices may increase and vice versa. The BVPS is usually different from the market price; it is therefore an indication of what the shareholders will receive had the company been wound up on the date the accounts were published (Musa, 2015).

DPS is the dividend (amount to be divided) declared (or profit "paid out") during a period attributable to each equity share. Companies pay dividends for varying reasons; to rewards investors for risking their money as they are the residual claimant in case of bankruptcy, attract new investors – who will invest in the company at higher share prices. Furthermore, the payment of dividends signals to the investors about the confidence of the managers in the firm's future profitability. Also, this reduces the information asymmetry as shareholders have a hint of the financial health of the company through the dividend payment. Investors may consider the EPS figure to be a superior indicator of performance to the DPS figure. This is because the amount of an entity declared as dividend may not necessarily reflect the performance of the entity.

Nonetheless, DPS remains an important investment yardstick for investor – for example in the computation of dividend yield and dividend cover.

Cash flow is the excess of cash revenues over cash outlays in a given period of time (not including non-cash expenses). Cash flows measures are expected to provide value relevant information about the firm’s growth opportunity or lack of it (Karunarathne & Rajapakse, 2010). It shows the firm’s ability to cover cash needs internally. Although, there have been controversies about whether cash flow is a good value driver like earnings or dividend.

Some researchers claimed that the most important variable in explaining the stock return is cash flow (Malik & Ali, 2013). However, cash flow as a determinant of stock prices seems industry-specific. The nature of the operations of the financial sector firms is largely based on cash flow. They deal in cash as the inventory as they provide various services and also cash takes a dominant role in the financial statements of these companies and has the cash flow statement dedicated for it. In addition, Du (2008) found that operating cash flow outperformed earnings and dividend in the multiple valuation tests for cash based business.

All the above stated accounting information is presented in the financial statements (either consolidated or separate financial statements). According to IFRS 10, “consolidated financial statements are the financial statements of a group in which the assets, liabilities, equity, income, expenses and cash flows of the parent and its subsidiaries are presented as those of a single economic entity.

Also, according to IAS 27, separate financial statements (SFS) contains accounting and disclosure requirements for investments in subsidiaries, joint ventures and associates when an entity prepares separate financial statements. SFSs are those presented by a parent (i.e. an investor with control of a subsidiary) or an investor with joint control of, or significant influence over, an investee, in which the investments are accounted for at cost or in accordance with IFRS 9 (Financial Instruments).

Among the users of financial statements, the stockholders of a company are arguably at the height of importance to the company as they have existing investments that generate cash flows for every day operations. Also, if a company is targeting expansion, the expected value will be created by future investment either from the existing shareholders (right issue) or from new (prospective) ones. The information required by shareholders to make timely, effective and efficient decisions that may affect the market value of the firm are available in the financial statement; earnings and dividend from income statement, Book value of equity from the statement of financial position and cash flow from operations from the cash flow statement.

Investors and creditors use financial statements to make predictions, assess risk and evaluate profitability, solvency and management's performance. In the annual reports and accounts, the CFS and SFS are presented side by side and these two statements may create confusion and reduce the ability of users to make informed decision. For example, the information from a solvent subsidiary when combined with that of a less solvent parent and/or other subsidiaries may show an averagely solvent group there not showing the actual view of the entire scenario – this also applies when checking for the profitability, riskiness and general health of companies. Therefore, to enhance their ability todecide precisely where to obtain more quality information frombetween the CFS and SFS is key and of great essence so that at a glance all the needed information is seen from a single type of statement.

Nigeria is Africa's most populous nation and second largest economy, as well as one of the largest recipients of foreign direct investment (FDI). Nigeria's financial sector has undergone significant changes in recent years. In the past years, the banking sector went through major consolidation, which reduced the number of banks from 89 to 20 (and now 15) and considerably increased capitalization. However, the global financial crisis posed substantial challenges to Nigerian bank reform efforts. While the initial effects were contained due to low levels of exposure to complex financial instruments, the large swings in oil prices, combined with the resulting depreciation of the naira and a drop in investor confidence led to growing pressures on the sector's health. Market speculation about the quality of some bank balance sheets was evident in the breakdown of the naira interbank market as well as perceptions that some banks were using the Central Bank discount window as an ongoing source of funding. Some banks were heavily involved in margin lending for investments in equity, which subsequently crashed by 70 percent reflecting both domestic and global market developments.

Although, the Nigerian capital markets are not fully developed, the country's Stock Exchange is increasingly active. The Nigerian equity market boomed in 2007 and early 2008 with average return rates of 75 percent but then plunged in the second half of 2008 as oil prices fell and the global financial crisis spread. Reforms, focused on enhance market rules and regulations, promote collective investment schemes and improve shareholder management have however restored some confidence in the market. The investor base continues to be dominated by the financial sector which holds more than 60 percent of securities. Foreign investors are allowed on the bond market but are restricted to government securities with maturities longer than one year, but can also invest in short-term commercial papers and negotiable certificates of deposit, and are subject to a lock-in period of one year for their first investment. Retail investors, for their part, can access government securities through the intermediary of mutual fund and sub-accounts of primary dealers.The secondary market has increased in liquidity over the years but remains largely dominated by banks and discount houses.The pension fund industry in Nigeria is expanding and 19 firms currently manage pension funds. The secondary market has increased in liquidity over the years but remains largely dominated by banks and discount houses.

There are several investors in the financial sector and itserves as the engine that keeps the Nigerian economy in motion. As at the last day of trading in 2017, it was revealed that the financial services Sector is the most capitalized sector with its market capitalization standing at N4.31trn and contributed 31.62% to Total Market Capitalization. Increase in investment in this sector will lead to improved performance of the economy – it intermediates funds between the surplus and the deficit economic units, thus stimulating and promoting investments and economic growth and development. For informed decisions in investment to occur in the sector, quality information regarding share price and other performance indicators are essential (Umoren & Enang, 2015).

1.2 Statement of the problem

It is the practice andrequirement of some companies to prepare and present their financial statements as the consolidated and separate financial statements which provide accounting information to investors and other stakeholders. Accounting information is required by investors for investments decisions and actions. This information is value relevant if it may have effects on stock prices; this information may include the value of earnings per share, dividend per share, cash flow, book value per share and among others. To make decisions or take an action, investors require, with a level of certainty, adequate and relevant knowledge of accounting information in relation to share prices (market value) of companies of interest. This information is available via companies' financial statements. However,in a company with a group structure, information is available in two folds – from the consolidated financial statements (group accounts) and separate financial statements (parent or holding company accounts). The availability of the same class of information in two different statements carrying two different figures may be confusing. The investor therefore, will require information as to the relevance of each set of this information to make better informed decisions.

Several studies have been carried out to determine the value relevance of accounting information but results aredivergent. Some of these studies showed that accounting information are relevant when it comes to making investment decisions based on the share prices of companies studied (Irsath, Haleem, Ahamed, 2015 and Adeyemo, Ajibolade, Uwuigbe and Ranti, 2017) while others found irrelevance of accounting information (Shamki & Abdulrahman, 2011). The divergent results may be due to several issues in the researches; differences in the economic conditions, structure of the capital markets in various countries, sample size, variable selection among other things. Although, some of these studies used data from the consolidated against the separate financial statements; Abad, Laffarga, Garcia-Borbolla, Larran, Pinero and Garrod (2000), Larran and Rees (1999) and Muller (2011) found consolidated statements to be more value relevant than unconsolidated financial statements. Other studies were on value relevance of IFRS based accounting information and found variant results (Kargin, 2013; Bolibok, 2014; Alkali & Lode, 2016; Okafor, Anderson &Warsame, 2016) and also on value relevance of interim and annual financial statements (Zulu, Klerk & Oberholster, 2017).

In Nigeria several studies have been carried out on value relevance of accounting information (Olugbenga&Atanda,2015; Adedeji, 2016; Bagudo, 2016; Adetoso, 2016) butbased on the information gathered from literature, this study found no existing study in Nigeria that compared the value relevance of accounting information for consolidated and separate financial statements and by extension in the financial sector. Therefore, the users of accounting information (especially investors) having two differing information available to them through the consolidated financial statements and the separate financial statements need to be guided as to which set(s) of information to base decisions on in terms of relevance.

In addition, the financial sector due to its size and contribution to the capital market and the economy at large require vitality and its efficiency and effectiveness may depend on the robustness of financial reporting that are useful to decision making. In Nigeria,the financial sector precisely, some banks in recent years have been involved in bail outs by the Central Bank of Nigeria (CBN) to help them recover from inadequate adequacy ratios and stabilize irrespective of the information put out to the public. There is need for the sector's existing and potential investors to be well aware of what is relevant to their (or intended) investments to be able to have an expectationsfrom these companiesbased on the published accounting numbers. The financial firms present their financial information in both on consolidated and separate financial statements (for a group) and have a large number of investors therefore a wider requirement to understand all information needed adequately and reliably.

The objective of accounting after its preparation is the presentation the financial statement and other reports to financial information users for making informed decisions and actions. The study aims at examining the comparative value relevance of accounting information from consolidated and separate financial statement in the Nigerian financial sector. The users of financial information are numerous and usually require relevant information that will assist them in making decisions. Therefore, the need for quality financial reporting cannot be overemphasized that will show the current economic reality of companies and has the ability to predict into the future and also signal stock prices based on consolidated or separate financial statement. With all the above issues raised, this study therefore will examine the comparative value relevance of accounting information for consolidated and separate financial statements in Nigerian financial sector.

1.3 Research questions

Based on the problems identified, the study seeks to address the following questions:

i. To what extent does the value relevance of earnings per share of consolidated and separate financial statementsaffect the share price of financial sector firms in Nigerian?

ii. To what extent does the value relevance of book value per share ofconsolidated and separate financial statements affect the share price of financial sector firms in Nigerian?

iii. To what extent does the value relevance of dividend per share of consolidated and separate financial statements affect the share price of financial sector firms in Nigeria?

iv. To what extent does the value relevance of cash flow per share of consolidated and separate financial statements affect the share prices offinancial sector firms in Nigerian?

1.4 Objectives of the study

This study is a comparative analysis of value relevance of accounting information from consolidated and separate financial statements of listed financial service firms in Nigerian.

The objectives are as follows:

i. To examine the value relevance of earnings per share for consolidated and separate financial statements of listed financial service firms in Nigerian.

ii. To examinethe value relevance of book value per share for consolidated and separate financial statements of listed financial service firms in Nigerian.

iii. To examine the value relevance of dividend per share for consolidated and separate financial statements of listed financial service firms in Nigerian.

iv. To examine the value relevance of cash flow per share for consolidated and separate financial statements of listed financial service firms in Nigerian.

1.5 Research hypotheses

Based on the research questions, the following hypotheses will be the foundation of empirical study.

H_{O1}: Earnings per share has no significant value relevanteffect on the share price of consolidated and separate financial statements of listed financial service firms in Nigeria.

H_{O2}: Book per share has no significant value relevanteffect on the share price of consolidated and separate financial statements of listed financial service firms in Nigeria.

H_{O3}: Dividend per share has no significant value relevanteffect on the share price of consolidated and separate financial statements of listed financial service firms in Nigeria.

H_{O4}: Cash flow per share has no significant value relevanteffect on the share price of consolidated and separate financial statements of listed financial service firm in Nigeria.

1.6 Scope of the study

The study compared the value relevance of accounting information in listed financial service firms in Nigeria from 2012-2016. This analysis is to be based on consolidated or separate financial statements representing that of group and parent companies respectively – only companies that are groups and prepare both statements are included in the study. The period 2012-2016 are years after the convergence to new accounting standards (IFRS) to have information based on the same accounting standard (IFRS).

The study used the financial sector because it is one of the most important sectors in the Nigerian economy as it functions as the pivot point on which the entire economy rotate and has high market capitalization. The dependent variable is share price while earnings per share, book value per share, dividend per share and net cash flow from operating activities per share are the independent variables.

1.7 Significance of the study

The Nigerian financial sector is a major catalyst in the growth and development of the Nigerian economy; the value relevance of information published is highly important for sustainability of the sector – through investments. This study will be beneficial to investors, analysts, management, government agencies, accounting regulatory bodies and the academics.

Investors and analysts will have the most relevant information on companies to base their predictions on risk assessment; solvency, profitability and performance of such companies to enable them make informed decision after ascertaining the most value relevant financial statement between CFS and SFS. This is relevant in that investors can make decisions as to maintaining their shares in a company for capital gains or for other reasons, to buy more shares or sell them off.

Management of companies would be able to know what some users of accounting information require and perceive relevant to them and pay more attention to better present them subsequentlyto these users. The managers may make a more information-oriented approach in financial reporting by moving towards the information perspective that provides information useful in predicting future firm performance. It may also reduce the divergence of opinionsby taking care of the information needs of its teaming users thereby reducing the agency problem of “Information Asymmetry” via better reporting and disclosure.

Government agencies may use the information contained in the most relevant financial statement to make decision on companies – Federal Inland Revenue Service (FIRS), security information requirements – Security and Exchange Commission (SEC), prudential guideline – Central Bank of Nigeria (CBN) and other agencies.

The accounting bodies could use the findings to issue new standard or update any related existing ones. This work will add to the existing body of knowledge because of its currency, domain and methodological approach.To the academics, the findings of this study will add to the body of knowledge and literature for research purpose. This is in fact useful as researches on financial statement can understand from which statement to get more quality information from to base their analysis on.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapterdiscusses conceptual issues that are relevant to understand the research phenomena. It also outlines the review of empirical literature that examined the value relevance of accounting information in general. Specifically, the chapter focus on the studies of value relevance of four accounting information on share price; these include earnings per share, book value of equity per share, dividend per share and net cash flow from operations per share. It is swiftly followed by theories that will underpin the study.

2.2 Concept of Value Relevance

Value is the amount of money that something is worth. It shows the importance or usefulness of something based on standardized behaviour. Relevance means “capable of making a difference in the decisions made by users”. Relevance of financial information implies that it is including all the information that is, or might very likely be, relevant to users’ decisions. Value relevance examine if accounting variables are useful in valuing a company by comparing the variable(s) to market value or price (Soderlund, 2010). Therefore, value relevance is the ability of accounting data to summarize information impounded in market prices (Hung, 2001).

Value relevance in relation to accounting data is traditionally viewed as a synonym for high correlation with market data; the more accounting data correlate to market price or returns, the more value relevant (Filip & Raffournier, 2010). It is also viewed as an empirical relation between market value and accounting variables (Holthausen and Watts, 2001).According to Anandarajan and Hassan (2010), value relevance is the power of specific financial statement numbers such as reported earnings to explain changes in equity values. It analyzes if an accounting variable reflects information used by investors when valuing the equity of a company and it is the operationalization of relevance and reliability quality of financial report (Barth, Beaver & Landman, 2001).

In this research, value relevance is the degree of responsiveness of change(s) in stock price to change(s) in accounting information available to the users of such information as presented in the financial statement of companies.

2.3 Consolidated and Separate Financial Statements

The financial statement is the annual statement summarizing a company's activities over the last year. They consist of the statement of comprehensive income (income statement), statement of financial position, statement of total recognized gains and losses, and cash flow statement together with their supporting notes. Consolidated financial statements (CFS) are the financial statements of a group (parent company and one or more legally distinct subsidiaries) presented as those of a single economic entity. CFS shall include all subsidiaries of the parent. Intra-group balances, transaction, income and expenses shall be eliminated in full. CFS shall be prepared using uniform accounting policies for like item.

SFSs are those presented in addition to CFS or in addition to financial statements in which investments in associates or joint ventures are accounted for using the equity method, other than exemptions where SFSs need not be appended to, or accompany, those statements.

While CFSs constitute the primary source of financial information regarding corporate affiliations, they should not be viewed as the only source of such information. Some parties, such as "minority/non-controlling" shareholders in a subsidiary and the outside creditors of a subsidiary are primary concerned with the separate financial reports of the subsidiary company. Thus, the need for separate financial statements of each individual subsidiary company which is not necessarily be eliminated by the preparation of consolidated statements.

In addition, financial statements users whose primary interest is in the overall economic entity have found that consolidated statements do not always provide sufficient information for detailed analyses of operations. As a consequence, CFSs may be supplemented by information on defined segments of the consolidated entity.

The summarizing character of consolidated statements provides them with special qualities of strength and usefulness; however, special precautions must be taken in evaluating these statements. Among the factors which require special care in the evaluation process are the following.

i. Some statistical analyses may be misleading. For example, ratios prepared from consolidated information are weighted average. A weak position of one company may be balanced, in the process of summation, by an especially strong position of an affiliate. In such an instance, an average may for some purpose be an inaccurate descriptive index.

ii. Differences in the bases of classification and valuation of accounts of the constituent companies may distort the meaning of composite statements. The unique accounting systems of the affiliates cannot easily be transformed so that the classification and valuations of each affiliate will be entirely consistent. Further, the differing industry identifications of the affiliates limit the meaning that can be attributed to the aggregated account balance.

iii. The monetary equities assigned to both creditors and owners may be misinterpreted in the evaluation of consolidated statements. This is particularly true in respect of the seeming availability of retained earnings for dividend distributions. The earnings of subsidiaries may not be actually available for parent company distributions until formally declared as dividends by the subsidiaries. In regards to liabilities, the result of summation often is to obscure the special legal status of those individual creditors having liens on specific assets. Additionally, minority/ non-controlling shareholders must continue to look to the subsidiary's separate financial statements to determine accurately the status of their investment. Their shareholder status relates only to the legal entity to which they have committed resources.

iv. Consolidated statements involving foreign subsidiaries may be misleading if foreign exchange rates are subject to unusual fluctuations, or if foreign assets are unduly restricted as to their availability to a domestic parent company. Notwithstanding there limitations, consolidated financial statements continue to grow in significance and number. Accumulating evidence suggests that they now assume a role of primary importance, with the separate statements of affiliates and other segmental reports relegated to a secondary or supplementary position.

2.4 Concept of Accounting Information

Accounting is an activity designed to identify, measure, and communicate information about economic entities that are intended to be useful in making economic decisions. Information is fact or knowledge provided or learned. Accounting information is contained in the financial statements which include; income statement, statement of financial position and cash flow statement (Bruns, 1968).

The objective of financial statements is to provide information about an entity's assets, liabilities, equity, income and expenses that is useful to users of financial statements in assessing the prospects for future net cash flows to the entity and in assessing management's stewardship of the entity's resources. Users such as the investors and creditors have expectations about future returns depending on the assessment of amount, timing and uncertainty of the prospects for future net cash flows to the entity.

Information may be capable of making a difference even if some users choose not to take advantage of it or are already aware of it from other sources. Accounting information is the quantitative written information presented in complete or partial financial statements including balance sheet, profit and loss account or cash flow statement either quarterly or annually (Oyerinde, 2009). Accounting information is value relevant if it is capable of making difference if it has predictive value, confirmatory value or both. It has predictive value if it can be used as an input processes employed by users to predict future outcomes and confirmatory if it provides feedback about (confirms or changes) previous evaluations. Certain accounting variables have been used to explain equity value and equity return (Bhatt & Sumangala, 2012). Earnings per share, book value of equity per share, dividend per share and cash flow from operating activities per share are some of these variables used to explain equity valuation in this research.

2.4.1 Concept of Earnings per Share

Earnings are an important variable affecting market value of equity share. The profit in kobo attributable to each ordinary share in a company based on the consolidated profit for the period after tax and after deducting, minority interest and preference dividend.

Earnings per share in its simple form may be defined as the profit of a business entity that is attributable to each issued ordinary share of that entity. The earnings per share figure is arguably the most significant single measure of an entity's performance that is required to be presented in published financial statements.It is the most widely-used performance measure considered by the financial press and other media in the publication of key investment and performance ratios.

The objective of presenting earnings per share is to enable the user to assess a company's current performance and compare its current performance to that of previous years. Earnings per share is therefore considered more useful than an entity's total or absolute earnings as absolute earnings do not take into account the number of shares (or units of ownership) in issue.

While there is little doubt as to the usefulness of earnings per share figures, it must be borne in mind that company performance and investment decisions are not based on a single measure and that the earnings used in the calculation of earnings per share is a product of the accounting policies adopted by an entity and indeed, the accounting and financial reporting 'culture' of the various entities.

2.4.2 Concept of Book Value per Share

Book value is a company's assets minus its liabilities and is sometimes referred to as stockholders' equity, owner's equity, shareholders' equity or simply equity. Book valueis the value of an asset according to its balance sheet account balance. For assets, thevalue is based on the original cost of the asset less any depreciation, amortization or impairment costs madeagainst the asset. Traditionally, a company's book value is its total assets minus intangible assets and liabilities – also known as net assets.

Book Value per Share is the amount of net assets attributable to the common shareholders per share outstanding (Warrad, 2017). Book value per share varies depending on the company'searnings and its ability to construct retained earnings, it is thevalue that the stockholder is expected to obtain in the eventthat the company is liquidated (Maswadeh,2016). Book value per share (BVPS) is the value of each of a company's shares in terms of the company's assets less its debts and liabilities. It is calculated by dividing theshareholders' equity over the number of shares issued and traded.

Itis believed that the stock of a firm with a low market/book ratio to be a secured investment, viewing the book value as a floor backing for the market price. Book value is a level below which the market price should not fall because a company can take the choice toliquidate, or sell, its assets for their book value.A relatively high book value per share in relation to stock price often occurs when a stock isundervalued.

However, in practice, depending on the source of the calculation, book value may variably include goodwill,intangible assets, or both. The value inherent in its workforce, part of the intellectual capital of a company, isalways ignored. When intangible assets and goodwill are explicitly excluded, the metric is often specified to be"tangible book value" (Wikipedia, 2019).

For the purpose of this research, book value per share indicates the book value (or accounting value) of each share of stock. It is a calculated as total equity divided by the total number of outstanding shares.

2.4.3 Concept of Dividend per Share

Dividend per share is the dividend declared (or profit 'paid out') during a period attributable to each equity share. Investors have always considered the earnings per share figure to be a superior indicator of performance than the dividends per share figure. This is because the amounts that an entity declares as dividends may not necessarily mirror the performance of the entity, for example where an entity may choose to cut its dividend in a period where earnings per share has doubled to provide cash for future growth and expansion (purchase new plant or a subsidiary, etc.). Dividend per share nevertheless remains an important investment yardstick for investors (for example in the computation of the dividend yield, dividend cover, etc.).

2.4.4 Concept of Cash flow

As the old saying goes, "If you pay attention to the kobo, the naira will take care of themselves". Cash is listed first in the balance sheet because it is the most liquid shortest term asset. The management of cash flow is essential to the success of every enterprise. Cash flow management is not an isolated task in the normal operation of a business. Instead, managing cash flow means being deeply involved with every aspect of business operations. To be more specific, cash flow must be considered to achieve survival, profitability, growth, creation of shareholder value, and finally, the efficient use of corporate resources. As a business strives to be more profitable by becoming more competitive, there is a cost in terms of higher inventories, more efficient production equipment, and more liberal credit policies to encourage sales. Competitive strategies increase the firm's need for cash flow by slowing down the rate at which working capital is converted into cash and by increasing the amount of resources tied up in each of the working capital components.

The cash flow statement shows the entity's performance in terms of cash flows, i.e. from where the cash inflows have come and to where the cash outflows have gone. The cash flow statement is divided in three parts: cash from operating activities, cash from investing activities, cash from financing activities. Cash from operating activities is made up of cash outflows, spent to run the reporting entity's core operations, e.g. paying trade creditors, paying workforce, bills and consultants; and cash inflows, deriving from selling the products or services typical of the reporting entity. Operating cash flow is earnings plus depreciation, depletion and amortization. (Ball and Brown, 1968). Cash from investing activities is made of cash outflows spent to purchase non-current assets and cash inflows deriving from disposing of those assets.Cash flow financing activities is made of cash inflows deriving from obtaining loans and other credit, and cash outflows spent to repay those debts.

Each of the three parts can show a net cash inflow or a net cash outflow as a result, respectively if the cash inflows of those activities are higher or lower than the cash outflows. However, it is typical for an entity that the operating activities show a positive net cash flow, the investing activities result in a negative net cash flow and the financing activities result in a negative net cash flow. This typical situation is the scenario of an entity that is creating more cash than it uses for running its core operations, uses cash to maintain and perhaps expand its assets and uses cash to pay back its lenders.

Other scenarios are made of the various possible combinations of positive and negative results. For example in the year when an entity has borrowed a substantial amount of money, the cash from financing activities is likely to be a positive figure. The meaning is that in that year the entity might have improved its liquidity position, by borrowing more money; in the years to come that money must be returned to the lenders, hence the cash from financing activities will show a reverse effect, i.e. it will contribute to deplete the cash resources of the reporting entity.

Again, you might come across entities that report a positive cash flow from investing activities. This is typically due to the entity disposing of non-current assets, i.e. properties plant and equipment or financial assets or indeed intangible assets. Regardless whether or not the entity has made a gain out of the disposal, i.e. whether or not it has sold the asset at a higher value than its net book value, as long as it has sold the asset for a price, a positive cash flow is derived from that disposal.

2.5 Review of empirical literature

There have been studies on value relevance of accounting information by numerous researches. But it has been noticed that only few of these studies around the world studied value relevance of accounting information for consolidated and separate financial statement. In fact in Nigeria, to the best of our knowledge there is no such study yet. Yet several view point exists; this study therefore is a comparative analysis of value relevance of accounting information from consolidated and separate financial statements in listed financial firms in Nigerian.

2.5.1 Value Relevance of EPS

Aderemi, Ajibolade, Uwuigbe and Uwuigbe (2017) used Ohlson model on data from the annual reports of 13 out of 21 listed banks in Nigeria for 2008 to 2015; to find out if accounting measures reported under IFRS exhibits higher value relevance than SAS report. The study used market price of stock at fiscal year-end as the dependent variable and the book value per share (BVPS) and earnings per share (EPS). The study found that IFRS financial report is significantly high compared to SAS report. It was also found that BVPS and EPS are positively associated with the share price; BVPS being less associated with share price. But they used only one set of information from the financial statement and also end of year share prices when the accounting information are most likely not released yet let alone have effect on the market prices of shares of companies.

Ahmadi (2017) examined the value relevance of accounting information in Tunisia in other to ascertain whether certain accounting variables have the ability to explain the variation of stock prices on the Tunisian Stock Exchange. Using Ohlson price model to present the regression results and making a comparative analysis of accounting value relevance of earnings (EPS) and book value (BV) of firms listed on the Tunisian Stock Exchange for a sample of 26 non-financial firms using EPS, BV as independent variable and stock market price 3 months after the end of the fiscal year as dependent variable for 2010 to 2016. It was found that book value is more value relevant that the earnings per share while the combined value relevance has declined when firms have negative earnings. Therefore, the focus of investors should be on book values and less emphasis should be on earnings. However, the study was carried out in Tunisia and also did not compare the effects of the two accounting figures used on share prices based on the group or parent company statements.

Uwuigbe, Uwuigbe, Jafaru, Igbinoba and Oladipo (2016) examined the effects of value relevance of financial statements on firms share price in Nigeria. Data from fact book from the Nigerian Stock Exchange market and the audited financial statement of 15 listed banks for 2010 to 2014 were used. The study used fixed effects panel data method of analysis based on modified Edwards Bell Ohlson (EBO) model and descriptive statistics. Last Day Share Price (LDSP) is used to represent the dependent variable and EPS, BVPS, Return on Net Worth (RONW) are the independent variables. It was found that a significant positive relationship exist between EPS and LDSP. However, a purposive sampling method was used which may have led to some level of biasness and is not scientific. Also, last day share prices were used for the analysis and the effect of accounting information release cannot actually be felt in the market on the last day of the year.

Mulenga (2015) studied the value relevance of EPS, BVPS, ROE and asset turnover ratio on the share price of 20 public sector banks listed in Bombay Stock Exchange (S&P BSE500). This study was based on secondary data; two panel data technique (fixed and random effect model) was also employed while BVPS, ROE and asset turnover ratio were found to have negative relationship and statistically insignificant with share price. EPS, BVPS and ROE were found to have positive correlation with share price but the positive correlation between ROE and share price was reported was very low. Also, the study found that EPS is the most value relevant accounting information for equity valuation in public sector banks. Again, book value per share was found to have negative and insignificant impact on the share price so also is ROE and asset turnover. Although the study used accounting information such as EPS, BVPS, ROE and asset turnover, it ignored the effects of cash flow and the signaling effects of dividend paid on share price.

Omokhudu and Ibadin (2015) contributed to the empirical literature on value relevance by examining the extent to which accounting information is associated with firm value from an emerging market context. Ohlson model was used model after modifying for cash flow from operation and dividend to ascertain the value relevance of accounting information in Nigeria. To accommodate the documented inefficiency of the stock market, the study used stock price at 3 months and six months after year end as dependent variable. The study employed a pooled and panel data in the regression of share price and returns as accounting numbers; OLS estimation and dynamic model estimation with fixed and random effects variants. The study found that earnings, cash flow and dividends were statistically significantly associated with firm value; book value is related but not significant.

Umoren and Enang (2015) empirically examined whether the mandatory adoption of IFRS has improved the value relevance of financial information in the financial statement of commercial banks in Nigeria. The sample comprises 12 listed banks in Nigeria, data sourced from financial statements figures 2010-2011 (pre-adoption) and 2012-2013 (post-adoption). Descriptive statistics and least squares regression were conducted to analyze the effect of IFRS adoption on the accounting quality. It was found that EPS is incrementally value relevant during post-IFRS period while BVPS is incrementally less value relevant during the post-IFRS period. The data used for the study was sourced from figures gotten from different accounting standards which may have affected earnings and book value figures because of differences in measurements, presentations and disclosure requirements.

Khanna (2014) analysed the combined, individual and incremental value relevance of accounting information produced by firms listed on the S&P BSE-500 for 2006 to 2010 and changes therein over the period of time. The S&P BSE-500 index constituted the population of the study. The study was carried out to determine the value relevance of accounting information represented by market price in relation to EPS and BVPS for the sample of 1205 form-year observations. Results provided sufficient evidence that accounting information is value relevant for BSE-listed firms. The combined value relevance of accounting information as represented by EPS and BVPS has declined while there have been insignificant changes in the incremental value relevance of accounting information.The study however was carried out several years back and the findings may not be applicable to our present situation especially because it was not conducted using Nigerian companies' data and/or because there have been changes in the economy and general business environment.

Modi and Pathak (2014) investigated the relationship between share prices and Cash flow, EPS, NAVPS, Net Income (NI), Earning Yield (EY), Price-Earnings (P/E) ratio, Price-Book value (PB) ratio and ROE for 2004 to 2013. PB ratio measured by MVPS/BVPS represents the market response ratio, PE ration represents the expectation of shareholders about earnings of the firm, EY is measures as EPS/MVPS and represents the performance of earnings, and ROE is measured by net profit after tax and interest divide by shareholders' fund and represents the efficiency of use of funds supplied by shareholders. It was revealed that EPS, NI, NAVPS and earnings yield are significantly correlated with share price at 5% significance level. Regression and correlation analysis showed that NI and PE ratio are the most significant variables of the study. Although the study ignored the effect of dividend paid, it was also found that there exist a very strong relationship between financial variables and market price per share using Ohlson 1995 equity valuation model to examine the value relevance of financial information to find the combined effect of accounting information on PB ratio and market price.

Vijitha and Nimalathasan (2014) sought to provide empirical evidence on the value relevance of EPS, NAVPS, ROE and Price Earnings Ratio (P/E Ratio) on share prices (SP) of manufacturing companies in Colombo Stock Exchange (CSE) for the period 2007 to 2011. Data was collected from secondary source through the published financial report of the selected companies listed on CSE in Sri Lanka. It was found that accounting information has strong and significant impact on share price and it is also significantly correlated. EPS, NAVPS and ROE were positively and significantly correlated with share price at 1%. The P/E ratio was negatively correlated with share price at 5%. Furthermore, EPS and NAVPS have significant impact on share price at 1% and 10% significance for ROE and P/E ratio. However, the study was based on manufacturing firm in Sri Lanka for the period ended 2011; the conclusion therefore may not be applicable to the Nigeria case and also the finance sector at that.

Mamman (2013) assessed the value relevance of earnings on market value of quoted building materials firms in Nigeria. Data for 2001 to 2006 was sourced from the annual reports and accounts of the firms. Ohlson's models modified to have market value as a function of earnings. The study used correlation design to establish relationship between earnings and market value of quoted building materials firms in Nigeria. Linear regression was used as a technique for testing the hypothesis. The results showed that earnings have a significant impact on the market value at 5% level of significance. It was established that there is positive relationship between earnings and market value of the firms.Despite this, the study used only one variable to represent the numerous accounting figures that may have effects on market value. Also, the study was carried out on pre-consolidation and pre-IFRS periods; the findings from this study may have been overtaken by these events and the regulations thereafter. Again, it was not stated in the study from which sets of financial statements the figures used for the analysis were picked; consolidated or separate.

Bhatt and Sumangala (2012) studied the impact of EPS on the market value of an equity stock in the Indian. The study is based on data of 50 companies over a period of 5 years. The first 50 companies in the list of India's most valuable companies as per the Business Today Survey of 2010 were selected. The study is based on cross-sectional time series data of 50 companies. Data available in capital line database was used excluding banking and other financial companies. Average closing price of equity market value of the selected companies was used using arithmetic mean of the closing price of the equity share for one month after the financial year end for the companies; this was normalized by dividing the equity market value by face value of the company's equity. EPS value (adjusted) was normalized by face value of equity share. It was found that EPS impact on the market value of an equity share in the Indian context.The selection process for firms included may be biased since it is based on magazine survey. Also, the study excluded financial service firms and was carried out in India.

Escaffre and Sefsaf (2012) carried out an assessment of international comparison of the value relevance of accounting figures using the accounting aggregates of EPS. Sampled companies are principally banking and financial services sectors. The study was carried out a cross 5 financial markets places including 4 European markets (Benelux countries, France, Spain & Great Britain) subject to the new IFRS and US, subject to the American US GAAP standards. After various regression tests, the results obtained should that the earnings and equity had greater value relevance in the European markets with IFRS than in the American market with US GAAP. These results show clearly that the French market is the most relevant in terms of value quality of earnings and equity per share. This is followed by the Benelux countries; Spain, Great Britain and finally the US. It was also revealed that on the European markets, there is a higher level of value explanatory power for equity per share over that of earnings per share; this superiority is quite moderate in Great Britain. These results are reversed in the American market where the value relevance of earnings is higher than of equity per share. However, the study is a comparison of value relevance based on EPS in selected countries and it is not stated if figures used are consolidated or parent company accounting information.

Suadiye (2012) examined the impact of International Financial Reporting Standards (IFRS) on the value relevance of accounting information of firms listed in Turkey on the Istanbul Stock Exchange (ISE). Out of the 242 Turkish listed companies, 193 firms were used as sample for the study; the remaining 49 were left out for unavailable data for the study period. Using Ohlson 1995 equity valuation model to analyse the value relevance of earnings and book values of equity produced under Turkish local standards (during 2000-2002) and under IFRS (2005-2009). These two periods are compared to investigate whether the mandatory adoption of IFRS has an impact on value relevance of accounting information. The analysis showed that earnings and book value are jointly and individually, positively and significantly related to stock price under the two different reporting regimes. The results also showed that the book value of equity is more value relevant than earnings. When the two standards are compared, IFRS was found to have increased the value relevance of accounting information for Turkish listed firms. Although the study was carried out years ago in Turkey based on pre and post-IFRS standards.

Khanagha, Mohamad, Hassan and Sori (2011) investigated the value relevance of accounting information in Iran for the period 1996-2008 before and after the codification of national accounting standard in 2001. Regression-variation and portfolio return approach was used to investigate and operationalize the value relevance of accounting information. Regression variation approach measures value relevance based on the explanatory power of accounting information as a measure of market value; percentage of variations in the returns or market value explained by the accounting figures. Portfolio return approach shows a portion of total returns that could be earned from financial statement information which control for changes in the volatility of market return over time. Result from the combined approach showed that accounting information in Iran is value relevant and value relevance of EPS is higher than book value of equity per share. Also, a comparison of the two results before and after reform based on both approaches showed a decline in value relevance of accounting information after the reform in accounting standards. However, the codification of Iran national chart of accounts may affect the value relevance of accounting information of Iranian firms' statements quality.

Abayadeera (2010) tested the value relevance of financial and non-financial information in high-tech industries in Australia. Out of 160, 91 companies were selected form cross section of the various sectors; Pharmaceuticals, Biotechnology and Life Sciences, technology, Hardware and Equipment, Telecommunication Services of Australian Stock Exchange. The share price of these firms at the date on which the annual report was issued is the dependent variable while EPS, BVPS and intangible assets are the independent variables. For the intangible assets, NVivo8 software was used obtain the word count of intangible assets from both financial and non-financial sections of annual reports. Also, the study applied Ohlson 1995 model after modifying for intangible assets disclosures. The overall result provide evidence that book value is the most significant factor and earnings are the least significant factor deciding share prices in high-tech industries in Australia. However, in addition to the exclusion of financial firms and dividend paid as an accounting variable, the study used word count to measure intangible assets which may be biased and may have affected the overall results.

2.5.2 Value Relevance of BVPS

Xu and Qi (2017) examined the impact of presentation pattern changes on the value relevance of comprehensive income (CI) and other comprehensive income (OCI) based on the background of the two reforms of comprehensive income presentation pattern from 2006 to 2014 in China. Data on A shares listed companies in the Shanghai Stock Exchange from 2001 to 2015 were used as the primary sample; eliminating companies with missing data, zero-OCI, financial firms, specially treated firms, non-standard audit opinion firms and extreme value of 1% samples at both ends of the sample. In total, 2,972 valid observations were obtained; CI and OCI data were manually collected from annual reports issued by listed companies. Data for 2007 and 2008 were obtained from equity statements and data for 2009 to 2015 from the performance statement. Other data were collected mainly form the CSMAR database. Eviews 8.0 was used for the regression based on Ohlson 1995 price model; dependent variable is price per share 4 months after the end of fiscal year and the independent variables are book value of common equity per share (BVE) and comprehensive income per share including annual net income per share and other comprehensive income per share for the fiscal year. The results showed that from 2007 to 2008, under equity statement pattern, neither CI nor OCI are correlated with value. From 2009 to 2013, under the single performance pattern, the CI and OCI have value relevance. Compared with these periods (2009 to 2013), the value relevance of CI is improved during the period 2014 to 2015 under the single performance statement pattern while the OCI does not reflect higher significant value relevance in this period. However, the study was conducted in China excluding financial firms; the findings may not be applicable to financial service firms in Nigeria.

Zulu, De Klerk and Oberholster (2017) tested the value relevance of interim accounting information and also explored whether the value relevance of annual and interim financial statement has changed over time in South Africa; checking also for the higher value relevant financial statement between the interim and annual financial statement while also checking their incremental value relevance. Book value of equity and earnings (net profit after tax) were the independent variables used while market value of equity (share price times number of share outstanding) is the dependent variable. They used data from 1999 to 2012 from a sample of non-financial companies listed on the Johannesburg Stock Exchange (JSE). A sample of 2,296 annual and interim observations out of a total of 4,592 observations for the period after excluding 69 financial firms; Ohlson model was used for the analysis and it was found that interim book value of equity is value relevant while interim earnings are not. Interim financial statement has higher value relevance than annual financial statements. Also, the value relevance of interim and annual accounting information has remained fairly constant over the sample period. Incremental comparisons provide evidence that additional book value of equity and earnings that accrue to the companies between interim and annual reporting dates are value relevant.The study however excluded financial companies while comparing interim and annual financial information without stating whether the information used are picked for the consolidated or separate financial statement.

Solomon, Muturi and Memba (2016) investigated the significance of accounting on equity share investment in companies listed on Nigerian Stock Exchange. They used BVPS to represent the significance of equity share investment. Primary data were collected from a sample 204 respondents from 68 stock brokerage firms in Nigeria. It was found that there is significant relationship between net book value per share and equity share investment in the listed companies in Nigeria. However, the study was based on the perception of stock brokerage firms in Nigeria which may not represent the actual situation.

Sun and Sari (2016) investigated the quality of accounting information on the period before and after the full convergence IFRS in Indonesia. Value relevance was used to proxy accounting information testing whether the full convergence of IFRS improves the value relevance in Indonesia. An empirical analysis based on Ohlson price model was carried out on a sample of 247 firms with 2 years observation of first analysis and 4 years observation for second part of analysis. The sample covers all listed firm in Indonesia Stock Exchange (IDX) from 2010-2013 with sufficient data on EPS, BV and leverage to assess the hypotheses. They found that IFRS convergence reduces the combined value relevance of accounting information and that the value relevance on earnings increases but not on book value. They also found that the overall value relevance of accounting information has declined since the increase in value relevance of earnings is lower than decline in the value relevance of book value.

Haghnejad and Alipourdarvish (2015) investigated the difference between the information content of accounting in companies with growth and value stocks. All listed companies on the Tehran Stock Exchange from 2007 to 2013 constitute the population. BVPS and EPS are used as independent variables of the study while the stock price at the end of June of the next year was used as the dependent variable. Also price-earnings ratio was used to identify whether the stock was or value of growth. Analysis of variance and significance test for the equalization of coefficients of determination were used. The study found that there is no significant difference between the information content of accounting of growth and value stocks in Tehran Stock Exchange. The population of the study included all listed companies on the Tehran Stock Exchange and 4 filters were used to reduce them to an unstated sample. Therefore the adequacy of the sample used is not known.

Ijeoma (2015) examined the value relevance of accounting information in Nigeria. The population of the study comprises of 200 firms, 133 listed firms were used as sample during period 2001 to 2013. The sample size was determined using Yamane formula and done based on stratified random sampling. Because of unavailability of data, 120 firms were used as sample. The data on shares (Last Day Share Price – LDSP) and accounting information (BVPS, EPS and ROE) were sourced from the Nigerian Stock Exchange fact book. The study was carried out to establish whether there is an association between EPS, BVPS, ROE and share prices. OLS estimation technique was used with the aid of SPSS software for analysis of the multiple regression models. EPS, BVPS and ROE are positively and significantly sensitive to share price. The study showed a significant relationship between earnings, book value, return on equity and share prices of these firms but the study did not clearly state the strata of listed firms used as sample and also did not include industry dummy or control variable to lessen the effects of possible disparities among sampled firms and also used last day share price.

Nijam and Jahfer (2015) explored the relationship between and commonalities among recent empirical evidence reported on value relevance of accounting information of listed companies in

Sri Lanka. The paper reviewed seven recent empirical studies conducted in Sri Lanka on value relevance of accounting information. The review found that nearly all studies have used price regression model of Ohlson (1995) and thus used book value of equity and/or earnings per share as accounting information to predict market price per share. All these studies concluded that accounting information of companies listed on Colombo Stock Exchange (CSE) is value relevant. All studies covered periods prior to the accounting reform in 2012 in which Sri Lank enforced local accounting standards that were fully converged to international standards. The study did not investigate the value relevance of accounting information in post-IFRS adoption periods and to explore the impact of IFRS adoption on value relevance of accounting information.

Sullubawa (2015) investigated the value relevance of accounting information in Nigeria. The study also examined the impact of IFRS on value relevance of accounting information of Nigerian listed companies. 68 companies were used as a sample for 6 years period (2009-2014) using pooled data; OLS to analyze the data extracted from Thompson Reuters online data stream. It was found that accounting information of listed companies in Nigeria is value relevant using the Ohlson model where both book value of equity and earnings are positively and significantly related to market value of equity. Also, the value relevance of both book value and earnings has increased in the post-IFRS period. Despite this, the study did not state the type of companies included in the analysis and how they were included.

Bolibok (2014) investigated the impact of IFRS on the value relevance of fundamental accounting data announcement by banks listed on the Warsaw stock exchange over the period 1998-2012. Analysis was based on Ohlson residual income valuation model. The results estimation including Chow test statistics is consistent with the findings of previous researches on non-financial enterprises on Polish capital market. The empirical evidence indicated that observed increase in the value relevance of both book values of equity and residual incomes of banks after introduction of IFRS is statistically insignificant.Although, the study was carried out on data of five years back and in Poland; results may have been overtaken by events.

Muller (2014) investigated the impact of mandatory adoption of IFRS starting with 2005 on the absolute and relative (incremental) quality (measured through value relevance) of financial information supplied by the consolidated accounts for companies listed on the largest European Stock markets (London, Paris and Frankfurt stock exchange). The study compared the value relevance of accounting information from consolidated financial statement pre and post IFRS. The analysis of market value relevance of consolidated accounting information for companies listed on the largest three European Stock market (Deutsche Borse, London stock exchange and NYSE EUROTEXT – based on market capitalization and the volume of share trading in 2003 to 2008. (FTSE100, EUROTEXT100 and HDAX100). Financial and insurance companies where excluded because of their structure and accounting practices. Ohlson valuation model is the basis for the study; share price as a function of Book value of equity and net income for parent company on one side and compared with that of the group in the first two models. The third model tests the difference between group and parent company equity and earnings. The results showed an increase of consolidated statements' quality once IFRS were adopted. Although the study was based on consolidated financial statements and also compared its value relevance with that of parent company financial statements, the study excluded financial services firms.

Oshodin and Mgbame (2014) carried out a comparative study on the value relevance of accounting information in the Nigerian banking and petroleum sectors. 10 companies were randomly selected from each of these sectors. Data on market price per share (dependent variable) and EPS, BVPS and leverage (independent variables) were collected for the period of 2007 to 2011 from the annual financial reports of the selected companies. Multiple regressions analysis and OLS was used for estimation. The study found that EPS information is the most considered by investor when deciding the share price and that the financial information in the oil and gas sector is more value relevant compared to the financial information disclosed by the companies in the banking sector. Aside the fact that the research was carried out more than five years ago, the researchers used information from only a single financial statement in the analysis. Also, the sampling technique used is not scientific and justified. Again, the study was based on six year period ended 2011; about six years ago.

Shamki (2014) examined the influence of equity ratio on the value relevance of earnings and book value for Jordanian industrial companies from 1992 to 2002. Annual closing share price is the dependent variable while accounting information is represented by equity ratio, earnings and book value of equity. From the Jordanian industrial sector, 18 firms were selected as sample, data was sourced from the financial statements and database published by Amman Stock Exchange Information Centre (ASEIC), the pooled sample resulted to 198 firms-years and 1188 observation-years are analysed using SPSS. Findings showed that equity ratio significantly influenced the value relevance of individual book value but not earnings. The paper also indicated that share price respond more to book value that earnings. Although the study was conducted about published about three years ago, the period of study ended about two decades ago; several events and regulations may have taken place that may affect the operational environment of companies thereby invalidating the findings of the study.

Kargin (2013) investigated the value relevance of accounting information in pre and post financial periods of IFRS application for Turkish listed firms 1998 to 2011. Market value per share (MVPS) or stock prices, book value per share and earnings per share data were collected from Istanbul stock exchange (ISE) listed firms that implemented IFRS in 2005 excluding firms operating in the financial sector due to different reporting requirements. That initial sample was not used for any regression models but for detecting and excluding influential observations. The second sample is created by subtracting influential observations from initial sample and the final sample contains firms that reported positive earnings. The pooled data led 1954 observation in 14 years. Market value is related to book value and earnings per share using Ohlson 1995 model and on the overall, book value is value relevant in determining market value or stock prices. The results showed that value relevance of accounting information has improved in the post-IFRS period (2005-2011) considering book values while improvements have not been observed in value relevance of earnings. Results of pooled data and firms that report positive earnings showed that book value is value relevant in determining stock prices for the selected firms and years. IFRS have improved value relevance of accounting information in Turkey for the selected firms and periods. The study however excluded financial service firms and also it did not consider the value relevance of consolidated statements as against the separate financial statements.

Shahzad, Zaheer and Anees (2013) assessed the value relevance of earnings and book value by using Ohlson's model which expresses stock price as a linear function of earnings, book value of equity. The study used cash operational flow expected for evaluating the financial reporting quality for 125 companies listed on Tehran stock exchange during 2001 to 2008, the correlation coefficient and the linear regression test methods have been used with the help of SPSS. Results show that there is an inverse relationship between the competition in the company's product market and the quality of the financial reporting.However the study ignored the possible signaling effect of dividend per share and also the findings may have been overtaken by events since the study period ended in 2008.

Jarva and Lantto (2012) compared the information content of financial statements based on IFRS with those based on Finnish Accounting Standard (FAS) using a sample of mandatory IFRS adopters. Using a sample of 94 Finnish firms that released transaction statements for the first time in 2004, further analysis was made on the data using pre-IFRS adoption period (1999-2003) and from the post-IFRS (2005-2009). Research designs used compared two sets of financials for the same firm in the same year. It was documented that, IFRS on average, increases earnings, decreases equity and increases liabilities. Also, it was shown that financial analysis. IFRS accounting amounts are not of higher quality than accounting publicly available news than earning under FAS. Furthermore, book values of assets and liabilities have no greater ability to reflect the market value of equity under IFRS than under FAS. Finally, earnings under IFRS have relative and incremental information content beyond FAS earnings in predicting one-year-ahead cash flows. The results showed that earnings under IFRS are no timely in reflecting publicly available news than earnings under FAS. Also, book values of assets and liabilities measured under IFRS are no more value relevant than they are under FAS. However, additional analyses revealed that IFRS earnings provide marginally greater information content than FAS earnings for predicting future cash flows.Although the study ignored the comparative value relevance of accounting information from the group or parent perspective.

Devalle, Onah and Magarini (2010) analysed the effects of the compulsory IFRS adoption by European listed companies in 2005. They examined the extent to which accounting measures are reflected in share price and cum-dividend returns, or value relevance, before and after this event. Panel data regression was estimated for data from 2002 to 2007, chow test was employed to identify structural breaks in the regression coefficients before and after 2005. In the regression of share price on book value of equity per share and earnings per share for all companies in the sample, IFRS are found to have increased value relevance of earnings while value relevance of book value of equity has decreased. The explanatory power of the regression has also increased. Although for individual countries, the effects of IFRS are mixed.However, the study was conducted years back using the European companies.

2.5.3 Value Relevance of DPS

Adetoso (2016) examined the value relevance of accounting information in selected companies in Nigeria from 2003 to 2013. The secondary data used was obtained from the Nigerian Stock Exchange fact book and from online Stock Broking Firms. The population of 192 of the study comprises of all the quoted companies in Nigeria according to www.african-market.com. The study used non-random sampling (purposive sampling technique) in selecting all the companies regarded as notable under the NSE (45 companies). Data on accounting information including DPS were used and analysed by using Pearson Correlation coefficient based on Ohlson model (residual income valuation). Accounting information consists of both qualitative and quantitative information. Earnings is classified into normal and abnormal; normal earnings been the risk free rate multiplied by the opening book value of equity and abnormal earnings are the difference between realized earnings and normal earnings. The market value of a company based on the clean surplus relation assumption was represented by book value of equity plus the present value of future abnormal earning. The results showed that accounting information does not have significant relationship with DPS. The sampling for the study is based on purpose and therefore not scientific.

Balakrishnan (2016) tested to know whether EPS, DPS and P/E ratio can be used as a significant explanatory variable for predicting share market price. The study was conducted by collecting data from various websites and magazines for 5 listed Indian Pharma companies with high volume activity in Bombay Stock Exchange for 2010 to 2015 using both primary and secondary data. Analysis was based on simple correlation and multiple regressions to show that share price of various companies are not affected by the independent variables and only few industries are affected. It was found that the EPS of Pharma sector are having correlation with share price movements of the sampled companies. The DPS is also having impact on three companies out of the five even though they are positively correlated; their impact is slighter in other companies. However, the study chose only 5 companies from only one sector out of the 5 sectors listed for the six year period leading to a 30 firm-year observation which may be too small to make generalization.

Irsath, Haleem and Ahamed (2015) examined the impact of value relevance of accounting information on stock price of the listed manufacturing and beverage food and tobacco companies in the Colombo Stock Exchange (CSE), Sri Lanka. The effect of EPS, DPS and Net Asset Value per share (NAVPS) on stock price was sought for 22 listed companies on the CSE for a period of

5 years (2011 to 2014). Data was gathered from published annual reports and websites of the listed companies. Descriptive, correlation and regression statistics were used and the results showed that EPS, DPS and NAVPS have significant impact on stock price and are also significantly correlated with stock price. However, the study excluded financial service firms and failed to test the comparative value relevance of the selected variables based on consolidated and separate financial statements.

Jeroh and Edesiri (2015) determined the factors that affect the prices of stocks generally in capital market taking into consideration the two schools of thought. The thought that accounting or non-accounting information are the determinant of stock prices in capital markets. They analysed accounting measures like dividends and net assets that Nigerian investors use in making investment decisions in other to take a stand point whether or not they affected the stock price significantly. Data was obtained from Nigerian Stock Exchange fact book and annual reports and accounts of firms listed on the floor of the Nigerian capital market. Data on Last Day Share Prices (LSDP), DPS and net assets per share (NAPS) were used and the effects estimated using OLS technique via SPSS 20.0. DPS, NAPS and LDSP were examined for a sample of 120 listed firms on the Nigerian Stock Exchange during the period 2001 through 2013. The sensitivity analysis showed that DPS of 74.2% of firms were positively sensitive and 25.8% negatively (adversely) sensitive to stock price. For NAVPS, 90.8% of the firms were positively sensitive and 9.2% were adversely sensitive to stock price. It was found that there exist a significant relationship between dividends, net assets and stock prices. The authors further concluded that accounting information are the major determinants of stock prices in Nigeria.However, they used last day share prices which is not practically correct as accounting information are made available only 3 months after the year end.

Musa (2015) examined the extent to which share price of listed industrial goods firms in Nigeria are associated with accounting numbers (EPS, BVPS and DPS). Data used for the analysis was obtained from the Nigerian Stock Exchange (NSE) fact book 2011, annual report of the firms for 2007 to 2013 and daily price list on the cash craft website. The study was based on the semi-strong form of efficient market hypothesis applying Ohlson model, random effect model was estimated. Out of a population of 25 listed industrial goods firms, 16 firms were sampled and the result revealed that accounting information published by listed industrial goods firms in Nigeria have high value relevance to the investors in making decisions as EPS, BVPS and DPS; all have positive and significant impact on share price. EPS are the most value relevant followed by the DPS then BVPS. They concluded that the information contained in the income statement has strong impact on the share price of industrial firms in Nigeria than that in the balance sheet. But the study did not include any cash flow statements proxy; as important as cash is to business operations, investments and financing activities. Also, the study did not test for the most value relevant accounting information between consolidated and separate financial statements.

Garba (2014) investigated the impact of dividend per share on common stock returns of the manufacturing firms listed on the Nigeria stock exchange. Data for the study were collected from 10 companies randomly selected for the period from 1991 to 2003 out of the 106 manufacturing firms listed on the Nigeria stock exchange. The common stock returns data for each of these 10 firms were calculated on weekly basis and annualized using geometric means and the actual dividend per share were obtained from annual reports and accounts of the sampled firms. The study used multiple regressions to determine the relationship between the dependent variable (the stock's average rate of return) and dividend per share. Pearson Moment Correlation was also used to assess the scalar and vector of the relationships between the variables of the study. The result showed that dividend per share has a significant impact on the common stock returns of the sampled firms. The use of stock average rate of return as measured by the geometric mean of annualized weekly stock prices was not justified. Also, a sample of 10 out of 106 firms is low.

Ordu, Enekwe and Anyanwaokoro (2014) examined the effects of dividend payment on the market prices of shares in Nigeria. The study used 17 quoted firms using time series on DPS, dividend yield and dividend payout ratio that ranges between 2000 and 2011. For the panel data analysis, OLS estimation was used. The study related price volatility empirically with the two main measures of dividend policy – dividend yield and dividend payout ratio; based on ex post facto research design, data extracted from published annual reports and statement of accounts and fact book for the period 2003-2011. Pearson Product Moment Correlation, Simple Linear Regression (SLR) technique was used to examine the relationship between the dependent variables and the independent variables and SPSS was used to run the data. Empirical results suggests a positive effect between market price per share and DPS, dividend yield does not have a significant positive effect on the market price per share (MPPS) of quoted firms; there exist a direct relationship between MPPS and dividend payout ratio of selected firms on the NSE. They concluded that earnings remain the most significant determinant of dividend payment on the average. But this conclusion may not be general as the sample of 17 out of all quoted firms.

2.5.4 Value Relevance of Cash Flow

Erin, Olojede and Ogundele (2017) examined value relevance of accounting data in the pre and post IFRS periods in Nigeria. The study focused on four year period (2008 to 2011) before IFRS and four year period (2012 to 2015) after IFRS adoption. The study is based on non-survey research design and data covering the period 2008 to 2015 was extracted from firm's annual report and Nigerian Stock Exchange (NSE) report 2015. A total of 80 firms; 50 from financial services and 30 from the consumer goods sector form the population. They sampled 52 public entities from consumer goods and financial services sector in Nigeria. Value relevance was measured by price regression model and return regression model of accounting data. It was found that from price regression, an increase in adjusted R^2 between the two periods from 32% to 59% which accounts for 84% growth while the return regression model showed an increased in adjusted R^2 between the two periods from 14% to 22% which accounts for 57% growth. This finding suggests that the value relevance of accounting data is more pronounced in the post-IFRS period for the sampled firms. It was also revealed that IFRS implementation in Nigeria has enhanced the value relevance of accounting data such as earnings, cash flow, book value and net income. The study did not test the comparative value relevance of accounting information based on consolidated and separate financial statements.

Tahat (2017) examined the relative and incremental value relevance of cash flows from operations (CFO) around the recent financial crisis (pre, during and post). The sample was based on UK FTSE 350 using book value (BV), earnings per share (EPS) and cash flow from operations (CFO- including cash flow from investing and financing) to show the relative and incremental value relevance on market value. The study showed that CFO has relative value relevance to both BV and EPS over all periods to explain the cross variations in firms' market values. Also, it found that a strong evidence exist about the superiority of the value relevance of CFO over the cash flow from investing and financing activities although the cash flow from investing activities revealed a higher explanatory power in the crisis period. Although the study tested all aspects of cash flow (covering all sections of the cash flow statement), but it ignored the comparative value relevance of accounting information for group as against that of the parent company.

Anjula and Senani (2015) investigated the incremental value relevance of accrual and cash flow information in top capitalized companies in Sri Lanka. The sample consists of top forty companies over a period of 3 years from 2012 to 2014. Value relevance was measured in terms of explanatory power of the models where accrual and cash flow information were occupied as the value relevant information. Market price of the share was considered as the dependent variable of the model which is affected by the reactions of investors to the available information. EPS, Operating Profit per Share (OOPS), Total Comprehensive Income per Share (TCIPS) and Book Value per Share (OCFPS), Total Cash Flow per Share (TCFPS) were considered as the value relevant cash flow information. The study found that accrual information (OPPS, TCIPS, BVPS) has incremental value relevance to the share price than cash flow information (TCFPS, CFOPS) which emphasizes the importance of accrual information in decision making rather than cash flow information. All the variables used under the accrual information are significant and none of the variables used under the cash flow information are significant in the study. Although the objective of the study was accomplished, however, the study excluded the finance sector.

Ghosh and Ghosh (2015) sought to detect whether corporate accounting disclosures through annual report influence on stock price movement in Dhaka Stock Exchange. A series of panel data was gathered from 2010 through 2014 for 25 private commercial banks in Bangladesh. Least squares regression analysis was used by incorporating fixed and random effect models to develop six models using Hausman Test. EPS, ROE and Net Asset per Share (NAPS) were used as the independent variables while Average Market Price of Stock proxied stock price (dependent variable). The data on profitability and book value of selected banks have been collected from the respective banks' financial statement via the Dhaka Stock Exchange. It was revealed that EPS, ROE and NAVPS jointly can explain highest variation in stock price movements in DSE. Past studies in DSE showed weak form of market efficiency. The study showed a positive movement of Bangladesh Stock Market from weak form towards strong form of efficiency. The study ignored the traditional effects of book value per share and also did not test for the signaling effects of dividend per share, cash flows per share and also the comparative value relevance of all these variables in line with the consolidated and separate financial statements.

Moradi, Valipour and Dowran (2012) examined the information content of cash flow and accounting figures in situations where the information is asymmetrical and compared the relative information content to clarify the role of accounting figures in investment decision making. Based on tests on a sample of 76 firms from Tehran Stock Exchange (TSE) during 2005 to 2011, the results showed the priority of other accounting figures over cash flow figures explaining the return of the firms. The relative content of accounting figures is more compared to cash flow figures whereas in large firms, there is no significant effect on the relative content of accounting figures and cash flow figures. However, the study is a compares the information content of cash flow and accounting figures.

Srinivasan and Narasimhan (2012) examined the value relevance of consolidated versus parent-only financial information. The value relevance of consolidated financial statements (CFS) is investigated by examining the relationship between market values and consolidated earnings and parent-only earnings. This was done by examining the relationship between the stock price and accounting earnings and cash flow from operations. The study used four years of 59 companies whose subsidiaries earnings are more than twenty per cent of consolidated revenue for the period 2004 to 2005 and 2007 to 2008. The sample was drawn from companies listed in the Bombay Stock Exchange (BSE). Earnings and stock data were sourced from the Center for Monitoring Indian Economy (CMIE) database. Of the 4,954 listed companies, 3,769 companies (76%) have no subsidiary(s); 14% of the listed companies have one subsidiary and in most cases, the companies are defunct or have negligible operations. The average subsidiary revenue of a firm with one subsidiary is less than 2% of its consolidated revenue. Therefore, the study sampled firms whose revenues from subsidiary(s) are at minimum 20% of consolidated earnings. Results showed that annual CFS is not value relevant, whereas annual parent-only financial statements are value relevant. However, wherever quarterly financial statements are available, CFS are found to be value relevant and parent-only financial statements are not value relevant.

Atwood, Drake, Myers and Myers (2011) examined whether earnings persistence and the association between current accounting earnings and future cash flows differ for firms reporting under IFRS versus firm reporting under United State Generally Accepted Accounting Principle (US GAAP). Using a sample of 58,832 firm-year observations drawn from 33 countries from 2002 through 2008. It was found that positive earnings reported under IFRS are no more or less persistent than earnings reported under US GAAP but losses reported under IFRS are less persistent than losses reported under US GAAP. Also, they also found that earnings reported under IFRS are no more or less persistent and are no more or less associated with future cash flow than earnings reported under non-US. Again, earnings reported under US GAAP are more closely associated with future cash flows than earnings reported under IFRS.

Hejazi, Jafari and Karimi (2011) determined and compared the relative and incremental content of accounting variables and stock returns or stock price. Using production companies listed on Tehran Stock Exchange (TSE) in period of 2000 through 2004. Net income, operational profit and cash flow from operations are the independent variables while annual stock return is the dependent variable. Total assets was used to control for the effect of companies' size. The result showed that operational profit has relative information content in comparison with other variables. Net income and operational profit have incremental content beyond each other but cash flow from operations does not have incremental content.

2.6 Theoretical Framework

This chapter discusses the theoretical underpinning for the study to explain the relationship between share price and qualitative characteristics of accounting information.

Accounting theory iseither positive or normative. Positive theories try to explain (what is) the existing accounting practices and phenomena (methods, behaviors and motivations) while the normative theories focus on the way accounting practices should be. Several theories are relevant to this study: the Agency Theory, the Positive Accounting Theory (PAT), the Decision Usefulness Theory and The Signaling Theory. The theories are motivated by the necessity to justify the existence of the financial statements, the motivations of some stakeholders like managers (or the board), to try to influence the financial statement information and the necessity to explain why the financial statement information is important for the shareholders.

The agency theory is based on the principal-agent relationship. In a listed company, the shareholder is "the principal" and the manager (or the board of management) is "the agent". The remuneration of the shareholders (dividends) depends on the managerial capacity, the strategic decisions, and the actions taken by the board of management.

Generally, shareholders of publicly traded companies have one important goal: maximize their profit by keeping all costs as low as possible. At the same time, if companies want to get good managers, they must keep their remuneration high enough. After all, the augmentation of firms' market value, earnings, and dividends depends on the talent of the managers to do their job effectively.

The problems occur when the principal and the agent have different goals because the principal cannot easily get access to the same information and at the same time as the agent (information asymmetry). Because of the asymmetry in information between managers and shareholders, it is difficult for shareholders to efficiently check whether the decisions and actions taken by managers are meeting their expectations. Their main information source remains the financial statements.

The Positive Accounting Theory (PAT) is based on the discrepancy between the interests of shareholders (but also other users of financial statements) and those of managers. According to the PAT, outside users of accounting information always wish to have relevant, reliable, and comparable financial statements presenting a true and fair view of the financial position and performance of firms.

While the Agency Theory and the Positive Accounting Theory focus on the existence of financial accounting, the decision usefulness theory tries to develop a scientific and objective method to help standard setters in their choice of the best alternative of the measurement and the presentation of accounting data. According to these theories, the best accounting standards is the one providing the most helpful financial information to users in their decision process.

The concept of decision usefulness has been introduced in accounting theory in 1966 by a committee created by the American Accounting Association (AAA). According to this committee, the most important criterion in choosing an accounting measurement's method is the decision usefulness of accounting information for users. This decision usefulness should be evaluated by the predictive ability of the accounting information. The more accurate users can predict economic and financial events using accounting information, the more useful this information is for them. This criterion should give standard setters a handy tool in the choice of the best accounting measurements.

To decide in which firm they want to invest (or disinvest) their money, capital providers should be able to rely on the published accounting information. Signaling theory therefore posits that firms with good performance tend to make voluntary disclosures more readily, as doing so is regarded as an easy means of distinguishing themselves from others in the marketplace.

Signaling theory can explain the relationship between information asymmetry and dividend policy. Dividend payment is a signal for shareholders that illustrates the company's future prospects; changes in dividend payments affect the stock price reaction in the market. This theory is beneficial for explaining the behaviour of managers who have superior access to information compared to investors. The company's annual reports contain information that serve as signals required by investors as considerations in making decisions.

A way to check if the published accounting information is relevant to the capital providers in the allocation process is to analyze their reaction after the publication of the information. Does a significant reaction on the financial markets (like for example an augmentation of the traded volume or a change in the price of a security) exist after the publication,then it can be assumedthat the information is relevant and useful. However, because of other factors that in addition could explain the reaction of the markets, this assumption can never be fully proven.

Thenecessity and the legitimacy of the existence of financial statements have been shown through various theories: The agency theory, the Positive Accounting Theory, the decision usefulness theory and the signaling theory.While the agency theory explains why good financial statements are needed to mitigate the risks and the costs deriving from the information bias between shareholders (the principal) and the boards of management (the agent) with divergent interests, the positive accounting theory is more focused on the motivations of managers to try to manipulate the published annual financial statements in divergent interests. These two theories underlie the usefulness of financial statement information and the importance of the rules and standards framing the elaboration of these statements. Without these rules and standards, shareholders could never have the confidence that the accounting information received from the managers presents a true and fair view of the financial position and the performance of their firms. Standards setters are aware of the importance of this aspect of their work and try to continuously improve the standards. One of the most important tools they could use to evaluate the quality of the standards is based on the third theory: the decision usefulness theory. According to this theory, accounting information should help capital providers in their capital allocation decisions. To realize this purpose, accounting standards should improve the predictive ability of financial statements information. The higher the predictive ability of accounting information, the more useful this information is for users. Also, it is believed that the problem of information asymmetry can be overcome by the signaling theory because this ensures that relevant information is passed to the stock market.

The usefulness of accounting information is one of the most important concerns of standards setters. There is a large consensus about the fact that this usefulness should be improved by facilitating the comparability and also the reliability of financial statements worldwide. The degree of the responsiveness of changes in stock prices to changes in accounting information is dependent on the efficiency of the market.

Market is efficient if security prices at any time fully reflect all available information to the level in which the profit made based on the information do not exceed the cost of acting on such information. In other words, an efficient market tends to be dominated by sophisticated rather than naïve users of financial statements.

The empirical work on market efficiency hypothesis can be categorized as three groups. First, weak-form tests are concerned with how well past security returns (and other variables) predicts future returns. Second, semi-strong-form tests focus on the issue of how fast security price responds to publicly available information. Third, strong-form tests examined whether security prices fully reflect private information.

By underlying the necessity of the financial reporting the decision usefulness theory and signaling theory underpin this research.

2.7 Summary

This chapter describes various concepts, theories and variables related to the objectives of determining the relationship between accounting information in the consolidated and separate financial statements and stock price of listed firms in the financial services sector in Nigeria.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, population and sample of the study. It also focuses on the method to be adopted in collecting and analyzing data that is considered necessary for testing the comparative value relevance of accounting information for consolidated and separate financial statements based on the dependent and independent variables and procedures to be employed in carrying out the research in accordance to the objectives of the study.

3.2 Research Design

The study adopt correlational research design in order to establish the relationship between share prices and financial statement variables of listed financial service firms in Nigeria. To test the hypotheses, the Ohlson (1995) price model was used while modifying it to capture some other relevant variables that aid in explaining the relationship further. In view of the above, a descriptive research designs wasalso used in the study based on panel data for the period of 5 years i.e. 2012-2016. The research is correlational because the study seeks to describe the statistical association between the dependent variable and the independent variables of the study. It is therefore, most appropriate for this study because it allows for testing the relationships between and among variables and making of predictions regarding these relationships. The study also aligns with the positivist paradigm because it is dependent on quantifiable observations that lead to statistical analysis through quantitative data collection and interpretation to establish “what is” without any form of human interaction within the study.

3.3 Population and Sample of the study

The population of the study consists of all listed financial services firms in Nigerian Stock Exchange as at 31st December 2016. There are three categories of financial service firms: Banks, insurance and other financial service companies listed in Nigerian as at 31st December 2016. However, for a company to be included in this study, it must have fulfilled the following criteria:

i. A company must be listed on the Nigerian stock exchange market and remain so throughout the six years of the study.

ii. A company must have a group structure and remain so throughout the study period.

iii. A company financial and market data is available throughout thestudy period.

A total of 25 firms were used for the analysis due to above criteria. Therefore, the study used adjusted population approach.

3.4 Sources and Method of Data Collection

The data for this study was obtained mainly from secondary sources; annual reports and accounts of the sampled firms for the period to be studied (2012-2016) for the accounting information and Nigeria Stock Exchange fact sheet for information on market prices. Secondary data isused because of the nature of data needed to evaluate the variables; all accounting information is available in the annual reports and accounts. All datawere collectedmanually by hand picking form the annual reports and accounts of various companies.

3.5 Techniques of Data Analysis

Generalized Least Square (GLS) multiple regression was adopted for the study. Descriptive statistics was used which consist of the minimum, maximum, mean, standard deviation, skewness, kurtosis and Jacque bera. This feature describe the type, nature and form of the data used. The correlation matrix was used to test for the magnitude of association, its direction and the level of significance of association between the dependent and the independent variables of the study.

The regression analysis was carried out to include the coefficient, t-value, and the probability which is used to determining the level of impact, its direction and magnitude of the effects of the independent variable on the dependent variable for the two models. Also, the cumulative result was interpreted from the R^2 which is the coefficient of determination to capture the extent to which all the independent variables explain the dependent variable of the study. To conclude on which of the models is more value relevant, the two R^2were compared to reveal which of the sets of accounting numbers from consolidated and separate financial statement have greater effect(s) on the share prices of sampled firms.

These assumptions include; normality, linearity, homoscedasticity, independence and absence of exact correlation. Further, when dealing data with both cross-sectional and time-series characteristics, the pooled OLS is relevant as it reflects different distributions on different time period.

Robustness tests were carried out in order to ensure that all the assumptions of OLS are met. Multicollinearity test was done to check for correlation among the independent variables using the tolerance values and the variance inflation factor (VIF), Breusch-Pagan / Cook-Weisberg test was carried out to test for the absence or presence of heterogeneity. In order to correct for the presence of heteroscedasticity, robust standard error was estimated. Also, the hausman specification test was conducted to determine the choice between fixed and random effect regressions model. For the test of hypotheses and robustness tests, 1%, 5% and 10% level of significance was used as the bases for acceptance or rejection.

3.6 Model Specification and Variable Measurement

The study examined the comparative value relevance of accounting information between consolidated and separate financial statements of listed financial firms in Nigeria using a modified Ohlson 1995 model to test the functional relationship between the independent variables; EPS, BVPS, DPS and cash flow from operating activities on the dependent variables; market value (share price). To examine this, the following model is to be used based on modification to the Ohlson price model (where it state market price to be a function of earnings and book value).

$MPPS_{it}= \alpha+\beta_1 EPS_{it}+\beta_2 BVPS_{it} +\beta_3 DPS_{it}+ \beta_4 CSFL_{it} + \varepsilon_{it}$

MPPS: Market price per share - measured as the price per share on the NigerianStock Exchange (NSE)

BVPS Book value of equity per share –measured as the total equity divided by the number of outstanding ordinary shares.

EPS: Earnings per share; Profit attributable to the ordinary equity holders of the parent entity divided by weighted average number of ordinary shares outstanding (i.e. in issue)

DPS: Dividend per share; total dividend divided by weighted average number of ordinary shares outstanding (i.e. in issue)

CSFL : Cash flow from operation

α represents the constant term

$\beta_1 - \beta_4$ are the coefficient of the parameter estimate.

ε represents the error term

i represents the panels; companies

t represents the year

The above model was used for both consolidated financial statement and separate financial statement information; all on share prices.

Table 3.1:Definitions and measurements of the variables

Variables	Measurement	Source
MPPS	Market Price Per Share	
EPS	Earnings per Share measured as Profit After Tax (PAT) divided by number of ordinary shares outstanding.	Ahmadi (2017)
BVPS	Book value of equity per share measured as Total shareholders' equity dividend by number of ordinary shares outstanding.	Zulu, et al. (2017)
DPS	Total dividend divided by weighted average number of ordinary shares outstanding.	Balakrishnan (2016)
CSFL	Cash Flow from Operating Activities measured as Net Cash flow from operating activities (Excess of cash revenue over cash outlays from operating activities) divided by the number of outstanding shares.	Tahat (2017)

Source: Researcher Review, 2018

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter focuses on the presentation, analysis and interpretation of the STATA 13 results done on data collected over 2012 – 2016 for listed financial service firms in Nigeria. The overall aim is to examine the comparative value relevance of accounting information for consolidated and separate financial statement. The chapter begins with the preliminary analysis of the descriptive statistics, Shapiro-wilk test for normality. This is followed by the presentation and analysis of the correlation matrix, regression results, test of hypotheses, discussion of findings and policy implication.

4.2.1 Descriptive Statistics

This descriptive statistics is presented in Table 4.1 showing the minimum, maximum, mean, standard deviation of the both group and separate data on the variables used in the study.

Table 4.1: Descriptive Statistics for Group and Separate Data

Variable		Obs.	Mean	Std. Dev.	Min	Max
MPPS	Overall	125	4.38	6.82	0.50	31.61
	Between	25		6.37	0.50	22.15
	Within	5		2.69	-3.97	17.42
BVPSg	Overall	125	4.91	5.86	0.00	22.44
	Between	25		5.83	0.002	17.99
	Within	5		1.21	1.57	9.40

BVPSs	Overall	125	4.35	5.18	0.00	19.63
	Between	25		5.17	0.002	16.48
	Within	5		1.02	1.44	8.91
EPSg	Overall	125	0.92	2.29	-0.30	23.19
	Between	25		1.45	-0.03	5.75
	Within	5		1.80	-0.44	18.36
EPSs	Overall	125	0.58	0.998	-0.31	4.31
	Between	25		0.93	-0.04	3.30
	Within	5		0.39	-0.62	2.48
DPSg	Overall	125	0.25	4.49	0.00	2.00
	Between	25		0.46	0.00	1.62
	Within	5		0.17	-0.52	0.87
DPSs	Overall	125	0.24	0.48	0.00	2.00
	Between	25		0.45	0.00	1.62
	Within	5		0.18	-0.43	0.91
CSFLg	Overall	125	161.35	1799.69	-14.36	20121.5
	Between	25		805.47	-4.94	4027.58
	Within	5		1615.87	-3864.73	16255.26
CSFLs	Overall	125	1.64	19.20	-15.53	210.50
	Between	25		8.72	-5.73	42.75
	Within	5		17.17	-41.01	169.38

Source: Extracted from STATA 13 output

The above table shows the descriptive statistics for the dependent (MPPS – Market Price per Share) and independent (BVPSg – Book Value of Equity per Share for the group, EPSg – Earnings per Share for the group, DPSg – Dividend per Share for the group and CSFLg – Cash Flow per Share for the group) and (BVPSs – Book Value of Equity per Share for the company, EPSs – Earnings per Share for the company , DPSs – Dividend per Share for the company and CSFLs – Cash Flow per Share for the company) variables of listed financial service firms in Nigeria. A total of 125 observations were made for each of the study over the five year period of 2012-2016. The overall statistics are ordinary statistics that are based on 125 observations. The between statistics (cross sectional specific) are calculated on the basis of summary statistics of 25 entities regardless of time period while the within statistics (time specific) are summary statistics of 5 year period regardless of entities.

Based on the total 125 observation, without considering the panel effect, the MPPShas a mean ₦4.38k with an overall standard deviation of ₦6.82k, a minimum price of ₦0.50k and a maximum of ₦31.61k. This implies that on the minimum price any firm's share is quoted on the exchange is 50 kobo and the maximum price is ₦31.61k. The average a listed financial service firm has a unit of its shares valued is at ₦4.38k and the deviation of share prices from the mean is by ₦6.82k suggesting a wide dispersion or variability of the prices from the average price of the sector since the standard deviation is higher than the mean. In addition, the wide dispersion can be seen from the range of ₦31.11k between the minimum and maximum price of shares. The minimum prices of shares are generally from the insurance companies; this may be due to low patronage of investors in these firms as compared to the investment in the banks – apparently by the number of outstanding shares and ultimately market capitalization. This is an indication that the prices of such companies have not been affected by relevant accounting information over time irrespective of the market forces and has since been on the minimum allowable price to trade for any stock (at its nominal value). Again, the maximum price indicates the highest price for which any listed financial service firm's share is traded in the stock market – which probably is from the banking sector in addition to the fact that some firms have been in existence for a while now; gaining goodwill overtime and also some firms were listed earlier than others thereby contributing to their market prices over time. Furthermore, the variability is made clearer by the significance of the skewness and kurtosis normality tests which showed that the market price data are not normally distribute at all levels.

Between the 25 firms, at firm-level, the standard deviation is ₦6.37k with a minimum price of ₦0.50k and a maximum price of ₦22.15k. The minimum price between firms shows on the average the least price any firm has its shares traded in any particular year and the maximum shows the maximum average price value a firm has on each unit of its' shares. This statistics estimates firm-level average for every firm sampled to evaluate the standard deviation between firms. The minimum price of ₦0.50k represents the minimum average price of a firm and the maximum price of ₦22.15k represents the maximum average price of firms. Again, the standard deviation of ₦6.37k indicates that in any one given firm, its share price fluctuates around its mean of ₦4.38k suggesting a wide variability of the prices of firms over the five-year period. The minimum and maximum price between firms explains the range (₦21.65k) of firm-level means; how firm-level averages differ over time between firms. Moreover, all these figures are indicative of the disparity in the distribution of the observation.

Within firms, based on the five-year period, the standard deviation is ₦2.69k indicating relatively small dispersion over time within firms. Standard deviation on the overall and between firms in line with the normality tests as seen above, show that the market price has a high dispersion. However, based on time and within firms it shows how much share price varies within firms without considering all variation between firms and this variability is less over time than between firms and on the overall.

BVPSg has a mean of ₦4.91k, and on the overall a standard deviation of ₦5.86k, the minimum BVPS is ₦0.00k and a maximum of ₦22.44k. This implies that on the average, a listed financial firm has a book value of equity per share of ₦4.91k which is a measure of the safety level of each individual share after all debts are paid accordingly. Other things been equal, if a group decides to dissolve, the book value per share is the amount in naira the shareholders will get per share owned. As it is on the overall average, the BVPSg of ₦4.91k is higher that the MPPS average of ₦4.38k signifying that groups' shares are secured based on book value per share. The standard deviation however showed dispersion from the average of about ₦5.86k suggesting a wide dispersion of groups' values from the average book value per share. The wide variation could be from the differences in sizes of sampled firms, age of firms, volume of activities, branch networks among other things.

The minimum book value per share showed that some groups' shares are less than a kobo indicating that it is less than the minimum market price (₦0.50k) during the period of the study signifying an unsafe situation for the shareholders; as the market price based on market forces of demand and supply is greater than the real value of shares based on the amount available and backing up these shares as per account per share. This may be one of the reasons why the new rule was made by the Nigeria Stock Exchange following the approval of the Security and Exchange Commission (SEC) as from January 2018. The rule is to allow shares to be traded for as low as a floor price of 1 kobo irrespective of the market forces. This variability is evident via the significance of the overall normality tests.

Between the 25 firms, the standard deviation reduced to ₦5.83k with a minimum 0.2k and a maximum of ₦17.99k. This implies that between firms, the standard deviation is a little less compared to the overall. Within the groups however, the standard deviation is ₦1.21k indicating relatively low variability based on time.

BVPSs has a mean of ₦4.35k, and on the overall a standard deviation of ₦5.18k, the minimum BVPS is ₦0.00k and a maximum of ₦19.63k. This implies that on the average, a listed financial firm has a book value of equity per share of ₦4.35k which signifies the safety level of each individual share for company after all debts are paid accordingly. Other things been equal, if a company decides to dissolve, the book value per share is the amount in naira the shareholders will get per share owned. As it is on the overall average, the BVPSg of ₦4.35k is lower than the MPPS average of ₦4.38k signifying that companies' shares are not fully secured based on book value per share. This may be for the simple fact that MPPS are based on the group listing. The standard deviation however showed dispersion from the average of about ₦5.18k suggesting a wide dispersion of companies' values from the average book value per share. The wide variation could be from the differences in sizes of sampled firms, age of firms, volume of activities, branch networks among other things. The minimum book value per share showed that some companies' shares are less than a kobo indicating that it is less than the minimum market price (₦0.50k) during the period of the study signifying an unsafe situation for the shareholders; as the market price based on market forces of demand and supply is greater than the real value of shares based on the amount shown in the book as financing the assets as presented in the statement of financial position. This may be one of the reasons why the new rule was made by the Nigeria Stock Exchange following the approval of the Security and Exchange Commission (SEC) as from January 2018. The rule is to allow shares to be traded for as low as a floor price of 1 kobo irrespective of the market forces. This variability is evident via the significance of the overall normality tests.

Between the 25 firms, the standard deviation for BVPSs reduced to ₦5.19k with a minimum approximately 0 and a maximum of ₦16.48k. This implies that between firms, the standard deviation is a little less compared to the overall. Within the groups however, the standard deviation is ₦1.03k indicating relatively low variability based on time.

EPS for group on the average is 92k, standard deviation is ₦2.29k and minimum loss on the overall is 30k per share with a maximum earnings of ₦23.19k. the overall average EPS of 92k is about 19% of the average book value meaning that earnings contributed to not more than 19% yearly on book values. The variability in EPS of ₦2.29k is relatively low indicating the differences in per share earnings and losses of financial service firms. Also, the minimum losses of 30 kobo showed that some firms are making losses overtime and this may be the reason why the minimum BVPS are less than 1 kobo.

Between firms, the standard deviation is ₦1.45k with a minimum loss per share of 3 kobo and a maximum EPS of ₦5.75k based on the summary of group entities regardless of time periods. Also, based on the 5 year period of the study, the standard deviation is ₦1.80k greater than between firm's standard deviation indicating that EPS is more time driven and variable over time. This may be due to economic changes, changing working environment, government policy changes and so on.

EPS for companies on the average is 58k, standard deviation is ₦1.00k and minimum loss on the overall is 31k per share with maximum earnings of ₦4.31k. The overall average EPSs of 58k is about 13% of the average book value meaning that earnings contributed to not more than 13% yearly on book values. The variability in EPSs of ₦1.00k is relatively low indicating the differences in per share earnings and losses of financial service firms. Also, the minimum loss of 31 kobo showed that some firms are making losses overtime and this may be the reason why the minimum BVPSs are less than 1 kobo.

Between firms, the standard deviation is ₦0.93k with a minimum loss per share of 4 kobo and a maximum EPSs of ₦3.30k based on the summary of companies regardless of time periods. Also, based on the 5 year period of the study, the standard deviation is ₦0.39k less than between firm's standard deviation indicating that EPSs is not time driven for companies over time.

For the group DPS, the overall mean is ₦0.25k indicating that on the average a firm pay 25 kobo per share as dividend to its shareholders yearly. The standard deviation of ₦4.49k showed that there is high dispersion from the mean based on the dividend policy of all 25 firms for the period of study; as some firms made no payments of dividends throughout the study period while the maximum paid is ₦2.00k. The firms not paying are probably those whose market prices are at the ₦0.50k and/or those with negative earnings per share figures and more so also those with less than 1 kobo book value per share. The non-payment of dividends may make those investors interested in short term gains unwilling to invest in shares of companies not paying dividends and this may the reason why these companies' share prices are static over the study period; these may also limit the earnings potentials, limit book value growth and also cash flow sufficiency.

Between firms based on the cross sectional effect, the standard deviation is ₦0.46k which shows a relatively low dispersion from the mean of ₦0.25k, with a minimum value of 0 (no dividend paid) and a maximum of ₦1.62k. While within firms, the standard deviation is 17 kobo with a maximum DPS of 87 kobo.

For the company DPS, the overall mean is 24k indicating that on the average a firm pay 24 kobo per share as dividend to its shareholders yearly. The standard deviation of ₦0.48k showed that there is high dispersion from the mean based on the dividend policy of all 25 firms for the period of study; as some firms made no payments of dividends throughout the study period while the maximum paid is ₦2.00k. The firms not paying are probably those whose market prices are at the ₦0.50k and/or those with negative earnings per share figures and more so also those with less than 1 kobo book value per share. The non-payment of dividends may make those investors interested in short term gains unwilling to invest in shares of companies not paying dividends and this may the reason why these companies' share prices are static over the study period; these may also limit the earnings potentials, limit book value growth and also cash flow sufficiency.

Between firms based on the cross sectional effect, the standard deviation is ₦0.45k which shows a relatively low dispersion from the mean of ₦0.24k, with a minimum value of 0 (no dividend paid) and a maximum of ₦1.62k. While within firms, the standard deviation is 18 kobo with maximum DPSs of 91 kobo.

Again from the above table, CSFL for the group has an overall mean of ₦161.35k, standard deviation of ₦1,799.69k, a minimum of ₦14.36k and maximum of ₦20,121.50k. The net cash flow from operation per share is a measure of a company's financial strength; on the average a listed financial firm has ₦161.35k. Although, the least a group may have is a shortage of ₦14.36k and the highest net cash flows from operations per share of any group is ₦20,121.50k. This large figure may be as a result of high variability in size, age, capital base of firms in the sub-sector under the financial service sector and also the volume of transactions, customer base, branch network, service quality and so on. This variability is evidenced by the deviation of ₦1,799.65k.

Between firms, the standard deviation for net cash flow from operations is ₦805.47k, with a negative minimum of ₦4.94k and a maximum of ₦4,027.58k. For the within statistics, the standard deviation is ₦1,615.87k and a maximum of ₦16,255.26k.

Finally from the above table, CSFL for the companies has an overall mean of ₦1.64k, standard deviation of ₦19.20k, a negative minimum of ₦15.53k and maximum of ₦210.50k. The net cash flow from operation per share is a measure of a company's financial strength; on the average a listed financial firm has ₦1.64k. Although, the least companies may have is a shortage of ₦15.53k and the highest net cash flows from operations per share of any group is ₦210.50k. This figure may be as a result of high variability in size, age, capital base of firms in the sub-sector under the financial service sector and also the volume of transactions, customer base, branch network, service quality and so on. This variability is evidenced by the deviation of ₦19.19k.

Between firms, the standard deviation for net cash flow from operations is ₦8.72k, with a negative minimum of ₦5.73k and a maximum of ₦42.75k. For the within statistics, the standard deviation is ₦17.17k and a maximum of ₦169.38k.

4.2.2 Correlation Matrix

The table 4.4 below presents the spearman rank correlation matrix between the dependent (MPPS) and independent variables (BVPS, EPS, DPS and CSFL). Its purpose is to establish whether there is any form of association between two variables when the variables are arranged in a ranked or ordered form. Correlation measures the association or inter-relations between two sets of ranked or ordered data. Correlation can vary from +1, perfect positive rank correlation to perfect negative rank correlation. A coefficient of zero or near zero generally indicates no correlation.

Table 4.2: Correlation Matrix for Group Data

Variable	**MPPS**	**BVPSg**	**EPSg**	**DPSg**	**CSFLg**
MPPS	**1.0000**				
BVPSg	**0.8043***	**1.0000**			
EPSg	**0.8591***	**0.7477**	**1.0000**		
DPSg	**0.6873***	**0.5962***	**0.6785***	**1.0000**	
CSFLg	**0.1616**	**0.1711**	**0.2011***	**0.0670**	**1.0000**

Source: Extracted from STATA 13 output

* Significant at 1% and **Significant at 5% (2-tailed).

The table 4.2 above, shows the Spearman Correlation results between the dependent and independent variables and also among all independent variables. The asterisks beside the spearman correlation coefficients shows the level of significance. The choice of the spearman correlation coefficient over the Pearson correlation is as a result of the normality tests that showed that most of the variables are not normally distributed as they are mostly significant at 1% (see Appendix II).

Table 4.2 show that the group data BVPS, EPS, DPS and CSFL are positivelycorrelated with MPPS at 0.8043, 0.8591, 0.6873 and 0.1616 respectively. The implication of this is that all the independent variables move in the same directions as the dependent variable; as MPPS increase, all the independent variables too increase and vice versa. Also, all these are significant at 1% with the exception of CSFL. This may be possible because the statement of financial position and the income statement which are two main statements available to the stakeholders in the stock market that they base their decisions on; the BVPS and EPS are proxies for these statements and the DPS sent a great signal to the stakeholders thereby affecting stock prices greatly.

The table also shows the correlation between all independent variables; the association between EPS and DPS with BVPS is at about 75% and 60% which are statistically significant at 5%. This is evident from the fact that the book value of equity per share reflects the original proceeds a company receives from issuing common shares, increased by earnings or decreased by losses, and decreased by dividends paid out.

The inter-relationship between CSFLg and BVPSg is weak and insignificant with 17% correlations. This may be because BVPSg and CSFLg are not directly linked except via EPSg. Again, the association between DPSg and EPSg is moderate but significant with correlation of 68%. This may be because dividends are paid out of earnings and represents a moderate portion of it. Also CSFLg is about 20% significantly related to EPSg; as operating cash flow is earnings excluding costs associated with long-term capital investments.

Lastly, CSFLg has a correlation of 7% with DPSg. This may be because DPSg is paid out of cash flow for the year and will always reduce the net available cash flow.

Table 4.3: Correlation Matrix for Separate Data

Variable	**MPPS**	**BVPSs**	**EPSs**	**DPSs**	**CSFLs**
MPPS	**1.0000**				
BVPSs	**0.8059***	**1.0000**			
EPSs	**0.7568***	**0.6788***	**1.0000**		
DPSs	**0.6059***	**0.5429***	**0.5977***	**1.0000**	
CSFLs	**0.0333**	**-0.0064**	**-0.0193**	**-0.0975**	**1.0000**

Source: Extracted from STATA 13 output
* Significant at 1% and **Significant at 5% (2-tailed).

From the table above, it can be seen that from the company data BVPSs is positively associated with MPPS at 81%, EPSs and DPSs are positively correlated with MPPS at 76% and 61%respectively while CSFLs is positively correlated with MPPS at about 3%. The implication of this is that the paired variables move on the same directions; as one increase, the other also increases. All these are significant at 5% with the exception of CSFLs. This may be possible because the statement of financial position and the income statement which are two main statements available to the stakeholders in the stock market that they base their decisions on; the BVPSs and EPSs are proxies for these statements and the DPSs sent a great signal to the stakeholders thereby affecting stock prices greatly.

The table also shows the correlation between all independent variables; the association between EPSs and DPSs with BVPSs is at about 68% and 54% which are statistically significant at 5%. This is evident from the fact that the book value of equity per share reflects the original proceeds a company receives from issuing common shares, increased by earnings or decreased by losses, and decreased by dividends paid out.

The inter-relationship between CSFLs and BVPSs is negative, weak and insignificant with about 1% correlations. This may be because BVPSs and CSFLs are not directly linked except via EPSs. Again, the association between DPSs and EPSs is moderate but significant with correlation of 0.5977. This may be because dividends are paid out of earnings and represents a moderate portion of it. Also the significant correlation of CSFLs is -0.0193 with EPSs.

Lastly, CSFLg has a correlation of -0.0975 with DPSs. This may be because DPSs is paid out of cash flow for the year and will always reduce the net available cash flow.

In comparison, the BVPSg is approximately 80% correlated with MPPS while the BVPSs is higher at about 81%. The EPSg is 86% against the 76% for EPSs, DPSg 68% against 61% for DPSs while the CSFLg is about 16% against 3% for CSFLs. This showed that for BVPS, the company figure is more correlated to the MPPS while for EPS, DPS and CSFL the group figure is more correlated with MPPS.

Generally, some relationship among the independent variables of the study were found to be significant. However, on the overall variables, to establish the presence of multicollinearity in the correlation matrix, the Variance Inflator Factor (VIF) and tolerance values is used and were found to be consistently lower than ten and one respectively, indicating the absence of multicollinearity (See Appendix II). To further substantiate this position, the mean VIF of 1.82 (Model I) and 3.60 (Model II) were used and it indicates that multicollinearity is not a problem.

4.3 Robustness Tests

This section presents the results from the robustness tests conducted. The robustness tests include: multicollinearity test, heteroscedasticity test and normality test of error term.

i. **Multicollinearity Test**: This was conducted to check whether there was a correlation between the independent variables of the study. The Variance Inflator Factor (VIF) and the Tolerance Values estimated were used to test for multicollinearity in the two regressions. The VIF and tolerance values were found to be consistently smaller than ten and one respectively for both models. (See Appendix II). This is made more evident by the mean VIF of 1.82 and 3.60 for both models which are smaller than ten indicating the absence of multicollinearity.

ii. **Heteroscedasticity Test**: The results indicates chi-square values of 183.24 and 132.00 for both models. These value are significant at 1% indicating the presence of heteroscedasticity in both regressions. This makes the interpretation of Ordinary Least Squares (OLS) not suitable because of this violation of the classical assumptions of OLS. However, to correct this, robust standard error was estimated and also normality test of error term was conducted.

iii. **Normality of the error term (Kernel Density)**:Normality of the error term were conducted using the Kernel Density estimate. It was found that the residual of the error term showed some level of normality to the right for both regressions. (See Appendix II).

4.4 Presentation and Interpretation of RegressionResults

The table below shows the regression result of the dependent variable (MPPS) and the independent variables of the study (EPS, BVPS and CSFL). The presentation follows the analysis of the association and impact between the independent and the dependent variable of the study and also the cumulative analysis.

$MPPS_{it} = \alpha + \beta_1 BVPSg_{it} + \beta_2 EPSg_{it} + \beta_3 DPSg_{it} + \beta_4 CSFLg_{it} + \varepsilon_{it}$ -------- Group Model
$MPPS_{it} = \alpha + \beta_1 BVPSs_{it} + \beta_2 EPSs_{it} + \beta_3 DPSs_{it} + \beta_4 CSFLs_{it} + \varepsilon_{it}$ -------- Company Model

Table 4.4: Summary of Regression Result

Variable	Group			Separate		
	Coefficient	T-Values	P-Values	Coefficient	T-Values	P-Values
Constant (α)	**4.7916**	**5.40**	**0.000**	**5.1242**	**5.30**	**0.000**

BVPS	**-0.6688**	**-3.53**	**0.001**		**-0.7379**	**-2.84**	**0.005**	
EPS	**-0.2140**	**-1.82**	**0.071**		**-0.0663**	**-0.09**	**0.925**	
DPS	**11.9436**	**8.12**	**0.000**		**10.4956**	**7.04**	**0.000**	
CSFL	**0.0004**	**2.73**	**0.007**		**0.0148**	**1.06**	**0.291**	
R^2				**0.4252**				**0.3773**
F-Stat.				**17.75**				**14.54**
F-Sig				**0.0000**				**0.0000**

Source: Extracted from STATA 13 output

The model is therefore stated as follows:

$MPPS_{it}$= 4.7916-0.6687$BVPSg_{it}$-0.2140$EPSg_{it}$+ 11.9436$DPSg_{it}$+ 0.0004$CSFLg_{it}$+ε_{it}

From the result in table 4.4 above, R^2 is 0.4252 for the group which is the coefficient of determination showing the proportion of the total variation in the dependent variable explained by the independent variables jointly. Hence, it signifies 43% of the total variations in MPPS of listed financial service firms in Nigeria is as a result of thevalue relevance of accounting information (includes BVPS, EPS, DPS and CSFL). This shows the strength of the model and it applicability and usefulness in ascertaining the degree of responsiveness of share price to changes in accounting numbers of listed financial service firms in Nigeria. However, other factors not captured in the model cover about 57% which may likely be non-accounting information. Hence, this justifies the adoption of the model for this study.

Also, the F-stat with a value of 17.75indicates that the model is well fitted. As such, the variables in the model were properly selected, combined and used. It further implies that the relationship between the dependent and the independent variables is not due to mere occurrence as the outcome and inferences made from the findings 99.9% reliable based on 1% significance level. This findings is in line with that of Muller (2014) but contrary to that of Srinivasan and Narasimhan (2012).

$MPPS_{it}$= 5.1242-0.7379$BVPSs_{it}$-0.0663$EPSs_{it}$+ 10.4956$DPSs_{it}$+ 0.0148$CSFLs_{it}$+ε_{it}

From the result in table 4.4 above, R^2 is 0.3773 for the company which is the coefficient of determination showing the proportion of the total variation in the dependent variable explained by the independent variables jointly. Hence, it signifies 38% of the total variations in MPPS of listed financial service firms in Nigeria is as a result of thevalue relevance of accounting information (includes BVPS, EPS, DPS and CSFL). Also, the F-stat of 14.54which is significant at all levels indicating that the model of the study is well fitted and the independent variables are properly selected, combined and used.This is consistent with the finding of Srinivasan and Narasimhan (2012).

However, the $R^2$of 0.4252 and 0.3773 for group and company respectively show that the consolidated accounting information have more information content than the separate accounting information published in the annual reports of listed financial service firms in Nigeria. Since the group information explain about 5%, more, the variation in MPPS. This is further explained based on individual variables as under.

4.4.1 Value Relevance of Earnings per Share

From the table 4.4 above, EPSg has a t-value of -1.82 and a beta value of -0.21 which is significant at 10%. This signifies that EPSg significantly affect MPPS of listed financial service firms in Nigeria. For every one naira increase in EPS, MPPS will reduce by about 21 kobo and vice versa. This is as expected because as a negative EPS increaseis expected to decrease MPPS.

The EPSs on the other hand has a t-value of -0.09 and a beta value of -0.0663 which is not significant at all levels. This signifies that EPSs does not have a significant affect MPPS of listed financial service firms in Nigeria. For every one naira increase in EPSs, MPPS will reduce by about 7 kobo and vice versa. This is as expected because as a negative EPS is expected to decrease MPPS.The p-valueof 0.071 and 0.925 for group and company EPS provide an evidence of rejecting the null hypothesis one of the study which states that there is no significant difference in value relevance of earnings per share for consolidated and separate financial statements of the financialsector of Nigeria. Also, the beta value of -0.21 and -0.07 for group and separate earnings per share show that there is a significant difference.

4.4.2 Value Relevance of Book Value per Share

From the table 4.4 above, BVPSg has a t-value of -3.53 and a beta value of -0.67 which is significant at all levels. This signifies that BVPSg has significantly impact on MPPS of listed financial service firms in Nigeria. For every one naira increase in BVPSg, MPPS will reduce by about 67 kobo and vice versa. This is as expected because as a negative BVPS increaseis expected to decrease MPPS.

The BVPSs on the other hand has a t-value of -0.74 and a beta value of -2.84 which is significant at all levels. This signifies that BVPSs has a significant impact on MPPS of listed financial service firms in Nigeria. For every one naira increase in BVPSs, MPPS will reduce by about ₦2.84k and vice versa. This is as expected because as a negative BVPS is expected to decrease MPPS.The p-valueof 0.001 and 0.005 for group and company BVPS respectively are not significantly different as both values are significant at all levels. This provides an evidence of failing to rejectthe null hypothesis two of the study which states that there is no significant difference in value relevance of book value per share for consolidated and separate financial statements of listed financial service firms in Nigeria.

Although comparing the beta values of -0.67 and -2.84 seems different and also the p-value of 0.001 is better than 0.005 meaning that consolidate BVPS is more value relevant than BVPS for the company only.

4.4.3 Value Relevance of Dividend per Share

From the table 4.4 above, DPSg has a t-value of 8.12 and a beta value of 11.94 which is significant at all levels. This signifies that DPSg significantly affect MPPS of listed financial service firms in Nigeria. For every one naira increase in DPS, MPPS will increase by about ₦12 and vice versa. This is as expected because as a non-zero DPS increase MPPS is expected to increase.

The DPSs on the other hand has a t-value of 7.04 and a beta value of 10.50 which is significant at all levels. This signifies that DPSs does have a significant effect on MPPS of listed financial service firms in Nigeria. For every one naira increase in DPSs, MPPS will increase by about ₦10.50k and vice versa. This is as expected because as dividends are paid, MPPS is expected to increase.The p-valueof 0.000 and 0.000 for group and company DPS provide an evidence of failing to rejectthe null hypothesis three of the study which states that there is no significant difference in value relevance of dividend per share for consolidated and separate financial statements of listed financial service in Nigeria. This is understandable because in most groups, the amount of dividends paid shown in both group and separate cash flow statements are same and as a matter of fact this dividend are based on the same shares. Although based the coefficients of 11.93 and 10.50 respectively for group and separate statements, there is slight difference in the effect of dividend on market prices; consolidated data having more information content.

4.4.4 Value Relevance of Net Cash Flow from Operations

From the table 4.4 above, CSFLg has a t-value of 2.73 and a beta value of 0.0004 which is significant at all levels. This signifies that CSFLg significantly affect MPPS of listed financial service firms in Nigeria. For every ten naira increase in CSFLg, MPPS will increase by about 4 kobo and vice versa.

The CSFLs on the other hand has a t-value of 0.0148 and a beta value of 1.06 which is not significant at all levels. This signifies that CSFLs does not have a significant effect on MPPS of listed financial service firms in Nigeria. For every one naira increase in CSFLs, MPPS will increase by about ₦1.06k and vice versa. The p-valueof 0.007 and 0.291 for group and company CSFL provide an evidence of rejecting the null hypothesis four of the study which states that there is no significant difference in value relevance of cash flow per share for consolidated and separate financial statements of listed financial service firms in Nigeria.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Financial reporting includes not only financial statements but also its effective communication. It is the most important medium through which managers of companies give account of their stewardship to the owners and other stakeholders. Value relevance is the ability of the information contained in the financial statements to capture and summarize firm value. If it explains and reflects in stock market prices then the communication is adequate.

This study compares the value relevance of accounting information for consolidated and separate financial statements of listed financial service firms in Nigeria. It was noted from prior researches that there is no existing study in Nigeria that compared the value relevance of accounting information for consolidated and separate financial statement and by extension its comparative analysis. This study is basically underpinned by signaling theory as it shows the degree of responsiveness of changes in the stock price as a result of changes in the accounting numbers. It is also in line with the decision usefulness theory as changes in value relevance is an indication of usefulness of published accounting information based on the efficiency of the Nigerian market.

Data on accounting information used for the study was obtained from annual reports and accounts and market data from Nigeria Stock Exchange fact sheets of listed financial service firms in Nigeria from 2012 to 2016 leading to 125 firm year observations. Using correlational research design and a multiple regression model was developed by modifying the Ohlson 1995 model to incorporate dividend per share and cash flow per share in addition to the earnings per share and book value of equity per share – independent variables. The population of the study is the total listed financial service firms in Nigeria as at 31st December 2016. Adjusted population was used after applying some filters. The multiple regression technique was used and Stata was employed as tool for data analysis. Various robustness tests were carried out; normality, heteroscedasticity, multicollinearity, normality test of the error term. Three different models of regression analysis was carried out; Ordinary Least Squares (OLS) - also robust OLS, Random Effects Model (REM) and Fixed Effects Models (FEM). After running the white test, it was discovered that the data are heteroskedastic. This shows that OLS cannot be used for the analysis as one of its assumptions has not been met. The hausman test conducted showed that FEM is preferred as the chi2 is significant.

For the group data, all proxies of accounting information have significant effects on market price per share based on FEM while for separate company data, two accounting information (EPS and DPS) are significant; BVPS and Cash Flow are not based on FEM (sigmamore). On the overall, both group and company accounting information when taken together are value relevant but accounting information for group are more value relevant. This signifies that accounting information affect stock prices in relation to firm structures.

5.2 Conclusion

Based on findings, the study concludes the following:

i. Earnings per share has a negative impact on share price because losses made by companies ordinarily will repel more investment opportunities than a firm that consistently report profits. For the group also, there exist an inverse relationship between loss per share and share prices; this may be as a result of the aggregation of earnings figures for all subsidiaries of group leading to a group lose. Therefore, investors may not be willing to commit their investments in a group or company making losses, other things being equal, due to fear of liquidation and subsequent loss of their investments. This is because market prices reflections of the forces of demand and supply of shares; investors will only be demanding shares backed up by earnings and probable future earnings, losses will normally reduce demand thereby bringing down the market prices of the company(s) making those losses.

ii. Book value per share is negatively associated with share price for group and company, the group effects being more significant. As the book value per share reflects the original proceeds a company receives from issuing common equity; it can be increased by earnings, decreased by losses and dividend paid out. It is the value backing the shares issued for financing the firms' assets. When this shareholders' fund is low, there is greater likelihood that existing investors may decide to withdraw their investments and the prospective investors go for better performing firms for investment.

iii. Dividends per share paid to shareholders of listed financial service firms in Nigeria for group and company positively and significantly affect changes in market price per share.

iv. The net cash flow from operation per share of listed financial service firms in Nigeria for group and company data are significantly different but has positive effect on the market price per share.

On the overall, the study concludes that group accounting information have greater effects on the market price per share than the separate accounting information.

5.3 Limitation of the Study

In utilizing the results of this study, it should be noted that the study is based on the comparative value relevance of accounting information for consolidated and separate financial statement; it was limited to;

i. Onlyfour accounting information proxies among hundreds of accounting figures in the financial statements

ii. The study used only accounting information leaving out non-accounting information which may affect the market price of equities of firms.

Despite these limitations, the findings of this study have improved on the body literature on value relevance of accounting information.

5.4 Recommendations

In line with the findings of the study, it recommends that:

i. The management of listed financial service firms should strengthen their operations to enhance earnings and profitability to improve the value relevance of EPS for the group and companies under them.

ii. More effort should be made to report book value that are close to the market values as the book value supposed to reflect fair representation of accounting figures based on IFRS.

iii. Dividend policy should be made such that it affects the shareholders' value positively as dividend paid is share of profit with the shareholders. An increase in dividend therefore pushes the stock price. Many investors hunts for the highest dividend-yielding stock, but the real value is in dividend increases, because if a stock you own increases dividends faster than the rate of inflation, you in effect own an asset that produces a rising income stream that provides protection against inflation.

iv. The management of listed financial service firms should enhance its operations to improve its net cash flows from operations. Because operating cash flows per share measures only the value of the company's operations without considering other sources of cash flows, it better reflects the company's long term core operations.

5.5 Areas of further research

i. This study focused on listed financial service firms in Nigeria, future studies in this area may incorporate other sectors.

ii. Future studies may also be carried out to incorporate other accounting information and/or non-accounting information.

iii. Future studies may also focus on the comparative value relevance of accounting information in different sectors in Nigerian.

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APPENDIX I

POPULATION

1 ABBEY MORTGAGE BANK PLC

2 ACCESS BANK PLC.

3 AFRICA PRUDENTIAL PLC

4 AFRICAN ALLIANCE INSURANCE COMPANY PLC

5 AIICO INSURANCE PLC.

6 ASO SAVINGS AND LOANS PLC

7 AXAMANSARD INSURANCE PLC

8 CONSOLIDATED HALLMARK INSURANCE PLC

9 CONTINENTAL REINSURANCE PLC

10 CORNERSTONE INSURANCE COMPANY PLC.

11 CUSTODIAN AND ALLIED PLC

12 DEAP CAPITAL MANAGEMENT & TRUST PLC

13 DIAMOND BANK PLC

14 ECOBANK TRANSNATIONAL INCORPORATED

15 EQUITY ASSURANCE PLC.

16 FBN HOLDINGS PLC

17 FCMB GROUP PLC.

18 FIDELITY BANK PLC

19 FORTIS MICROFINANCE BANK PLC

20 GOLDLINK INSURANCE PLC

21 GREAT NIGERIAN INSURANCE PLC

22 GUARANTY TRUST BANK PLC.

23 GUINEA INSURANCE PLC.

24 INFINITY TRUST MORTGAGE BANK PLC

25 INTERNATIONAL ENERGY INSURANCE COMPANY PLC

26 JAIZ BANK PLC

27 LASACO ASSURANCE PLC.

28 LAW UNION AND ROCK INS. PLC.

29 LINKAGE ASSURANCE PLC

30 MUTUAL BENEFITS ASSURANCE PLC.

31 N.E.M INSURANCE CO (NIG) PLC.

32 NIGER INSURANCE CO. PLC.

33 NIGERIA ENERYGY SECTOR FUND

34 NPF MICROFINANCE BANK PLC

35 OMOLUABI MORTGAGE BANK PLC

36 PRESTIGE ASSURANCE CO. PLC.

37 REGENCY ALLIANCE INSURANCE COMPANY PLC

38 RESORT SAVINGS & LOANS PLC

39 ROYAL EXCHANGE PLC.

40 SIM CAPITAL ALLIANCE VALUE FUND

41 SKYE BANK PLC

42 SOVEREIGN TRUST INSURANCE PLC

43 STANBIC IBTC HOLDINGS PLC

44 STANDARD ALLIANCE INSURANCE PLC.

45 STANDARD TRUST ASSURANCE PLC

46 STERLING BANK PLC.

47 UNIC DIVERSIFIED HOLDINGS PLC.

48 UNION BANK NIG.PLC

49 UNION HOMES SAVINGS AND LOANS PLC.

50 UNITED BANK FOR AFRICA PLC

51 UNITED CAPITAL PLC

52 UNITY BANK PLC

53 UNITY KAPITAL ASSURANCE PLC

54 UNIVERSAL INSURANCE COMPANY PLC

55 WAPIC INSURANCE PLC

56 WEMA BANK PLC.

57 ZENITH INTERNATIONAL BANK PLC

APPENDIX II

```
. xtset id year, yearly
       panel variable:  idno (strongly balanced)
        time variable:  year, 2012 to 2016
                delta:  1 year
```

```
. xtsum mpps bvpsg epsg dpsg csflg bvpss epss dpss csfls
```

Variable		Mean	Std. Dev.	Min	Max	Observations
mpps	overall	4.38336	6.817606	.5	31.61	N = 125
	between		6.370045	.5	22.154	n = 25
	within		2.685374	-3.97064	17.42136	T = 5
bvpsg	overall	4.90656	5.858155	0	22.44	N = 125
	between		5.826148	.002	17.988	n = 25
	within		1.212001	1.56656	9.40256	T = 5
epsg	overall	.92	2.291469	-.3	23.19	N = 125
	between		1.447052	-.028	5.748	n = 25
	within		1.795666	-4.398	18.362	T = 5
dpsg	overall	.25128	.4886766	0	2	N = 125
	between		.464801	0	1.62	n = 25
	within		.1724351	-.52072	.86928	T = 5
csflg	overall	161.3454	1799.693	-14.36	20121.5	N = 125
	between		805.4679	-4.936	4027.582	n = 25
	within		1615.872	-3864.727	16255.26	T = 5
bvpss	overall	4.3528	5.188082	0	19.63	N = 125
	between		5.168924	0	16.476	n = 25
	within		1.029701	1.4368	8.9108	T = 5
epss	overall	.58248	.9984114	-.31	4.31	N = 125
	between		.9332337	-.036	3.298	n = 25
	within		.3924213	-.61952	2.48048	T = 5
dpss	overall	.2368	.4795943	0	2	N = 125
	between		.4527347	0	1.62	n = 25
	within		.1779153	-.4332	.9128	T = 5
csfls	overall	1.63552	19.19594	-15.53	210.5	N = 125
	between		8.722856	-5.726	42.754	n = 25
	within		17.17121	-41.00848	169.3815	T = 5

```
. sktest mpps bvpsg epsg dpsg csflg bvpss epss dpss csfls
```

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint adj chi2(2)	joint Prob>chi2
mpps	125	0.0000	0.0000	48.74	0.0000
bvpsg	125	0.0000	0.3117	14.58	0.0007
epsg	125	0.0000	0.0000	.	0.0000
dpsg	125	0.0000	0.0000	47.51	0.0000
csflg	125	0.0000	0.0000	.	0.0000
bvpss	125	0.0000	0.7776	15.21	0.0005
epss	125	0.0000	0.0007	38.22	0.0000
dpss	125	0.0000	0.0000	50.50	0.0000
csfls	125	0.0000	0.0000	.	0.0000

```
. swilk mpps bvpsg epsg dpsg csflg bvpss epss dpss csfls
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
mpps	125	0.71222	28.666	7.535	0.00000
bvpsg	125	0.75612	24.293	7.163	0.00000
epsg	125	0.38196	61.563	9.251	0.00000
dpsg	125	0.64644	35.218	7.997	0.00000
csflg	125	0.06441	93.194	10.182	0.00000
bvpss	125	0.76056	23.851	7.122	0.00000
epss	125	0.68403	31.474	7.744	0.00000
dpss	125	0.64113	35.747	8.030	0.00000
csfls	125	0.16245	83.429	9.933	0.00000

```
. sfrancia mpps bvpsg epsg dpsg csflg bvpss epss dpss csfls
```

Shapiro-Francia W' test for normal data

Variable	Obs	W'	V'	z	Prob>z
mpps	125	0.76321	25.927	6.528	0.00001
bvpsg	125	0.76865	25.331	6.481	0.00001
epsg	125	0.36689	69.320	8.500	0.00001
dpsg	125	0.69514	33.379	7.035	0.00001
csflg	125	0.05586	103.375	9.302	0.00001
bvpss	125	0.77579	24.549	6.419	0.00001
epss	125	0.68342	34.663	7.110	0.00001
dpss	125	0.69330	33.581	7.047	0.00001
csfls	125	0.14884	93.194	9.094	0.00001

```
. spearman mpps bvpsg epsg dpsg csflg bvpss epss dpss csfls, star (0.05)
(obs=125)
```

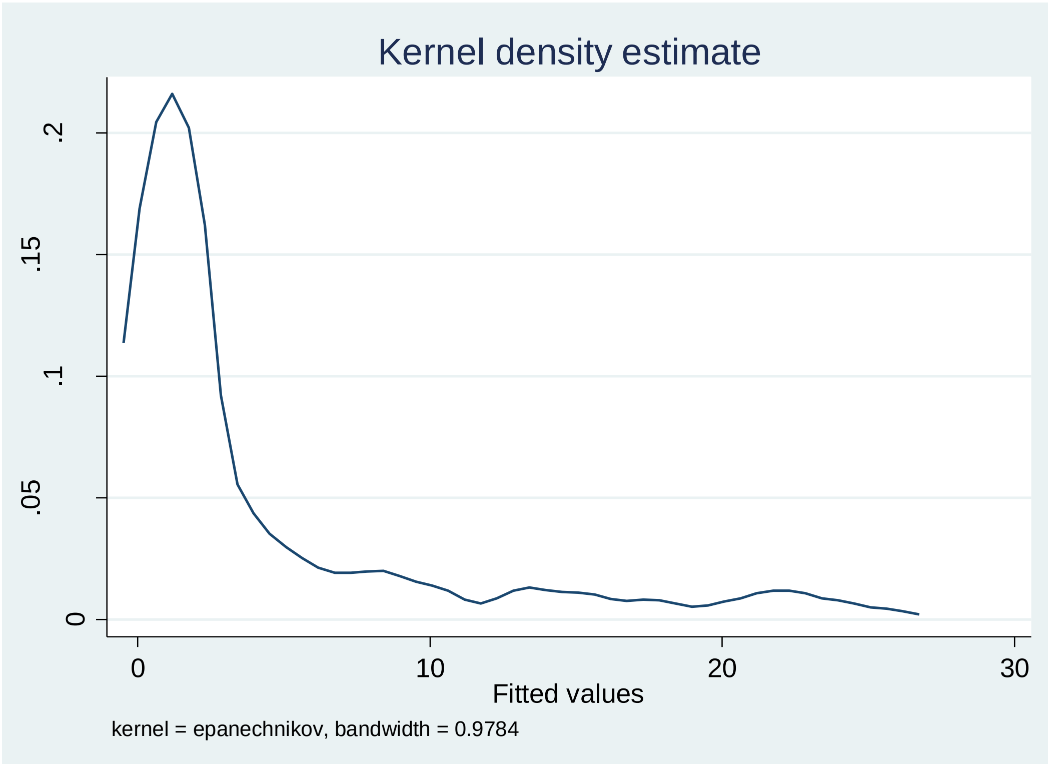
	mpps	bvpsg	epsg	dpsg	csflg	bvpss	epss	dpss	csfls
mpps	1.0000								
bvpsg	0.8043*	1.0000							
epsg	0.8591*	0.7477*	1.0000						
dpsg	0.6873*	0.5962*	0.6785*	1.0000					
csflg	0.1616	0.1711	0.2011*	0.0670	1.0000				
bvpss	0.8059*	0.9815*	0.7503*	0.5951*	0.1461	1.0000			
epss	0.7568*	0.6471*	0.8991*	0.6018*	0.1246	0.6788*	1.0000		
dpss	0.6089*	0.5379*	0.6096*	0.9415*	0.0026	0.5429*	0.5977*	1.0000	
csfls	0.0333	0.0055	0.0660	-0.0443	0.7268*	-0.0064	-0.0193	-0.0975	1.0000

```
. spearman mpps bvpsg epsg dpsg csflg, star (0.05)
(obs=125)

             |     mpps    bvpsg     epsg     dpsg    csflg
-------------+---------------------------------------------
        mpps |   1.0000
       bvpsg |   0.8043*  1.0000
        epsg |   0.8591*  0.7477*  1.0000
        dpsg |   0.6873*  0.5962*  0.6785*  1.0000
       csflg |   0.1616   0.1711   0.2011*  0.0670   1.0000


. spearman mpps bvpss epss dpss csfls, star (0.05)
(obs=125)

             |     mpps    bvpss     epss     dpss    csfls
-------------+---------------------------------------------
        mpps |   1.0000
       bvpss |   0.8059*  1.0000
        epss |   0.7568*  0.6788*  1.0000
        dpss |   0.6089*  0.5429*  0.5977*  1.0000
       csfls |   0.0333  -0.0064  -0.0193  -0.0975   1.0000
```

Model One

```
. reg mpps bvpsg epsg dpsg csflg

      Source |       SS       df       MS              Number of obs =     125
-------------+------------------------------           F(  4,   120) =  131.96
       Model |  4695.92798     4  1173.98199           Prob > F      =  0.0000
    Residual |  1067.56106   120  8.89634219           R-squared     =  0.8148
-------------+------------------------------           Adj R-squared =  0.8086
       Total |  5763.48904   124  46.4797503           Root MSE      =  2.9827

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpsg |   .2444455   .0709921     3.44   0.001     .1038861    .3850048
        epsg |  -.1500606   .1401152    -1.07   0.286     -.427479    .1273578
        dpsg |   10.52869   .8407317    12.52   0.000     8.864102    12.19328
       csflg |   .0005296   .0001543     3.43   0.001      .000224    .0008351
       _cons |   .5909371   .3509537     1.68   0.095    -.1039268    1.285801
------------------------------------------------------------------------------

. hettest

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

         chi2(1)      =   183.24
         Prob > chi2  =   0.0000
```

```
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
       bvpsg |      2.41    0.414809
        dpsg |      2.35    0.425042
        epsg |      1.44    0.695971
       csflg |      1.08    0.930004
-------------+----------------------
    Mean VIF |      1.82

. reg mpps bvpsg epsg dpsg csflg, robust

Linear regression                                      Number of obs =     125
                                                       F(  4,   120) = 2831.15
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.8148
                                                       Root MSE      =  2.9827

------------------------------------------------------------------------------
             |               Robust
        mpps |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpsg |   .2444455   .0964518     2.53   0.013     .0534775    .4354134
        epsg |  -.1500606   .0725656    -2.07   0.041    -.2937355   -.0063857
        dpsg |   10.52869   1.528938     6.89   0.000     7.501502    13.55588
       csflg |   .0005296   .0000598     8.86   0.000     .0004112     .000648
       _cons |   .5909371   .1879954     3.14   0.002     .2187194    .9631548
------------------------------------------------------------------------------

. predict e
(option xb assumed; fitted values)

. kdensity e
```




```
. xtreg mpps bvpsg epsg dpsg csflg, fe

Fixed-effects (within) regression               Number of obs      =       125
Group variable: idno                            Number of groups   =        25

R-sq:  within  = 0.4252                         Obs per group: min =         5
       between = 0.2569                                        avg =       5.0
       overall = 0.2828                                        max =         5

                                                F(4,96)            =     17.75
corr(u_i, Xb)  = -0.0393                        Prob > F           =    0.0000

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpsg |  -.6687687   .1892643    -3.53   0.001    -1.044455   -.2930819
        epsg |   -.213995   .1174102    -1.82   0.071    -.4470524    .0190624
        dpsg |   11.94361   1.470014     8.12   0.000      9.02566    14.86157
       csflg |   .0004265   .0001561     2.73   0.007     .0001167    .0007363
       _cons |   4.791585   .8879994     5.40   0.000      3.02892     6.55425
-------------+----------------------------------------------------------------
     sigma_u |  5.4965081
     sigma_e |  2.3138315
         rho |  .84946567   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(24, 96) =      4.31             Prob > F = 0.0000
```

```
. est store fixed

. xtreg mpps bvpsg epsg dpsg csflg, re

Random-effects GLS regression                   Number of obs      =       125
Group variable: idno                            Number of groups   =        25

R-sq:  within  = 0.2953                         Obs per group: min =         5
       between = 0.9103                                        avg =       5.0
       overall = 0.8123                                        max =         5

                                                Wald chi2(4)       =    339.17
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpsg |   .1883359   .0839365     2.24   0.025     .0238234    .3528484
        epsg |  -.1552605   .1301002    -1.19   0.233    -.4102521    .0997312
        dpsg |   10.95159   .9740854    11.24   0.000     9.042421    12.86077
       csflg |   .0004108   .0001497     2.74   0.006     .0001173    .0007042
       _cons |   .7839263   .4445937     1.76   0.078    -.0874614    1.655314
-------------+----------------------------------------------------------------
     sigma_u |  1.0541465
     sigma_e |  2.3138315
         rho |   .1718821   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random

. hausman fixed random

Note: the rank of the differenced variance matrix (3) does not equal the number of coefficients
        being tested (4); be sure this is what you expect, or there may be problems computing the
        test.  Examine the output of your estimators for anything unexpected and possibly consider
        scaling your variables so that the coefficients are on a similar scale.

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
       bvpsg |   -.6687687     .1883359       -.8571046        .1696339
        epsg |    -.213995    -.1552605       -.0587346               .
        dpsg |    11.94361     10.95159        .9920209        1.100954
       csflg |    .0004265     .0004108        .0000157        .0000441
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       25.59
                Prob>chi2 =      0.0000
                (V_b-V_B is not positive definite)
```

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        mpps[idno,t] = Xb + u[idno] + e[idno,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                    mpps |   46.47975       6.817606
                       e |   5.353816       2.313831
                       u |   1.111225       1.054146

        Test:   Var(u) = 0
                             chibar2(01) =    10.50
                          Prob > chibar2 =   0.0006
```

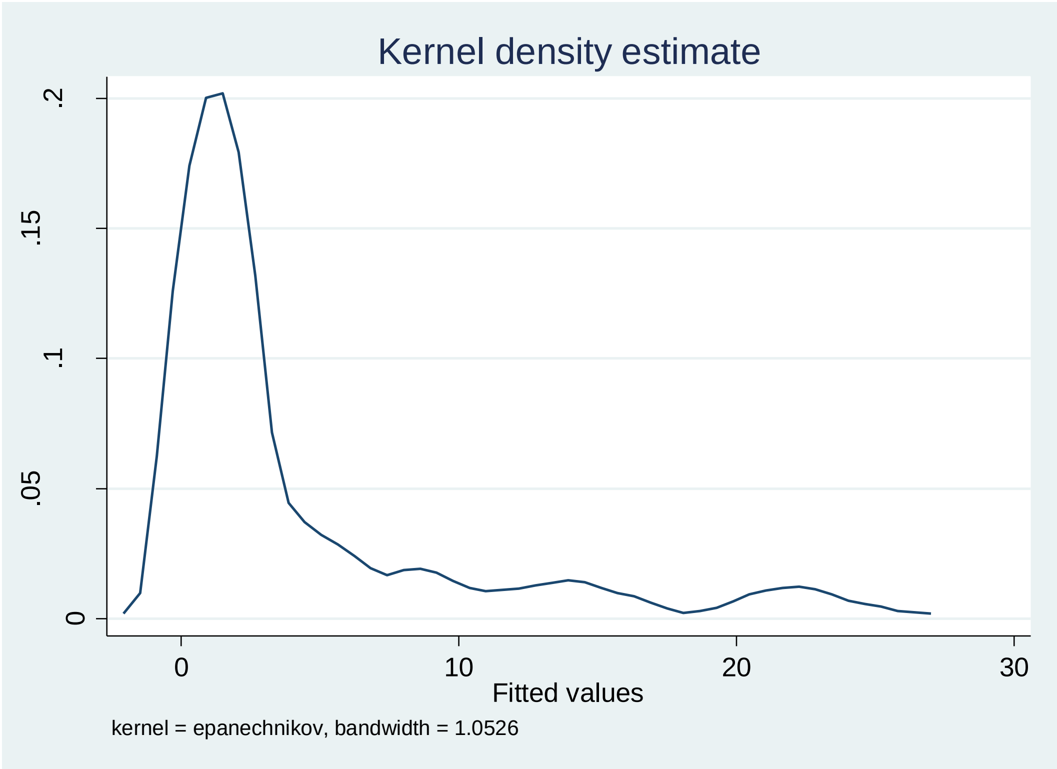
Model Two

```
. reg mpps bvpss epss dpss csfls

      Source |       SS       df       MS              Number of obs =     125
-------------+------------------------------           F(  4,   120) =  112.25
       Model |  4548.01505     4  1137.00376           Prob > F      =  0.0000
    Residual |  1215.47399   120  10.1289499           R-squared     =  0.7891
-------------+------------------------------           Adj R-squared =  0.7821
       Total |  5763.48904   124  46.4797503           Root MSE      =  3.1826

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpss |   .4401423   .1017236     4.33   0.000     .2387368    .6415479
        epss |  -1.958075   .7088567    -2.76   0.007    -3.361562   -.5545885
        dpss |   12.30206   1.169244    10.52   0.000     9.987039    14.61708
       csfls |   .0568883   .0150585     3.78   0.000     .0270735    .0867032
       _cons |   .6018779   .3775931     1.59   0.114    -.1457302    1.349486
------------------------------------------------------------------------------


. hettest

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

         chi2(1)      =   132.00
         Prob > chi2  =   0.0000

. vif

    Variable |       VIF       1/VIF
-------------+----------------------
        epss |      6.13    0.163082
        dpss |      3.85    0.259767
       bvpss |      3.41    0.293282
       csfls |      1.02    0.977594
-------------+----------------------
    Mean VIF |      3.60
```

```
. reg mpps bvpss epss dpss csfls, robust

Linear regression                                      Number of obs =     125
                                                       F(  4,   120) =   50.57
                                                       Prob > F      =  0.0000
                                                       R-squared     =  0.7891
                                                       Root MSE      =  3.1826
```

mpps	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
bvpss	.4401423	.1235136	3.56	0.001	.1955941	.6846906
epss	-1.958075	.9801524	-2.00	0.048	-3.898709	-.017442
dpss	12.30206	2.037661	6.04	0.000	8.267635	16.33649
csfls	.0568883	.0089845	6.33	0.000	.0390997	.074677
_cons	.6018779	.1925298	3.13	0.002	.2206823	.9830735

```
. predict r
(option xb assumed; fitted values)

. kdensity r
```



```
. xtreg mpps bvpss epss dpss csfls, fe

Fixed-effects (within) regression               Number of obs      =       125
Group variable: idno                            Number of groups   =        25

R-sq:  within  = 0.3773                         Obs per group: min =         5
       between = 0.1550                                        avg =       5.0
       overall = 0.1881                                        max =         5

                                                F(4,96)            =     14.54
corr(u_i, Xb)  = -0.0810                        Prob > F           =    0.0000

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpss |  -.7378869   .2594252    -2.84   0.005    -1.252842   -.2229319
        epss |  -.0662837   .6980114    -0.09   0.925    -1.451825    1.319258
        dpss |   10.49564   1.490034     7.04   0.000     7.537942    13.45333
       csfls |   .0148399   .0139701     1.06   0.291    -.0128906    .0425703
       _cons |   5.124206   .9676812     5.30   0.000     3.203374    7.045038
-------------+----------------------------------------------------------------
     sigma_u |   5.880729
     sigma_e |   2.408394
         rho |  .85636744   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(24, 96) =     4.73              Prob > F = 0.0000

. est store fixed

. xtreg mpps bvpss epss dpss csfls, re

Random-effects GLS regression                   Number of obs      =       125
Group variable: idno                            Number of groups   =        25

R-sq:  within  = 0.2488                         Obs per group: min =         5
       between = 0.8962                                        avg =       5.0
       overall = 0.7868                                        max =         5

                                                Wald chi2(4)       =    317.33
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

------------------------------------------------------------------------------
        mpps |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       bvpss |   .3802201   .1138945     3.34   0.001      .156991    .6034491
        epss |  -1.591107   .6991202    -2.28   0.023    -2.961358   -.2208571
        dpss |   11.94742   1.205865     9.91   0.000     9.583969    14.31087
       csfls |   .0424496   .0144818     2.93   0.003     .0140658    .0708333
       _cons |   .7565499   .4516863     1.67   0.094     -.128739    1.641839
-------------+----------------------------------------------------------------
     sigma_u |  .93445907
     sigma_e |   2.408394
         rho |  .13084646   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random
```

```
. hausman fixed random

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
       bvpss |   -.7378869     .3802201       -1.118107        .2330869
        epss |   -.0662837    -1.591107        1.524824               .
        dpss |    10.49564     11.94742       -1.451786        .8752657
       csfls |    .0148399     .0424496       -.0276097               .
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =   -41.21    chi2<0 ==> model fitted on these
                                        data fails to meet the asymptotic
                                        assumptions of the Hausman test;
                                        see suest for a generalized test


. hausman fixed random, sigmamore

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |     fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
       bvpss |   -.7378869     .3802201       -1.118107        .2906198
        epss |   -.0662837    -1.591107        1.524824        .4653773
        dpss |    10.49564     11.94742       -1.451786        1.326672
       csfls |    .0148399     .0424496       -.0276097        .0085332
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       39.87
                Prob>chi2 =      0.0000

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        mpps[idno,t] = Xb + u[idno] + e[idno,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                    mpps |   46.47975       6.817606
                       e |   5.800362       2.408394
                       u |   .8732138       .9344591

        Test:   Var(u) = 0
                             chibar2(01) =    11.82
                          Prob > chibar2 =   0.0003
```