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# RISK GOVERNANCE & CONTROL: Financial markets and institutions

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# CHARACTERISTICS OF COMPANIES WITH A HIGHER RISK OF FINANCIAL STATEMENT FRAUD: FIVE CASE STUDIES

# Elda du Toit\*, Frans N.S. Vermaak\*\*

# Abstract

Various characteristics can be observed in the financials and the behaviour of companies engaging in accounting irregularities. This article explores the usefulness of such characteristics by analysing the financial statements of five companies accused of alleged accounting irregularities. The analysis involves quantitative and qualitative analyses for each of the companies, compared to a relevant control sample. The quantitative study consisted of financial statement analyses. The qualitative study involved an analysis of the narrative reports that form part of the published annual report. Nine of the characteristics initially identified were not reliable indicators of accounting irregularities. However, the nine remaining characteristics were positive indicators for the detection of accounting irregularities. Eight additional characteristics, not initially identified, were noted as potential indicators of accounting irregularities.

Keywords: Accounting Irregularities, Behaviour, Characteristics, Fraud Detection, Red Flag

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# 1. Introduction

A greater awareness of accounting irregularities may help individuals to detect irregularities earlier and even prevent its occurrence. Regular monitoring is essential to raise awareness (Cameron-Ellis, 2000). According to Rezaee (2002), the potential harmful effects of accounting irregularities include, but are not limited to its ability to undermine the quality and integrity of the financial reporting process and to jeopardise the integrity and objectivity of the accounting profession. Ryan et al. (2002) claim the reliability of accounting models are of limited use for decision making purposes, even without the presence of accounting irregularities. They make this statement because of the historical information content of accounting as well as its strict recognition and measurement rules. The presence of irregularities in accounting systems, however, makes accounting information even less useful, Accounting irregularities diminish confidence in the use of financial information for market-related valuations and therefore make the capital market less efficient, which has the potential to adversely affect a nation's growth and prosperity.

To detect and identify accounting irregularities, red flags act as useful indicators to detect irregularities. Red flags are all the conditions more likely to be present in the case of irregularities (Koornhof and Du Plessis, 2000, Cohen et al., 2012). Such red flags are useful to all interested parties who observe financial statements and are concerned about irregularities (Krambia-Kapardis, 2002). In addition to the financial statements, Mulford and Comiskey (2002) remind users that the informational content of notes to the financial statements should not be underestimated. Glover and Aono (1995) point out that a lot can possibly be learnt from observing subjective aspects such as corporate culture, employee turnover, the average employee tenure, the nature of customer complaints, product quality, employee morale and employee benefits, corporate board meeting minutes and various policies and procedures. Rosplock (2001) adds to these aspects industry and economic data applied to determine trends, bankruptcy and cash flow risk, the rate of financing and substantial suits, liens or judgements that could affect the company. Any number of red flags may be observed if one knows what to look out for.

Fridson and Alvarez (2011) claim further financial analysis, particularly in the form of ratios, are useful for different purposes and are based on information available to the public. Even though ratio analysis is mostly used by investment managers, corporate financiers and commercial lenders, there is no reason why ratios cannot be successfully implemented by investors and creditors who want to secure their interests in a company against corporate misconduct.

Companies with a propensity for misconduct display distinctive characteristics. In a review of the work of prior researchers, the author identified a set of



characteristics generally displayed by companies who commit accounting irregularities. These findings correlate with those of Cohen et al. (2012), even though their study mainly focuses on managers' behaviour. The specific characteristic categories are (in alphabetical order):

- Accounting transactions
- Auditors
- Cash flow
- Company age
- Control
- Culture
- Debt
- Directors
- Financial distress
- Geographic location
- Industry
- Liquidity
- Management
- Personnel
- Receivables and inventory
- Remuneration
- Shareholding
- Structure

A gap exists in the literature, not because an insignificant amount of research has been done on accounting irregularities, but due to most of the research emanating solely from the United States while accounting scandals are not only limited to the United States (Albrecht et al., 2014). There has been limited academic research in South Africa on the topic of accounting irregularities. Papers in which the identification detection and of accounting irregularities are discussed tend to focus on auditors' to detect and responsibility identify such irregularities.

Shareholders have a vested interest to see the company they have a financial interest in prosper in terms of exceptional financial performance and a strong financial position. The company has to display a strong presence in the market and has a positive image in the media. To achieve this, ethical behaviour is essential. For this reason the characteristics that can identify unacceptable behaviour and possible irregularities in a company can help interested parties to safeguard their investments.

This study delivers evidence of how useful the characteristics identified by previous researchers are in a real-world situation and in South Africa in particular. This is attained by applying the abovementioned list of characteristics to five case studies of South African companies with known allegations of accounting irregularities against them.

The primary objective of the study is to establish whether there exists a set of characteristics that can be used to detect and identify an increased risk for the occurrence of accounting irregularities.

The study commences with a short overview of accounting irregularities, followed by what this study

entails, an analysis of the characteristics, and the conclusions that can be made from the research.

# 2. Literature Review

# 2.1 Why do research on fraud?

A number of South African companies have experienced problems in the past with accounting irregularities, with specific reference to the manipulation of accounting records to artificially adjust the financial statements. Among companies that experienced such problems are Macmed, NAIL, Beige, Masterbond, Saambou, Regal Bank, Unifer, Leisurenet and NRB. Some of these companies still survive, but most of them collapsed after the irregularities were discovered, an indicator that accounting irregularities can cause harm to financial health.

Internationally, two of the largest and most wellknown bankruptcies in the 1990s resulted from accounting irregularities, namely those of Enron and WorldCom (Altman and Hotchkiss, 2006). The cost of such activities is not borne by the perpetrators, but by parties with limited access to a company's information such as customers, investors, creditors, the government and insurance companies. Apart from the financial losses incurred, there are also other losses, such as decreased sales, decreased productivity, poor credibility and an adverse impact on people's professional ethics.

As far back as 1995, the United States Chamber of Commerce already estimated the aggregate annual cost of fraud to companies in America to exceed \$100 billion (Glover and Aono, 1995). The Association of Certified Fraud Examiners (ACFE, 2014) translates the impact of occupational fraud based on the estimated 2013 gross world product to a potential projected global fraud loss of more than \$3.7 trillion. The report also indicates the typical organisation loses 5% of its revenue to fraud each year. According to South African crime statistics, the incidence of commercial crime is on the increase (SAPS, 2014), with reported cases having increased by 46.7% from 2004/2005 to 2013/2014.

Governments and professional organisations around the world have started to devise and implement laws and guidelines with the goal to prevent the occurrence of accounting irregularities. These measures include the Sarbanes-Oxley Act in America, the Turnbull Guide on corporate governance in the United Kingdom and the King Report in South Africa. DeVay (2006) provides evidence that the threat of the Sarbanes-Oxley Act is not effective to prevent and detect irregularities in the accounting system of a company, which raises a question about the effectiveness of these systems.

According to Cressey (1986), there is a widespread belief that accounting irregularities will decline in frequency and severity if people know more about irregularities and if such knowledge is used to prevent irregularities. Hussain et al. (2012) indicates employees need to be educated for them to better understand accounting irregularities, the internal controls and their role in the companies they work in. They found companies should not only rely on a yearly audit to detect accounting irregularities, but it is imperative for more individuals to know what to look for. A lack of education in the field is also a problem identified by DeZoort et al. (2012). They found tax professionals face increasing pressure to help manage the problem of irregularities, but tax literature lacks clear guidance in the area.

It is thus necessary to research the occurrence of accounting irregularities and fraud to protect investments and other interests in companies, since there are individuals who constantly identify new and ingenious ways to deceive their customers, investors, the government and others.

# 2.2 What are accounting irregularities?

Accounting irregularities are closely related to fraud, as it is the first step in the creation of fraudulent financial statements. Robertson (2002) defines fraud as "all means that human ingenuity can devise, and which are resorted to by an individual to obtain an advantage over another by false suggestions or suppression of the truth".

Accounting irregularities, as the term is used in this study, falls within the ambit of corporate misconduct, which can be defined as "an intentional act by one or more individuals among management, those charged with governance, employees or third parties, involving the use of deception to obtain an unjust or illegal advantage" (Cohen et al., 2012, IFAC, 2013). Accounting irregularities are therefore committed by the management of a company with the goal to artificially improve the financial performance and position of the company.

Accounting irregularities have to be distinguished from earnings management and accounting errors. Earnings management happens when a legitimate method, according to generally accepted accounting practice, is applied to create favourable financial statements (Rezaee, 2002). Accounting errors are unintentional mistakes which appear in financial statements. Because of the lack of intent, errors are normally easier to detect, since perpetrators of accounting irregularities go to great lengths to conceal intentional misstatements. Unintentional errors are, however, looked upon critically, because it can lead to greater risk for accounting irregularities in the financial statements of a company.

Sherman et al. (2003) compare false accounting entries to landmines in the books of a company. These "landmines" are hidden in the financial records of companies and may never "detonate". However, in a case where such an "accounting landmine" is discovered or "detonated", its effects can have a devastating impact on the confidence of investors, creditors, the public and many other related parties.

# 2.3 The characteristics that accompany accounting irregularities

Accounting irregularities tend to happen within a certain organisational culture. The type of organisational culture which indicates an increased risk for accounting irregularities is generally perceived to be a positive one, where individuals identify strongly with the goals and well-being of a company and do everything they believe is best for the company and for themselves. The attributes valued by companies as traits preferred in employees include loyalty, cohesiveness. trust. and aggressiveness (Elliott and Willingham, 1980). However, those are also the traits of individuals who are more likely to commit irregularities. It can also happen that employees act with the best intentions and do not realise they are acting inappropriately.

Table 1 summarises the 18 characteristics which most often indicate an increased risk for accounting irregularities. Each characteristic is supplemented with an explanation on how it occurs in a company with an increased risk of being subject to accounting irregularities.

Table 1. Summary of the analysis of company characteristics which suggest a risk for accounting irregularities

N⁰	Characteristic category	Occurrence			
1.	Accounting transactions	Accounting practices and transactions tend to be complex.			
		Subjective judgements are often used.			
		Significant related-party transactions occur.			
2.	Auditors	There are frequent changes of auditor.			
		The relationship between management and auditors is strained.			
		Attempts to influence auditors are made.			
		There are disputes with auditors.			
		Information is withheld from auditors.			
3.	Cash flow	There is poor cash flow, especially in relation to profit.			
4.	Company age	Companies with increased risk are often younger.			
5.	Control	A poor/weak control environment leads to increased risk.			
6.	Culture	Documentation to formalise processes (e.g. a code of conduct, an ethics policy or a fraud policy) are			
		absent.			

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N₂	Characteristic category	Occurrence			
7.	Debt	There is a tendency to high debt.			
8.	Directors	Few outsiders are on the board of directors.			
		There is a weak, or in some cases, no audit committee.			
9.	Financial distress	The presence of high financial pressure can often be observed.			
10.	Geographic location	Companies are decentralised.			
11.	Industry	In volatile industries where changes (e.g. technology) are frequent and significant there is more risk.			
		Industries with a high level of competition may face more risk.			
		Economic factors may affect certain industries e.g. increased interest rate affect customers spend.			
		Inconclusive results were obtained with regard to specific industries.			
12.	Liquidity	At-risk companies often have poor liquidity.			
13.	Management	An autocratic or dominant management team can encourage unethical behaviour.			
		A high management turnover is often present.			
		Conflicts of interests occur.			
		There is an emphasis on shorter-term performance.			
14.	Personnel	There is a rapid personnel turnover.			
		Lavish lifestyles of personnel, especially management, may point to risk.			
15.	Receivables and inventory	Unexplained increases in receivables and/or inventory may indicate risk.			
16.	Remuneration	Remuneration mainly based on short-term performance increases the risk of a company.			
17.	Shareholding	There are high levels of internal shareholding (by management and/or directors).			
18.	Structure	Companies with complex structures are more at risk.			

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These characteristics will be used in the analyses of the case studies later in this research.

# 2.4 Reducing accounting irregularities

possible accounting Greater awareness of irregularities can help people to detect irregularities earlier and to prevent its occurrence. Cameron-Ellis (2000) states regular monitoring is essential to raise awareness. All parties with an interest in a company, especially personnel, ought to learn what risks there are and what accounting irregularities look like. This will lead to irregularities being identified early enough to limit the adverse impact it may have on a company's financial health. The risk faced by interested parties other than managers and auditors can be reduced if a set of characteristics exist which can be used to detect and identify accounting irregularities.

Some aspects of a company, such as its culture and internal controls, cannot be observed by outside parties and therefore cannot be judged by interested parties external to the company. This makes it all the more important for any interested party to be aware of the risks and to take reasonable steps to find out as much about the company as possible. Sherman et al. (2003) also emphasise the importance for investors' to recognise there are no shortcuts to successful investments. Investors must make an effort to inform themselves by doing their own investigations and find data before it comes to them. A vast amount of information is available, especially on the Internet. This does not mean an individual investor will be able to detect accounting irregularities, but to be observant can help to some extent.

Accounting irregularities will decline in frequency and severity if more is learnt about it and if such knowledge is used to prevent it (Cressey, 1986). No company is immune against the onslaught of misconduct and it is the responsibility of everyone to be aware of accounting irregularities and the means to prevent it.

# 2.5 The use of analysis for the detection and identification of accounting irregularities

Rosplock (2001) mentions various measures which can be used in an investigation for accounting irregularities. The more important measures are financial information and ratios, industry and economic trends, bankruptcy and cash flow problems, information disclosed in notes, the rate of financing and substantial suits and liens or judgments which can all have an effect on the company. This information is publicly disclosed and is most often found in the financial statements or the notes which accompany financial statements.

More information can also be derived from additional subjective aspects such as corporate culture, employee turnover, average employee tenure, the nature of customer complaints, product quality, employee morale and employee benefits, the corporate board meeting minutes and other policies and procedures. Information which can be helpful and is often available in the annual reports is: credit ratings; investment in employee development; warranty expenses; and comparisons of wages with industry averages. Industry trait information is publicly available and includes industry trade journals, business periodicals and newspapers from which new trends can be observed (Glover and Aono, 1995). It requires a lot of time and effort to research these information resources, a commodity a private investor or other interested party may not have.

Schilit (1993) provides a list of documents that can be observed to detect and identify accounting irregularities, namely:

- the auditor's report, whether a qualified report was given and/or if an opinion was withheld;
- the proxy statement for pending litigation and executive compensation;
- footnotes for accounting policy changes, relatedparty transactions and other contingencies or commitments;

- the chairman's letter to determine the forthrightness of management; and
- other quantitative documentation which may give more information on management practices, disputes/disagreements and past performance.

Pinches et al. (1975) found financial ratios useful for prediction purposes and in the same way, help to identify accounting irregularities. This corresponds with the findings of Horrigan (1965), who claims the co-linearity between ratios means only a few ratios are needed to capture a significant amount of information. The most significant ratio predictor categories identified by Horrigan (1965) were return on investment, capital turnover, inventory turnover and financial leverage. Three specific ratios for each category were sales/total assets, debt/total capital and debt/total assets. Three other significant ratios which did not fall into any of the categories were cash flow/total debt, working capital/total assets and net income plus interest/interest.

Because collinearity can differ between different types of ratios and sometimes also between industries, Wells (1997) recommends the use of vertical and horizontal analysis for the detection and identification of accounting irregularities. In a vertical analysis, all the numbers in the financial statements are expressed as percentages of a chosen significant item. In the income statement, all items are mostly expressed as a percentage of sales, and in a balance sheet as a percentage of total assets. This is also called the "percentage" or the "common form" income statement (Fridson and Alvarez, 2011). In a horizontal analysis, the percentage of change in figures from one period to the next is calculated and analysed. Adverse results obtained from these methods need not be indicative of accounting irregularities, but can perhaps be explained as the effect of other factors such as organisational, industrial and economic factors and conditions.

Financial distress is an indicator of an increased risk of the presence of accounting irregularities in a company, because financial distress creates a crisis situation where individuals may find it necessary to use improper means to improve their financial position. Fridson and Alvarez (2011) recommend the use of Altman's Z-score in financial analyses. Therefore, if financial distress is an indicator of the presence of accounting irregularities, Altman's Zscore may be helpful in an analysis for accounting irregularities. In the same way, other financial ratios which are applied to determine financial distress or even those for liquidity, solvency, profitability and growth can be helpful to detect and identify accounting irregularities.

Kaminski et al. (2004), however, question the use of financial ratios to identify irregularities, as little is still known about the use of financial ratios for this purpose. In a study of 21 financial ratios, they found only 16 to be significant in the identification of accounting irregularities. However, they do believe a model similar to Altman's Z-score for bankruptcy can be developed for accounting irregularities. They indicate ratios are perfectly capable to classify a company as being honest in its activities (98%), but the identification of a company that engages in accounting irregularities was not as successful (24% to 59%).

# 3. Research Method

# 3.1 Research design structure

Robson (2011) categorises research into various types. According to his allocation this study falls into the category of exploratory research, since it involves a relatively new field of research. The collection and analysis of the data from five companies, which form the most integral part of the research, calls for a case-study approach. Robson (2011) defines a case study as an in-depth analysis of one or a few cases and also states a case study is ideal for exploratory research to observe a situation created by a new research area. The fact that case studies are useful for exploratory research is confirmed by Yin (2014) and that it is common in accounting research is confirmed by Ryan et al. (2002).

According to Yin (2014), case study research arises from a need to understand social systems and relationships. The use of case study analysis allows a researcher obtain and observe realistic to characteristics of real-life events. The use of a case study approach in this particular study can be motivated through a number of arguments. The first is that limited data on the phenomena is available for the analyses. Secondly, case studies allow one to investigate contemporary phenomena in a real-life context. Thirdly, a case study enquiry copes with a situation where there are significantly more variables of interest than data points. Finally, case study research is ideal where the prior development of theoretical propositions is used to guide data collection and analysis.

# 3.2 The study

The study sets out to establish whether a set of characteristics exist which can be used in a practical way to detect and identify accounting irregularities. The annual reports of five case study companies were analysed to establish in what way the 18 characteristics identified by previous authors can be observed to be present in companies that engage in accounting irregularities. If the presence of certain characteristics can be observed in the case-study companies, such characteristics can be used by interested parties to detect and identify accounting irregularities.

To test whether the characteristics are present in companies with accounting irregularities, a sample of companies with a history of irregularities are identified. The annual reports of the companies are analysed in detail through horizontal and vertical analyses of the financial statements, ratio analysis and an analysis of the narrative reports which form part of an annual report. The goal is to identify whether accounting irregularities can be detected through such means.

# 3.3 The data set

A sample of five firms identified through the media and the Johannesburg Securities Exchange South Africa (JSE) with allegations of accounting irregularities are examined. This method to identify companies was also used by Cohen et al. (2012). The remaining companies without known violations from the same sectors are used as control samples for the quantitative analyses, and one company from each sector is used as the control sample for the qualitative analysis.

Detailed media searches revealed the following five companies as to have had accounting irregularity allegations against them:

- Beige Holdings Limited;
- Johannesburg Consolidated Investments (JCI) Limited;
- Macmed Healthcare Limited;
- Saambou Holdings Limited; and

Tigon Limited.

The allegations against the chosen companies were specifically related to accounting irregularities, such as misrepresentation of revenue, expenses, asset values and liabilities by means of manipulation of accounting records.

The control samples for each company are the totalled amounts in the financial statements of all the companies in the relevant sector, excluding the case study companies. For example, the Health Sector control sample is created by adding up the individual line items in the financial statements of all four companies in the sector with no known allegations of accounting irregularities.

For Beige Holdings Limited and Macmed Healthcare Limited (both from the health sector), the same control sample is used. However, the yearranges of the health sector control sample differ to be in line with those of the respective companies.

The financial statements for the periods as set out in Table 2 are used for the purpose of the analyses, since these are the periods in which the accounting irregularities allegedly occurred for the five case study companies. To be consistent over all the case studies, it was decided to use a period of five years for the analysis of each company.

Table 2.	Periods	for which	the analyses	were done

Company under investigation	Period
Beige Holdings Limited	1998 - 2002
Johannesburg Consolidated Investments (JCI) Limited	1999 - 2003
Macmed Healthcare Limited	1995 – 1999
Saambou Holdings Limited	1999 – 2003
Tigon Limited	1997 – 2001

The financial statements for the companies with accounting irregularity allegations and the control samples are obtained from the INet BFA database. The INet BFA database calculates 42 ratios and no attempt is made to calculate any ratios not available from the INet BFA database, as the aim of the study is to work with information readily available to interested parties without the need to calculate various ratios. For the purposes of the qualitative analyses, the company which appears first alphabetically in each sector is chosen to be used as a comparison. The same company is used as a comparison for Beige Holdings Limited and Macmed Healthcare Limited (both from the health sector), but the year-range differs. The companies used for comparison with the five case study companies are presented in Table 3.

Table 3. Control sample companies chosen as a comparison in the qualitative analysis

Sector	Control sample company
Health – Pharmaceutical and cosmetic	Aspen Pharmacare Holdings Limited
Basic resources – Mining	Aflease Gold Ltd (formerly Sub Nigel Gold Mining Company Ltd)
Financials – Banks	ABSA Group Limited
Financial services – General financial	African Bank Investment Limited

In the qualitative analysis, the focus is mainly on reports and documents not regulated by generally accepted accounting principles or GAAP. This includes, for example, the chairman's report, director's report and the audit report. The statements regulated by GAAP are sufficiently analysed in the quantitative analysis. The size of the company and its control sample were not considered, since the aim was



mainly to observe whether the narrative reports of the case study companies and its control sample companies contained the same trends as in the industry.

The data set contain some limitations. Firstly, there are only five companies to evaluate with their control groups. Secondly, the availability of financial information is limited because the five companies listed at different stages before accounting irregularities allegedly occurred and delisted (if they delisted) at different stages after the allegations. Therefore the accounting irregularities occurred at different stages in the five-year periods for the companies, to make even the calculation of an overall average for the five companies impossible. Thirdly, the calculation of detailed statistics was also seen to be of little value. Due to the vast number of variables in the analysis (namely all the financial statement line items, as well as all the ratios) a statistical T-test cannot be calculated.

For the above reasons, a decision was made to do an analysis where changes in each financial statement line item or ratio is individually observed to establish whether there are any significant trends or patterns to discern.

# 3.4 Quantitative analysis

The quantitative financial analyses consisted of horizontal and vertical financial statement analyses as well as a complete ratio analysis for each company and its control sample. Horizontal, vertical and ratio analysis was chosen since it expresses changes and trends in the financial statements in terms of percentages. This eliminates the problem of size, since the control samples were in each of the cases the total of the industry/sector and therefore much larger than the companies with allegations of accounting irregularities.

As a result of varying fraud periods for the different companies and because irregularities allegedly occurred at different stages within the fiveyear periods chosen for the companies, the only way to analyse the financial statements quantitatively was to observe the changes or trends for each line item.

# 3.5 Qualitative analysis

To observe the qualitative aspects, characteristics and/or implications of irregularities in financial statements, the narrative reports which accompany the published annual reports of the companies and the relevant control samples are analysed. The analysis is done by reading through the narrative reports for each company and its control sample and noting where differences exist. An example is where one company report difficulties in the industry and another do not.

### 4. Results

The 18 characteristics initially identified as potentially useful can be split into two groups – those not to be of use to detect and identify accounting irregularities and those of use to detect and identify irregularities. In addition, seven more characteristics were identified as useful indicators of the possibility of accounting irregularities. The groups are mentioned below and a more detailed discussion follows thereafter.

Through the financial analysis of the five casestudy companies, nine of the 18 characteristics are useful as indicators of accounting irregularities. The characteristics are, in alphabetical order:

- cash flow patterns;
- company age;
- company culture;
- debt levels;
- directors' behaviour and character;
- financial distress;
- geographic location;
- management behaviour and character; and
- receivables and inventory.

From the characteristics initially identified, the following nine characteristics are of limited use as indicators of an increased risk of accounting irregularities:

- complexity of accounting transactions;
- company-auditor relationships;
- control structure and procedures;
- industry;
- liquidity;

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- personnel behaviour;
- remuneration;
- shareholding; and
- organisational structure.

Additional observations have been made in the analyses of the case study companies. These can serve the purpose of additional characteristics which need to be observed when a company is analysed for possible accounting irregularities. The additional observations are:

- acquisitions, mergers and other changes to a company's size and structure;
- a tendency to avoid the payment of dividends;
- share price ratios which follow a decreasing trend over the period in which accounting irregularities occurred;
- only small values are reported for tax charges or tax liabilities compared to figures reported by other companies in the related sector;
- financial statement line items with a tendency to have changes contrary to those of the sector;
- a leading or lagging effect with regard to significant changes in the financial statements of the company and the sector; and
- in most cases irregularities occurred for two years or less before the irregularities were detected and identified.

# 5. Discussion

From the literature it can be observed that accounting irregularities are a real problem in the corporate world and that it affects various parties. These parties include the tax authorities, the securities exchanges, investors and creditors. It is especially a problematic situation for those parties with a contractual relationship and a legitimate interest in a company, such as investors and creditors. These entities do not have access to the internal information of a company, which makes it difficult for them to detect cases of accounting irregularities.

One has to consider there are some limitations to the generalizability of a study like this. One cannot trust the presence of red flags to always indicate fraud even though it has the potential to be an important indicator.

# 5.1 Indicators of possible accounting irregularities

The first characteristic with the possibility to assist in the detection and identification of accounting irregularities is the cash flow pattern of the company. Poor cash flow was identified as a positive indicator of an increased risk for accounting irregularities.

The age of the company is another indicator of an increased risk for accounting irregularities. Age, in this context, is the length of time a company has been listed on the Johannesburg Securities Exchange (JSE) South Africa. It is found problems are more likely to occur in companies listed for a shorter length of time. This may be a result of the fact that a newly listed company may struggle to cope in the competitive environment of listed companies and perhaps to comply with the listing requirements.

Company culture, together with the directors' behaviour and character, plays a significant role in how companies are directed and managed, and what types of people are employed. The subjective impression from the case studies is that the majority of companies had a board of directors largely goal-driven and competitive and with a focus on performance. This can be observed in the narrative reports that accompany the financial statements. It is likely when these characteristics are present in a board of directors; the management of companies involved with misstatements and accounting irregularities are also goal-driven, competitive and performance-oriented.

It is not the intention of this observation to claim it is negative when the characteristics of being goaldriven, competitive and concentrated on performance are present in a board of directors or a management team. However, if these traits are expressed too forcefully, it can result in managers' and/or employees' feeling a need to manipulate accounting records to improve the income statement and the balance sheet. This is especially true for companies where the remuneration of directors and managers is based on company performance. As a consequence, it is found from the companies in the case studies that total remuneration to directors and managers is higher in the companies with accounting irregularities problems.

Debt levels refer to another characteristic found to be a consideration in the case of accounting irregularities. Contrary to what one may initially suspect, the debt levels of the companies with allegations of accounting irregularities are on average lower than those of the industry in which they operated. However, it is also found most of the companies experience financial distress problems over the periods in which irregularities occur. It is possible debt levels can be deliberately understated to make the financial statements appear more favourable. The financial distress measure (Altman's Z-score) is a ratio calculated on the basis of various financial statement items and will therefore show financial distress even in a case where a company artificially manipulate its debt to appear lower.

With regards to liquidity, most of the case studies display strong liquidity positions while the industry does not have adequate working capital to sustain acceptable liquidity levels. One can speculate and say a company overstates its assets or understates its liabilities if its liquidity appears more favourable than the liquidity of the industry it operates in. However, when receivables and inventory are separately observed, no distinctive patterns could be identified as being useful to develop further specific liquidity-related indicators of the presence of accounting irregularities.

# 5.2 Items which are not clear indicators of accounting irregularities

It is difficult to identify specific industries in which irregularities are most likely to occur. Two of the companies from the case studies operated in the health and pharmaceutical sector, but on the basis of such a small sample there is no significant evidence companies in the health and pharmaceutical sector can be identified as at a greater risk of accounting irregularities than other sectors. Overall, it is found irregularities are more likely to occur if the industry in which a company functions experiences difficulties in terms of economic and financial factors.

As part of proper corporate governance principles, companies are compelled to have control systems in place and must report on them in the annual report. It is, however, impossible to determine from the annual report whether such systems are properly maintained and whether the management of the companies has any opportunity to override the system to manipulate the accounting records.

The geographic locations of the case study companies do not provide any clear indicators. The only significant observation is that all of the case study companies had subsidiaries or branches at remote locations, whether national or international. This can have an effect on the extent of control to be exercised, but it is not necessarily an indicator of increased risk for accounting irregularities.

From the analysis of the annual reports of the case study companies, it does not appear as if there is a link between the shareholding structure of a company and its likelihood to engage in any manipulation of accounting records and accounting irregularities.

# 5.3 Additional observations which may indicate accounting irregularities

A number of additional observations which may be helpful in the detection and identification of accounting irregularities were observed in the analyses of the case study companies.

The first is the role of acquisitions, mergers and other changes to a company's size and structure. A drive for growth and expansion may be an indicator of accounting irregularities, as it gives the directors and/or management a motive to manipulate accounting records, because of the significant amount of resources restructuring requires. Acquisitions, mergers and other major changes are especially useful to indicate the presence of increased accounting risk and/or possible accounting irregularities when other companies in the industry do not seek to expand in the same way.

In the analyses of the case studies it is found companies more likely to engage in accounting irregularities are less likely to pay out dividends relative to other companies in the industry. A lack of dividends may indicate a company is under pressure to perpetrate accounting irregularities. It can, however, also be a positive indication that the company has projects to invest in and prefers to use retained earnings. This characteristic therefore needs to be considered in conjunction with other issues, for example, the state of the economy and the situation in the industry, to determine whether there may be other reasons behind the reduced dividend payouts.

For each of the case studies, the share price ratios follow a decreasing trend over the period in which accounting irregularities occurred. It also appears that the case study companies only report small amounts for tax charges or tax liabilities compared to industry figures. In addition, many of the financial statement line items of the case study companies show a tendency for changes contrary to those of the industry. This may indicate the companies manipulate their records to show more favourable results, while other companies in the industry do not take such measures to "improve" performance. This leads to different trends than what can be observed in the industry. It was also found companies who engage in accounting irregularities attempt to conceal the fact by statements about expected inconsistencies – with reasons –published in the annual report through the chairman's report and other narrative notes and disclosures. For example, a statement can be published to indicate working capital may change significantly in future. There may be legitimate reasons for such anticipated changes, but interested parties should be aware of the possibility of planned future misstatements.

Another observation to be made in the comparison with industry figures is that, in some of the case studies, there is a leading or lagging effect with regard to significant changes in the financial statements of the company and the industry. This means significant changes in the financial statements of the company often occur in the year before or after significant changes occur in the industry. The period from the occurrence of accounting irregularities until its detection and identification is, in most cases, no longer than two years. This characteristic indicates cases of accounting irregularities are often poorly hidden and can therefore be detected rather easily.

The rest of the characteristics previously identified do not show conclusive results in the analyses of the case studies. Some of these inconclusive results arise from a lack of information about the specific characteristics. These characteristics include the complexity of transactions, information about organisational structure, personnel behaviour, personnel character and relationships with auditors. As information about these characteristics tend to be insufficient, it is not possible to make any sound judgement on their ability to assist users of statements to detect and identify an increased risk for accounting irregularities.

In conclusion, it is found there are a number of useful indicators of accounting irregularities which can be readily observed from the annual reports of a company and which can act as indicators of an increased risk for accounting irregularities. The list of possible red flags or categories of red flags is not exhaustive but do represent some areas of a company's operations which have been associated with fraud in the past.

# 6. Recommendations

The list of possible red flags or categories of red flags is not exhaustive but do represent some areas of a company's operations that have been associated with fraud in the past. It is also important to note the presence of certain characteristics by a company does not necessarily indicate the presence of accounting irregularities, but it is worth giving consideration to these to detect and identify accounting irregularities sooner. There are a number of characteristics which can act as indicators of possible accounting irregularities. An attitude of scepticism and close scrutiny of the annual report for these characteristics will reveal more about a company's activities than the management of a company may want the report to do.



All cases of accounting irregularities are different, because each company has a different reason to engage in the manipulation of accounting records and accounting irregularities and each also finds a different way to perpetrate it. This implies the display of the different indicators will be different in each case. It is therefore necessary for an investor or other interested party to observe all the characteristics and compare it with figures from the relevant industries to see if any outliers can be identified.

Even though a comparison of a company's financial figures and qualitative disclosures with industry figures can be helpful to detect and identify irregularities, this may in some cases not be possible due to a lack of available information and limited time. If a reader of the annual report is, however, concerned about a figure or comment in the annual report, it is recommended that the figure or comment is compared with the same in the annual report of a similar company. An example of the predictive power of this practice is poor performance by a company which is explained away as the result of a poor economic environment. If a company in the same industry does not report similar poor economic conditions, it may be a ruse to explain away poor performance or other hidden problems.

Parties with a legitimate interest should take note of the additional benefits attached to analyse the annual report with accounting irregularities in mind. It ensures the reader pays attention to a variety of different quantitative and qualitative items which may be overlooked in other situations. An analysis of the annual report with the goal to detect and identify accounting irregularities provides opportunities to reveal other problems, for example, financial distress. When one analyses the annual report with another goal in mind, for example, to detect financial distress, this will not necessarily lead to the detection and identification of accounting irregularities.

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# DOES CORPORATE GOVERNANCE AFFECT DIVIDEND POLICY: EVIDENCE FROM ASEAN EMERGING MARKET

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# Abstract

This research-work uses a survey which comes from three different countries in ASEAN region i.e Indonesian, Thiland and Malaysian. This work integrate whole data from above all countries to examine whether firms that do corporate governance practising will pay higher dividends. This study has two issues: how regulation of stock exchange affects good corporate governance and how corporate governance affects value of the firm.

Using OLS regression, our finding shows that good corporate governance practices has positive sign to dividend pay out. Our finding may contribute to corporate governance literature.First, result finding support Jensen's (1986) that states free csah flow not reduce dividends pay out. Second, integrating emprical model from three different countires in ASEAN region.

Keywords: Corporate Governance, Dividend Pay Out, Free Cash Flow, OLS

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# 1. Introduction

There are literatures survey from many researchers that show relation between corporate governnace practices and dividend policy. Jensen (1986) and Gomes (2000) propose a hypothesis that dividends will give a protection to minority shareholders and outside shareholders. But however, the protection depends on where the firm exists especially protection enforcement for minority shareholders and corporate governnace effectiveness when a firm experiences agency conflicts.

Shleifer (1985) and Hart (1983) make a hyphothesis that product market competition as a proxy of corporate governance could reduce asymmetry of information between managers and shareholders due to shareholders could make a benchmark between firm's performance and competitor's performance easily. Then, we call it as the yardstick competition hyphothesis. La Porta et.al(2000) propose two dividend policy models are the outcome agency model and the subtitute model. The outcome agency model argues that minority shareholders is effective to force managers paying dividends. It implies that the amount of dividend payment increase with increasing corporate governance practice. The substitute agency model argues that firms pays dividends to keep a good reputation, hence in the future firm could raise funds from capital markets.

Schmidt (1997) indicates that intense product market competition increases firm default risk and liquidation risk, thereby reducing managerial agency conflicts. Shleifer and Vishny (1997) show that competition reduces the agency costs of free cash flow by discouraging manager investment in negative NPV projects. Allen and Gale (2000) argue that product market competition serves as either a monitoring mechanism or a corporate governance mechanism to reduce agency conflicts. Bertrand and Mullainathan (2003) showthat competition eliminates the "quiet life" to reduce input costs, overheads, and andwages. Fee and Hadlock (2000) and Raith (2003) indicate that competition increases CEO turnover, that CEOs aremore likely to be replaced in a competitive market, and that they typically work harder during severe competition.

Guadalupe and Perez-Gonzalez (2010) show that management interests align with shareholder interests in a competitive product market. Giroud and Mueller (2011) indicate that if product market competition can force managers to maximize firm value to survive, then corporate governance is unnecessary in intensely competitive markets. Corporate governance on manager monitoring is affected by product market competition. However, firms in low-intensity competition markets require corporate governance to discipline managers. Because of the threats of defaults and liquidation, and the interest alignment between insiders and outsiders, increased product market competition forces managers to focus their efforts and reduce managerial slack to survive, even without strong corporate governance.

Schmidt (1997) argues that product market competition reduces the profit margin, and thus, firm profitability. Consequently, firms facing intense



product market competition cannot offer a sufficiently attractive compensation scheme to fully motivate managers. Karuna (2007) argues that product market competition can either substitute for or complement managerial incentives. Product market competition can act as a disciplinary mechanism and reduce the need for managerial incentives. However, firms must provide greater incentives to managers, to motivate them in a more competitive market. Therefore, firms might offer managers higher allowances in a more intensely competitive market. Consequently, the total effect of product market competition on managerial incentives should be ambiguous.

et.al (2011) finds a non-linear Beiner relationship between product market competition as proxy for corporate governance level of managerial incentives. His finding bases on business stealing effect and effect of scale. The business stealing effect gives a signal that higher competition level will imply higher demand elasticity. It will tend a firm with a cost advantage to make better business than its competitors. Effect of scale shows that inter-firms competition will reduce firm's profitability. It results lower gains, then the firm offers lower managerial incentives with competition increases. Beiner (2011) also states that during low competition effect of scale is most dominant factor due to competition reduces decision managerial value and vice versa.

Almeida et al. (2011) povides a framework of theoretical and an anecdotal example documenting that firm with good corporate governance have higher firm value and better payout policy than do those with poor corporate governance. The extant literature however lacks in discussing the relationship between corporate governance and payout policies with the role of business groups.

Nonetheless, previous above-research tend to give us an opportunity doing similar research-work due to keep research gap between theoreticalframework and empirical evidence. This research has main issues to asses whether corporate governance affects dividend policy. We expect that our research would contribute to two folds. First folds, developing empirical model that provides explanation between corporate governance and dividend policy. Second folds, providing information to the investor what kind of determinants rather than corporate governance that expects affecting pay-out policy.

### 2. Literature Review

Firm has main goal to gain profit from operation activity, then brings benefits to the shareholder, and eventually enhancing the value of the company. The shareholders gain benefits from firm by getting dividend which firm distribute and or capital gain. According to Jensen (1986), on his classic paper concerning agency costs argues that, without the presence of attractive investment opportunities, firms can alleviate conflicts between corporate insiders and external stockholders by distributing excess cash flows to shareholders. This point of view suggests that shareholders can use a divdend payout policy to discipline managers. Easterbrook (1984) and Zwiebel (1996) present a similar claim: that dividend payouts to shareholders reduce the power of managers who might otherwise use the free cash flow at their disposal unwisely.

Rozeff (1982) claims that higher dividend payouts can reduce agency problems under information asymmetry, while it can raise firms' external financing costs at a later stage, suggesting both positive and negative aspects of dividend payouts. Faccio et.al (2001) provides international evidence that controlling shareholders use dividends as a device to expropriate funds from outside shareholders. Faccio et.al (2001) report that, when there are multiple large shareholders, dividend payout ratios are higher in Europe and lower in Asia. They suggest that the practices of these payout policies reduce the expropriation of funds from minority shareholders in Europe but exacerbate it in Asia. Almeida et al. (2011) suggest that the pyramiding of business groups in Korea has led the listed group firms, which are usually in the pyramidal structure, to experience significant discounts in market valuation and lower payout rates.

The shareholder expects that the managers can run a company hence will bring high benefits in keeping with the amount of the capital invested into the company. The shareholder expects to get a high amount of dividend, but sometimes the managers have different interest from that of the shareholder. Thus, the company faces a problem in making a decision on the policy on dividends given to the shareholder. The policy on dividends is a decision on whether the profits gained by the company will be given to the shareholder as dividends or kept longer in the form of benefits used to fund the future investment. Thus, the company faces a problem in making a decision on the policy on dividends given to the shareholder. The policy on dividends is a decision on whether the profits gained by the company will be given to the shareholder as dividends or kept longer in the form of benefits used to fund the future investment.

Besides several literatures which describe in the beginning of this section. There are several vast literatures on both dividend policy and executive compensation. According to Fama and French (2001) research-work, dividend payout ratios and the number of dividend-paying firms have declined and as a substitute that share repurchases have become a preferred method of payout for many firms (Grullon and Michaely, 2008); Jiang et.al (2013). Their research findings suggest that one reason that dividends have become less popular is the increased use of company stock options as a form of compensation. These options are not protected against the decline in stock price when its goes ex-dividend.



Consequently, their expected value is a decreasing function of dividend payments.

Lambert et al. (1989), Jolls (1998), Fenn and Liang (2001), and Kahle (2002) find that the firms provide managers more stock options as compensation tend to pay dividends to a lesser extent. Chetty and Saez (2005) and Brown et al. (2007) provide evidence of a negative relationship between executive stock options and the likelihood of a dividend increase after the 2003 reduction of taxes on dividends. These papers all focus on the role of options in setting dividend policy. We build on this literature by examining how another form of compensation, namely stealth compensation, affects dividend policy.

Chidambaran and Prabhala (2009) find that firms often engage in behavior to offset restrictions on compensation by using substitutes that can increase costs to shareholders. In this paper, we examine the degree towhich firms engage in stealth dividend compensation, focusing on CEOs in particular, whether it is a meaningful contributor to overall compensation packages, and if it creates agency problems. Stealth compensation could influence decisions involving dividend policy by creating incentives for companies to increase their dividend payout, which could either reduce or exacerbate agency issues. Shareholders of firms with cash flow exceeding their profitable investment opportunities want excess free cash flow paid out as dividends to prevent wasteful spending.

Directors may use stealth compensation as a tool to motivate CEOs to push for increased payouts, which ultimately may benefit shareholders. Shareholders would get a higher current cash return, although at the possible cost of foregoing profitable projects.

Additionally, tax-exempt institutional investors would be attracted to stocks with high dividend payouts since they are taxed at a lower rate than individual investors (Allen et.al, 2000). The resulting increase in institutional ownership may lead to more active monitoring of the firm, which could reduce agency issues.

Alternatively, agency issues could be magnified if the CEO, working with the board, uses stealth compensation to maximize their own as well as the directors' compensation. Additionally, if the use of stealth compensation motivates managers to pay out cash to shareholders rather than invest in potentially profitable investments, the overall value of the firm can be negatively impacted. In particular, companies with risk averse managers or managers who want to lead "the quiet life" might prefer stealth compensation (Bertrand and Mullainathan, 2003)

Aboody and Kasznik (2008) tests the rationale of underlying for shareholders to propose an incentive contracts that attracks managers to make payout choices that increase the value of their stock-based compensation. They find that the taxes reduction in dividends resulted in greater alignment of the desires of individual (tax-paying) shareholders with those of management by inducing the latter to switch to RSGs from options in 2003. Blouin et al. (2011) jointly test the impact of the 2003 tax reduction on individual investors and management using the 2001-2005 data and find that firms with the largest individual ownership increased dividends relative to share repurchases starting in 2003. Moreover, they argue that their results are consistent with officers and directors increasing their holdings in order to take advantage of the reduced taxes on dividends. Zhang (2013) also looks at the effects of dividend compensation on payout for S&P 500 stocks using the period from 2000 to 2009. She finds that dividend increases are more likely after 2003 for firms that pay stealth compensation.

# 3. Methodology

This paper work uses samples which are coming from Indonesian capital market, Thailand capital markets and Malaysian capital markets. We uses financial data that can access from web of Indonesian Stock Exchange (IDX), Malaysian Stock Exchange (MYX) and Thailand Stock Exchange (SET). Samples selection criteria are as following as: listed in before year 2005, has completed annual report from year 2005-2010, pays dividend during 2005-2010. and we find final sample 115 firms. This amount of sample equals to 575 observations.

# 3.1 Hypothesis Development

This research work investigates whether corporate governance mitigates manager's tendency to make dividend paid-out. Good corporate governance tends the firm to make dividend payment at optimal level. This assumptions suggets corporate governance has positive sign to dividend pay-out, then our research model as following as:

H1: Insider ownership affects dividend pay out positively

H2: Institutional ownership affects dividend pay out positively

H3: Managerial ownership affects dividend pay out positively

H4: Return on asset affects dividend pay out positively

H5: Return on equity affects dividend pay out positively

H6: Market to book equity affects dividend pay out positively



H7: Dispersion ownership affects dividend pay out positively

H8: Free cash flow affects dividend pay out positively

# 3.2 Research Model

This assumption above suggets corporate governance has positive sign to dividend pay-out, then our research model as following as:

 $DPR = \alpha 0 + \beta 1INSD + \beta 2 INST + \beta 3MGR + \beta 4ROA + \beta 5ROE + \beta 6MBV + \beta 7DISP + \beta 8 FCF + \epsilon$ 

# 4. Results

Variable	Description
DPR	Dividend paid out by firm
INSD	Percentage of firm ownershsip by founder
INST	Percentage of firm ownership by institutional shareholder
MGR	Percentage of firm ownership by manager
ROA	EBIT divided by total asset
ROE	Net income divided by total common equity
MBV	Market to book value of common equity
DISP	Sum group of shareholders
FCF	Free cash flow

# Table 1. Variable Definition

# Table 2. Descriptive Statistics

Variable	All		Indonesia		Thailand		Malaysia	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
DPR	0.413	0.407	0.418	0.421	0.438	0.401	0.421	0.404
INSD	0.172	0.183	0.106	0.157	0.181	0.193	0.178	0.185
INST	0.215	0.237	0.204	0.219	0.221	0.230	0.219	0.241
MGR	0.012	0.051	0.021	0.041	0.031	0.048	0.035	0.053
ROA	0.184	0.191	0.179	0.195	0.182	0.193	0.187	0.195
ROE	0.308	0.312	0.304	0.314	0.311	0.318	0.309	0.311
MBV	2.145	2.215	2.041	2.453	2.091	2.312	2.210	2.402
DISP	1.121	1.132	1.095	1.129	1.129	1.131	1.140	1.119
FCF	0.234	0.201	0.214	0.223	0.197	0.207	0.231	0.228

Table 3. Pearson Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)	1.000							
INSD								
(2)	0.317**	1.000						
INST								
(3)	0.118**	0.101**	1.000					
MGR								
(4)	0.201**	0.351**	0.167**	1.000				
ROA								
(5)	0.118**	0.230**	0.451**	0.105**	1.000			
ROE								
(6)	0.302**	0.345**	0.205**	0.231**	0.189**	1.000		
MBV								
(7)	0.119**	0.351**	0.253**	0.452**	0.352**	0.109**	1.000	
DISP								
(8)	0.305**	0.297**	0.306**	0.341**	0.351**	0.271**	0.503**	1.000
FCF								

\*\* Denotes statistical significance at the level of 5% or better



Table 2 shows that corporate governance for all country samples are similar. It indicates that among Indonesia or Thailand or Malaysia firms do corporate governace practices in the same level. In addition, Malaysian's firm has highest level of all corporate governance aspects among all samples country. Refer to market to book value, all samples countries indicate linear relationship to corporate governance practices. Similar thing also subject to return on asset return on equity and free cash flow.

Table 3 reflects the Pearson correlation between independent variables. Correlations between most corporate governance proxies and free cash flow suggest that it is important to control for the cash flow effect when doing analyze the relationship between corporate governance and payout policies. Interestingly, only market to book has little correlation with free cash flow. Pearson correlation test also nake sure that the measurement of corporate governance practices have a meaningful positive association with return on asset, return on equity, market to book and free cash flow.firm value. A significant positive relationship between corporate governance proxies and other variables indicate external validity of our empirical proxy for measuring the effectiveness of corporate governance practices in enhancing dividend payout. The above result similar to finding of Black (2001). The above finding also supports a number of paper-work including, Black et al. (2006), Durnev and Kim (2005) and Klapper and Love (2004). Their finding document that firm value is significantly positively related to corporate governance. Because firms with sound governance structures protect minority shareholders' rights more than other firms do, their market valuation reflects the reduced cost of capital associated with reduced agency problems, leading to higher firm value.

**Table 4.** OLS Regression ResultsDependent Variable : Dividend Payout

Variable	Coeficient	Std Error	t-Statistic	Prob
Constanta	2.145	0.098	2.173	0.047
INSD	0.095	0.021	4.428	0.010
INST	0.057	0.010	5.553	0.000
MGR	0.031	0.015	2.025	0.049
ROA	0.045	0.018	2.452	0.035
ROE	0.030	0.012	2.484	0.031
MBV	0.076	0.023	3.252	0.022
DISP	0.013	0.006	2.224	0.040
FCF	0.0798	0.0061	13.082	0.000
Adjusted R <sup>2</sup>	0.656			
Obersvation	575			

Finding on table 4 suggests that dividend payout increases in line with increasing of insider ownership,institutional ownership, managerial ownership and dispersion ownership. On the other hand, return on asset, return on equity, market to book value and free cash flow experience similar correlation to dividend payouts. The above finding, in line with the results of Claessens et al. (2000), whom make explanation that insiders ownership in sample firms enjoy controlling rights in excess of their cash flow so they have increased incentives for asset diversion. Good corporate governance practices bring positive effect to dividend payout suggesting that shareholders gain advantage when firms deploying good corporate governance. Samples of firm do practising corporate governnace under a less-thanrespectable investor protection policy seem to undertake corporate governance practices soundness, in order to pay more dividends to shareholders. They result enjoying high firm valuation. This research finding supports Bhojraj and Sengupta (2003) result, who suggests that firms with good corporate governance will gain low level cost of capital. This evidence suggests that firms that protect minority shareholders return a high portion of the fruits of corporate performance to shareholders. This indicates that increased managerial and institutional ownership increases firm value by being associated with higher dividends. This result supports clintele effect hyphotesis which pursue higher dividends. Above finding also supports Sudaryanti (2010), Haryono (2005), Badu (2013), Nasehah and Widyarti (2011).

#### Conclusion

This research-work uses a survey which comes from three different countries in ASEAN region i.e Indonesian, Thiland and Malaysian. This work integrate whole data from above all countries to examine whether firms that do corporate governance practising will pay higher dividends. This study has two issues: how regulation of stock exchange affects good corporate governance and how corporate governance affects value of the firm.

Research finding shows that good corporate governance practices has positive sign to dividend pay

out. This finding indicates that even investor protection for above capital markets lower relatively than other developed capital market, but they strieve to practice corporate governance in good manner.

Our finding may contribute to corporate governance literature.First, result finding support Jensen's (1986) that states free csah flow not reduce dividends pay out. Second, integrating emprical model from three different countires in ASEAN region.

Nevertheles, this research work still has an opportunity to be developed in the future due to not exploring yet regarding expropriation possibilities. In addition, separating conglomeration firm and nonconglomeration firm to explore how corporate governance practice affect dividend pay out and firm value.

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# TRENDS AND PROSPECTS OF TAX REFORMS IN CHINA

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# Abstract

This study aims to identify the reform trends in Chinese tax systems with emphasis on the structural tax reduction policy that has been enforced in China's socialist market economy system for the past 10 years. This study also intends to draw the implications of such tax reforms by identifying the relationship between China's socialist and capitalist market economy systems along with other related tax systems and describing the tax policy trends for the last 10 years. A comparison and analysis of the differences in viewpoints on taxation between these market economy systems is also conducted. The core and specific contents of this study on structural tax reduction policy that has been enforced in China over the past decade are arranged.

Keywords: Tax, Reforms, China, Tax Reduction

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# 1. Introduction

The Chinese socialist market economy system differs considerably from the capitalist market economy system, which operates based on the principles of liberalism (Yoo, 2007). The market economy in China is defined based on Marx's dialectical and historical materialism and on the country's socialist theory because it functions as an essential measure that China can progress as an inclusive socialist country. In particular, the Chinese economy logically varies from the market economy in capitalist market economy system, in which the "invisible hand" is operated by demand and supply. The Chinese economy functions as a transitional system necessary to construct a socialist country and to realize socialism toward achieving Pareto efficiency (Deng, 1995). For example, in contrast with the capitalist market economy system in which prices are determined and resources are distributed efficiently by the "invisible hand" alone, the prices and resources in the socialist market economy system are handled by both "invisible" and "visible" hands.

When the "invisible hand" does not distribute resources in the market efficiently, artificial distribution by the same channel (finance and banking) is rationalized. Therefore, active government intervention in markets is essential when market failure occurs in a socialist market economy country. China recognizes the critical role and importance of taxation as one of the political means for the government to intervene in the market (Yoo, 2010). Such a strategic understanding of taxation can be observed upon examination of modern Chinese tax history. The taxation system in China has exhibited a substantially changing trend based on the Chinese government's policy changes and major policies, including the introduction of the socialist economic system, the "Great Leap Forward," "Cultural Revolution," "Reforms and Open Market Policy," as well as "State-Owned Companies Reform" and "Harmonious Society Construction". These circumstances highlight that China has been properly utilizing taxation as a core measure in implementing macro-economic policies for constructing a socialist country.

Accordingly, taxation in China must be perceived to comprise characteristics that differ slightly from that in countries with capitalist market economy because it is actively used as a political means for to define China as a socialist country and to secure the country's financial income. China has been implementing a structural tax reduction policy for the past 10 years. This policy requires adjusting the tax burden reasonably to address inequality among individual economic subjects. Such an inequality can be summarized as an imbalance "between regions, classes, cities, and rural community" that has emerged during the rapid economic development that resulted its reform and open market policy.

The structural tax reduction policy signifies that the tax policy seeks a stable and continuous development in society and economy by actively reducing taxes for low-and middle-income classes, as well as for small- and medium-sized companies that require political support (Deng, 1995). This reduction



policy aims to increase the taxes of high-income classes and large companies that need to be taxed and eventually maximize the tax reduction effect without completely reducing tax revenues. After the global economic crisis, China had to enforce a tax reduction policy as its secondary measure to overcome the rapidly decreasing exports, local demand, and active policy so as to boost the economy (Zhao, 2007). Aiming to prevent aggravating the financial conditions and to guarantee financial health during the policy execution procedures, the Chinese government determined the existing structural tax reduction policy as the main policy, which could provide partial reduction benefits only to industries and classes that require and not as a universal tax reduction, while maintaining existing tax revenues (Zhu, 2012a).

Relevant statistics indicate that the size of the financial deficit in China during the midst of the economic crisis was 180 billion yuan in 2008, 750 billion yuan in 2009, and 800 billion yuan in 2010. The national bond balance of China at the end of 2011 was determined to be in the amount of 7 trillion, 204.4 billion yuan, indicating a relatively satisfactory level compared with that of other countries. China was able to maintain a stable financial status because of its continuously increasing tax revenues. Hence, despite the structural tax reduction policy having been enforced in China since the early 2000s, the country's tax revenues have continued to increase by more than two digits every year. At the end of 2012, the overall tax revenues of China broke through 10 trillion yuan, indicating a huge growth rate. Such a stable increase has contributing significantly to the continuous development of the Chinese economy. Hence, this study aims to identify and determine the implications of the reform trends in Chinese tax system, with focus on the structural tax reduction policy that has been implemented for the past 10 years in China's socialist market economy system (Hu, 2007).

This paper is organized into four sections. Section I identifies the relationship between China's socialistic market economy system, the capitalist market economy system and related tax systems. The trends in China's tax policy for the past 10 years are also described. Chapter 2 compares and analyzes the differences in viewpoints on taxation between the two market economy systems. Chapter 3 discusses the core contents of this study as well as specific details on the structural tax reduction policy of China. Chapter 4 summarizes the results and implications of the research.

# 2. Review of Viewpoint on Taxation in the Unique Chinese Socialist Market Economy

# 2.1. Viewpoint on Taxation in China's Socialist Market Economy System

The Chinese government, which operates China's socialist market economy system (CSMES),

understands market economy as a resource allocation method of revenues formed in the relationship between consignor (country) and consignee (market) and not as a free-competition system based on demand and supply as inferred by capitalist countries. Therefore, profit sharing in CSMES is led by the Communist Party, a subject of proletarian dictatorship that emerged as a result of struggles between farmers and land owners. Hence, CSMES exhibits considerable differences in law structure and operation methods as compared with the capitalist market economy system (State Board of Education Social Sciences Division Group, 1998).

CSMES regards the country (Communist Party) as the subject of profit sharing formed in the market. CSMES rationalizes Therefore, the market intervention and artificial resource allocation of the country and places emphasis on national profits rather than market profits. Based on this logical relationship, taxation in China is recognized as a means of providing a reasonable distribution of the resources of the country (Communist Party). In brief, the tax system in CSMES is legislated and executed under a logical structure as follows: Construction of socialist country  $\rightarrow$  fair society for everybody  $\rightarrow$  optimum allocation of resources (Pareto efficiency)  $\rightarrow$ necessity of profit sharing method  $\rightarrow$  execution of taxation system. From this viewpoint, the taxation system in CSMES is identified to possess certain characteristics specified below.

First, the tax collection administration law serves as the main legal basis for the tax law systems. At present, the basic national tax law that guarantees the fundamental human rights of taxpayers is not legislated in China; instead, a tax collection administration law that specifies the collection power and procedures is enacted. Hence, the legal guarantee to necessarily acquire profits from the country (consigner) is secured from the market (consignee). However, the basic national tax law, which is a means of protecting the market, has yet to be enacted. In this event, the protection rights of the market and taxpayers in the existing Chinese system are not satisfactory (KIEP, 2013).

Second, tax law is legislated and executed as a delegated legislation of administrative bodies. All tax laws in Chinese law system, except for the enterprise income tax (EIT) law, individual income tax (IIT) law, and tax collection administration law, are authorized and legislated by the financial and tax departments (Ministry of Finance and State Administration of Taxation) in the State Council, which is a national agency (Yoo, 2012). Therefore, legal stability and predictability are difficult to guarantee in China. These concepts, which are significant propositions of tax law, are generally pursued by countries with capitalist market economy systems.

Third, because it regards tax as a method of procuring national wealth and adjusting (control)



macroeconomics, China generally conducts tax administration based on the national revenue principle and instrumentalism (Choi, 1997). For example, the withholding and proxy taxation systems in China apply to all taxable items, which are typical national revenue principle tax systems for safely securing tax revenue.

Moreover, given that taxation is mostly recognized as a method (tool) for adjusting (control) macroeconomics and artificial resource distribution, retroactive legislation and retroactive taxation may also be used to secure tax revenue. Therefore, taxation under the CSMES is defined as the core measure for optimum profit allocation (resource allocation), which is formed in the relationship between consignor (country) and consignee (market). The system is analyzed to operate the tax system (in dubio pro fisco) from the viewpoints of national wealth principle and instrumentalism to secure national wealth and attain artificial resource allocation.

# 2.2. Comparison with Capitalist Market Economy System

Under CSMES, taxation is based on consignorconsignee relationship that exists between the government and market and is used as a means of achieving macroeconomics control, optimum resource allocation, and financial income expansion. Hence, the tax system is operated from the national wealth principle perspective (in dubio pro fisco). Accordingly, the Chinese government places the national profit as high priority in the legislation and administration of the tax system. Even retroactive taxation and retroactive legislation, which are generally regarded under capitalist market economy systems as illegal, can be implemented in China (Ma, 2013).

In contrast, the capitalist market economy system regards tax as a claim-obligation relationship based on the social contract theory. This system places emphasis on the rights and liabilities between the country and taxpayers. The tax system in a capitalist market economy system is therefore considered the basic method of guaranteeing the rights of the taxpayers, who are tax obligators, and generally executes the institutional devices for protecting the rights of its people. Capitalist market economy systems also view retroactive legislation or retroactive taxation, which could result in disadvantages for the taxpayer, as originally invalid. The differences in the viewpoint of CSMES and capitalist market economy system toward taxation are listed in Table 1.

	CSMES	Capitalistic Market Economy System
Theoretical Background	socialist materialism(sharing economy)	social contract theory(market economy)
Market Concept	consignor-consignee relationship (subordinate relationship)	demand-supply relationship (equal relationship)
Understanding about Tax	Resource (profit) allocation measure (instrumentalism)	Rights and duties protection measures (rights theory)
Basic law System	tax collection administration law (focusing on taxation)	national tax (tax) basic law (focusing on right protection)
Interpretation of Tax Law	in dubio pro fisco (focusing on national wealth)	in dubio contra fiscum (focusing on taxpayer's interest)
Core Differences	retroactive legislation & retroactive taxation are possible (legal behaviors)	retroactive legislation & retroactive taxation are not possible (illegal behaviors)
Taxation Method	withholding taxation & proxy taxation & consignment collection (mandatory execution)	Taxpayer's payment by self-assessment (exercise of rights )
Judgment of Tax liability	national revenue principle judgment (secure financial income)	Judgment of rights and duties relationship (property right protection)

Table 1. Comparison of Viewpoint between CSMES and Capitalistic Market Economy System

Source: Yoo(2011) and Yoo(2014)

Previous studies have claimed that the tax system in China is sensitive to the macroeconomic policy changes of the Chinese government (SBESSDG, 1998). Hence, when the Chinese modern tax history is examined, the Chinese tax system changes extensively according to the core policy changes enumerated in the Introduction.

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Period	Core Policy	Major Tax Reforms
New China	* Introduction of socialist economic system - Secure financial income	* Establishment of socialism type tax system - Establishment of centralized tax system
Great leap Forward	<ul> <li>* Construction of socialistic industrial industrially advanced nation</li> <li>- Make all economic subjects as people's commune</li> <li>- Highly regard manpower and industrial production power</li> <li>- 'Surpass UK within 10 years'</li> </ul>	<ul> <li>* Simplification of tax system</li> <li>Maintenance of existing tax burden Consolidation of tax item Simplified tax system</li> <li>Consolidation of 4 taxes</li> <li>Transition theory of tax system</li> </ul>
Cultural Revolution	<ul> <li>* Creation of socialist proletariat culture</li> <li>- Progress of omni-directional socialization</li> <li>- Highly regard socialist materialism</li> <li>- 'Demolition of 4 old customs': Old ideologies, thoughts, habits, customs</li> </ul>	<ul> <li>* Simplification of tax system</li> <li>- Consolidation of 5 taxes</li> <li>- Transition theory of tax system</li> <li>- Uselessness of tax system</li> </ul>
Reforms and Open Market Policy - early stage	* Introduction of socialistic market economy system - Introduction of market economy - Highly regard pragmatism	<ul> <li>* Establishment of socialist market economy type tax system</li> <li>Adjustment, reform, arrangement and improvement</li> <li>Tax for Profits reform</li> </ul>
Aug. 5 plans ~ Sept. 5 plans	<ul> <li>* Establishment of socialistic market economy system</li> <li>- Establishment of market economy based on co-ownership</li> <li>- Development of socialist production capacity</li> <li>- Build up national strength, improvement of living standards</li> <li>-Nánxún Jiǎnghuà</li> </ul>	<ul> <li>* Support the development of socialist market economy</li> <li>Unified tax law, fair burden, and simplified tax system</li> <li>Relationship between reasonable decentralization and reasonable allocation</li> <li>Guaranteed financial income, construction of socialist market economy</li> <li>Overall tax reform</li> </ul>
Oct. 5 plans	<ul> <li>* Consolidation of socialistic market economy system</li> <li>- Highly regard science, technology, education</li> <li>- Encouragement of overseas investment, invitation of overseas investment</li> </ul>	<ul> <li>* Promotion of socialist market economy</li> <li>To maintain the sustainable development of national economy</li> <li>Strategic economic restructuring</li> <li>A new round of tax reform</li> </ul>
Nov. 5 plans	<ul> <li>Consistent development through harmonious society construction</li> <li>Harmonious society construction</li> <li>Market principle and highly regard equality and efficiency</li> <li>Views about scientific development, equilibrium wealth theory</li> </ul>	<ul> <li>* Tax reform for continuous development</li> <li>- Domestic demand, fair and equal development</li> <li>- Self-dependent innovation, environment protection</li> <li>- Indirect tax system, , The wide tax base, low tariff,</li> <li>- The strict collection and Administration</li> </ul>

Table 2. Core Policies and Major Tax Reforms of Chinese Communist Party

As mentioned earlier, China has been executing the structural tax reduction policy for the past 10 years with the aim of providing reasonable adjustments to tax burdens to solve the inequality problems between economic subjects. These problems can be summarized as the imbalance between regions, classes, cities, and rural community caused by the rapidly developing procedures of the Chinese economy since the 20th century (Cong, 2012; Hua, 2013). The Chinese tax authority has continued to strive towards the construction of harmonious society, which is one of the government ideologies of Hu Jintao in conjunction with the views on scientific development, which is a related execution policy. The



creation of this so-called harmonious society involves improvement and continuous development of the Chinese economy, the enterprise and individual income tax systems, as well as the reinforcement of taxation management, all of which pose obstacles to the realization of equality in society (Cong, 2012).

Thus, by strengthening the income allocation function of taxation via a stepwise and systematic structural tax reduction policy and by constructing a sound tax environment, the Chinese tax authority has been actively utilizing tax as a means of realizing the government ideology of constructing a harmonious society the embodies the completion of the balance and harmony between cities and rural community, East and Mid-West, economy and society, human and nature, local development and opening, and to address the views on scientific development.

To obtain a better understanding of Chinese tax law, requires thorough comprehension of Chinese tax laws and practices of taxation administrative bodies that legislated based on the views of CSMES on taxation, because the Chinese tax system is used as one of the major methods of controlling the "China's socialistic market economy system" because Chinese tax system is being used as the major macroeconomic policy (Yan and Yu, 2011). Hu Jintao completed his term in 2012 and Xi Jinping stepped in to replace him. Hence, conducting an analysis of the domestic and foreign economic environments of the Chinese Communist party and of the central government during the 12.5 and 13.5 plans implemented by Xi Jinping in necessary to predict the consequent macroeconomic policy directions and tax burdens.

# 3. Recent Major Tax System Changes In China And Related Results

#### 3.1. Income Tax System

#### (1) Agricultural Tax

In 2006, the Chinese government abolished the agricultural tax, which imposed taxes on approximately 70% of farmers in China. This abolishment coincided with the implementation of the 11.5 plans. The step marked the first time that the tax burden of farmers was reduced completely, and served as the first measure towards the construction of a harmonious socialist society. However, not all farmers benefitted from the abolishment of the agricultural tax.

The abolition of agricultural tax in 2006 did not target high-income self-employed farmers who

cultivated commercial crops (e.g., special agricultural products), but instead targeted ordinary small peasants. Accordingly, the substantial beneficiaries of the abolition of agricultural tax were restricted to low-income farmers.

After the agricultural tax was abolished, a special agricultural production tax was imposed on high-income farmers who produce special agricultural products. However, tax was not levied when the agricultural products cultivated in non-taxable agricultural lands became the subjects of special production agricultural taxation. Moreover, accumulated tax, which was levied on livestock raisers, was completely abolished in 2003, further reducing the tax burdens of low-income farmers and livestock raisers. The related analysis of Chinese government at that time reported that the tax burdens of low income farmers were reduced by approximately 100 billion yuan.

# (2) Individual Income Tax (IIT)

Recent major tax reform trends, which are related to individual income, can be summarized as the increase in the taxable point of wage earners. When the Chinese economy displayed continuous growth after 2000, the Chinese government amended the IIT law, implementing Articles 6 and 26 in 2005 and increasing the taxable point from 800 yuan to 1600 yuan. This effort could be interpreted as a mechanism of reducing the tax burdens of wage earners and selfemployed individuals given that the income of Chinese people is also increasing rapidly because of the continuous growth of the Chinese economy. This policy trend is identified to continue into the future.

In 2007, the Chinese government further reduced the tax burdens by once again raising the taxable points of wage earners from 1600 yuan to 2000 yuan in connection with the income increase. In 2011, the government increased the taxable points of wage earners to 3500 yuan and increased the tax burdens of high-income earners. The Chinese government also lowered the tax burdens of low-income earners by modifying the nine-step progressive marginal tax rate structure into a seven-step structure. To compensate for the income reduction of individual income earners because of the financial crisis, the government exempted saving interest income of individuals from IIT, along with interest income from stock trading closing fund earned in the stock market and accrued interests earned from local government bonds to promote the revitalization of capital market.



Year	Contents	Characteristics
2005	Improved IIT taxable point (800yuan→1600yuan)	tax reduction
2006	Strengthened taxation administration targeting high income earners (voluntary payment by self-assessment above 120 thousand yuan annually)	tax increase
2007	Increased IIT taxable point (1600yuan→2000yuan)	tax reduction
2008	IIT exemption for savings interest income IIT exemption for the stock trading closing interest which is earned from stock market by individual investors	tax reduction tax reduction
2011	Improved individual income tax exemption and increased taxable point (2000yuan $\rightarrow$ 3500yuan) Lowered minimum tax rate interval (5% $\rightarrow$ 3%) Adjusted accumulated tax rate structure (9 step $\rightarrow$ 7 step)	tax reduction tax reduction tax increase
2012	Exempted industrial accident insurance premiums of the workers and relatives who had industrial accident	tax reduction
2013	Exempted pension payments of the corporate and individuals Exempted allocated amount to the individuals in pension management profits	tax reduction tax reduction
2014	Stipulated inclusion of deductible expenses regulation of individual business operator Exempted transfer gains in shares retained by the individual longer than one month (75% maximum)	tax reduction tax reduction

### Table 3. Major reforms in IIT law in recent China

Another notable fact in the Chinese tax law is that the unfair issues in tax burdens between corporate and individual business entrepreneurs are addressed by including various social welfare insurance premiums in the deductible expenses of individual business entrepreneurs and individual income earners or by deducting them as expenses. Strengthening taxation management through the formulation of new regulations, taxpayers earning an annual income of more than 120 thousand yuan can voluntarily pay IIT based on self-assessment to local jurisdiction tax authority within three months after the end of the tax year.

Since 2012, the income level and living stability of individual taxpayer have also been guaranteed with the stipulation of the industrial accident insurance premium, which will be received by workers who had met industrial accidents. The pension borne by corporations and individuals should not be taxed. Recently, individual business entrepreneurs can also include related expenses in their deductible expenses, which have stricter regulations for industrial accident insurance premium compared with corporate businesses. Equity transfer gains were exempted from tax burdens by up to maximum 75% to draw longterm stock investment. The Chinese government has also consistently maintained the trend of reducing the IIT to improve the income of low-income class. The major reforms and characteristics of the newly enacted IIT law in China are summarized in Table 3. Recent China-related studies have revealed that more than 100 billion yuan of tax reduction effect is expected by executing the structural tax reduction policy for IIT.

# (3) Enterprise Income Tax (EIT)

In 2008, the Chinese government integrated domestic capital EIT ordinances and foreign investment EIT law into a single EIT law that would address the unfair issues in tax burdens stemming from the EIT law classified taxation for domestic and foreign investment companies.

The integration of these ordinances and EIT law has a significant implication in the sense that it includes deductible expenses ranges from various expenses (depreciation expense, labor expense, R&D expense, donations, entertainment expense, advertisement expense, etc.) individually and differently stipulated by domestic capital companies and foreign investment companies in the past and tax preference regulations. These regulations were applied excessively to foreign investment companies and were identically applied according to the industry without distinction between domestic capital and foreign investment companies. Moreover, taxation units and tax rates in EIT were equally unified. Consequently, the unfair tax burdens between domestic capital companies and foreign investment companies were addressed.



When the EIT law was enacted, tax evasion behaviors were avoided via the transfer pricing trade of foreign investment companies by stipulating the "special tax payment adjustment" in EIT law. This particular adjustment is elucidated in Chapter 6, which is a regulation on transfer pricing behaviors. In particular, the regulations were legislated for advance pricing agreement, cost contribution arrangement system, cost contribution arrangement system, General Anti-Avoidance Rules, and foreign holding company, which were stipulated as partial rules (administrative order). The decree also imposed that restricted transfer price should not be investigated arbitrarily by local tax authorities by integrating the transfer price investigation decision to the State Administration of Taxation.

When a multinational corporation, which has applied regulations on advance pricing agreement, cost sharing agreement, or cost contribution arrangement system, agrees with tax authorities beforehand for transfer pricing behavior in special tax payment adjustment legislated as a State Administration of Taxation Order, a characteristic of drastically reinforced regulations against tax avoidance of foreign investment companies must be written. Moreover, the transfer price synchronization data must be retained and submitted if necessary. Various regulations were put in place during the financial crisis. These regulations allowed financial institutions to lend bonds to small- and medium-sized companies and farms to promote the economy during the financial crisis. When allowance for bad debts was accounted for, the related inclusion of deductible expenses ranges could be expanded, and start-up agricultural product manufacturing companies could be exempted from EIT.

The Chinese government also issued regulations stipulating that an exempted tax rate of 20% could be applied to the taxable income to reduce the tax burdens of small- and medium-sized companies. In particular, these regulations were realized by reducing 50% of the relevant taxable income among small companies that had less than 30,000 yuan of taxable income. In this case, income from clean fund could also be completely exempted from EIT. The Chinese government actively supported small- and mediumsized companies and farms in critical situations and recovering from the global financial crisis. The Chinese government formulated regulations that held that interest income purchased and acquired by companies from local government issuing and railroad construction bonds could be exempted from EIT. These regulations were established to support the financial resource procurement for local government in line with the occurrence of the financial crisis and to compensate for the income reduction of companies. With the aim to support technology innovation and service development, the government also strengthened taxation support via the application of 15% exempted tax rate for the acquired income from foreign trades of 20 nationwide technology-oriented service companies with foreign companies. The deductible expense ranges for workers' job-related education and training expenses were also expanded.

Meanwhile, to reduce the tax burden of security companies in security and future price investments, which suffered during the financial crisis, the government expanded the before-tax deduction rates in stock investor and future price investment protection funds to up to a maximum of 5%. The government also amended EIT-related regulations, designating that farm trust companies in Sichuan, Gansu, Shaanxi, Chongqing, Yunnan, and Ningxia, which were suffering from economic difficulties due to disasters, could be exempted from EIT. For the past few years, the Chinese government has deployed active tax reduction policies as the economy displays a consistent downward trend because of the global financial crisis.

For example, the Chinese government applied the tax preference only for small- and medium-sized companies with less than 3,000 yuan taxable income, and expanded this rate to less than 60,000 yuan among small companies in 2012. The government further expanded the application ranges to less than 100,000 yuan. At the same time, the government expanded the tax preference for energy saving companies to secure the efficient use of energy. The government also exempted technology transfer companies from EIT to promote technology transfer and R&D and significantly reduced the tax burden by relaxing the accelerated depreciation regulations for additional reduction in R&D and fixed assets. Nonetheless, the Chinese government continues to strengthen their management and control in international tax areas. This effort is aimed to compensate for the tax revenue deficiency that might occur in the tax exemption of local Chinese infant industries and of small- and medium-sized companies.

After clarifying the judgment standards as an actual controlling body for local and foreign companies in 2009, the Chinese government in 2011 began to enforce their tax management system by targeting local and foreign holding companies. In the same year, the government enforced specialized regulations on tax management for large companies and began to strengthen their tax source management by executing laws for special relation company management in 2013.

In 2014, the Chinese government reinforced tax management regulations on international trades. This undertaking was realized by enabling the anti-tax avoidance regulations, a transfer pricing investigation executed by legislating in case of tax avoidance charges. The government also required resident companies to report all information on local and foreign investments and introduced the judgment standards of resident companies based on actual control relationship. However, the government continues to execute the tax reduction policy to



protect low-income class as well as the infant industries within the country. For example, by 2015, the government will completely exempt manufacturing companies that produce assisting devices for handicapped from taxation of EIT. This particular measure was expanded by including deductible expenses range for companies that participate in remodeling the underdeveloped shanty

towns in industrial and mining areas. Moreover, the government increased the limit of deductible expenses to up to 30% of the total sales for cosmetic and pharmaceutical products manufacturing companies and allowed the inclusion of tax exemption benefits in deductible expenses with unlimited carryover of the exceeding limit to the following business year.

# Table 4. Major reforms in EIT law in China

Year	Contents	Characteristics
2008	Included deductible expenses range, tax preference, taxation unit, tax rate unification between domestic and foreign investment companies Reinforced international tax regulations like transfer pricing system, advance pricing agreement, cost sharing agreement general tax avoidance, foreign holding company and cost contribution arrangement system Increased before-tax deduction rate in stock investor protection fund and future price investor protection fund related EIT Exempted EIT for startup agricultural product processing companies	tax reduction tax increase tax increase tax reduction tax reduction
2009	Expanded small and medium size company related before-tax exemption of loan loss reserve Increased before-tax deduction rate for farm related loan loss reserve Applied exemption tax rate for foreign business income of advance technology- oriented service company (15%) Increased before-tax deduction rate for education and training Applied taxable income reduction and reduced tax rate for small companies with less than 30,000 yuan of taxable income Strengthened resident judgment standard of foreign holding company	tax reduction tax reduction tax reduction tax reduction tax reduction tax reduction tax increase
2010	Expanded allowance for bad debts inclusion of deductible expenses in disaster area of farm trust company	tax reduction
2011	Exempted EIT for local bond interest Gave preference to EIT for agriculture, forestry, fishery companies Exempted EIT for correction device for the handicapped manufacturing companies Applied taxable income reduction and reduced tax rate for small companies with less than 60,000 yuan of taxable income Strengthened tax source management for foreign holding company and large companies	tax reduction tax reduction tax reduction tax reduction tax increase
2012	Exempted EIT for IC manufacturing company and software development company	tax reduction
2013	Gave preference to EIT for energy saving company Exempted EIT exemption for technology transfer company Allowed additional reduction for R&D expense Strengthened tax source management for special relationship company	tax reduction tax reduction tax reduction tax increase
2014	Allowed accelerated depreciation for fixed assets of high-tech company Applied taxable income reduction and reduced tax rate for small companies with less than 100,000 yuan of taxable income Legislated anti-tax avoidance regulation and strengthened supervision about transfer pricing behavior Executed reporting system for resident company's foreign investment information and strengthened the judgment for actual control relationship	tax reduction tax reduction tax increase tax increase

The reform trends recently observed in Chinese EIT are as follows: (1) Expansion of tax exemption

for infant industries, including small- and mediumsized companies and hi-tech companies; (2)

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Allocation of tax preference for financial industries to support the low-income population suffering from financial difficulties; (3) Tax support for companies and industries to improve the living standards of the handicapped and residents in underdeveloped areas; and (4) Reinforcement of tax source management and tax investigation. The case of EIT signifies that the government also maintains the policy trend to expand tax expenditure for socially disadvantaged classes such as the case of IIT.

Table 4 lists the major reforms observed in the EIT of China. The Chinese scholars estimated more than 93 billion yuan of annual tax reduction effect through the tax reduction policy for EIT. Nevertheless, considering that the size is continually expanding, larger tax reduction than the previous estimation of scholars is expected for EIT.

# 3.2. Consumption Tax

### (1) Value-Added Tax (Zēngzhíshuì) (VAT)

The previous Chinese VAT was type of production value-added tax that did not allow for the reduction of purchase tax for capital investment and caused many problems on taxation and VAT returns. The applied tax rates in China were considerably higher than those in neighboring countries and the non-deductible purchase tax, which was passed to commodity price, primarily caused the reduction of price competitiveness of Chinese products in the global market.

Hence, the Chinese government appointed three North Eastern States in 2005 and six states in the central area in 2007 as model areas and gradually converted the production VAT system into consumption VAT system. In 2009, the previous production VAT system was completely converted into consumption VAT system, allowing general taxpayers to purchase or receive complete deduction of purchase tax for capital goods such as selfmanufactured machineries.

Since 2008, the government has also increased the metallic mineral and nonferrous metal development and import-related VAT rates from 13% to 17% to address the unregulated resource development and industrial structure. The government also reduced a certain amount of tax burden in related business fields by adjusting the withholding ratio of VAT to support resource recycling.

Meanwhile, to reduce the VAT burden on smalland medium-sized companies and self-employed individuals, in 2009, the government lowered the judgment range of small-sized taxpayers from 1 million yuan (for industrial companies) or 1.8 million yuan (for commercial companies) to 500,000 yuan or 800,000 yuan, respectively. The government also simplified the applied tax rates from the previous 6% (industrial companies) or 4% (commercial companies) to 3%. Granting preferential status to R&D companies that have bought local equipment and promoted technology development since 2009, the Chinese government returned the entire amount of VAT to these corporations (regardless whether domestic or foreign investment companies) granted that they have satisfied certain conditions. The government also exempted foreign-based R&D companies importing R&D-related products from the tax burden at the import stage. Moreover, the government implemented tax preference regulations to exempt full-time rural joint venture companies from VAT or imposed a low tax rate (13%) on these firms to support new rural constructions.

When the financial companies transferred the ownership of lease vessels to Tianjin City, which is one of the model areas, the government amended the VAT law. Companies in Inner Mongolia, Liaoning, Jilin, Heilong Jiang, Guangxi, Xingang, Xīzàng, and Yunnan could export through general trading and border trade. When the payments were made with yuan, the entire VAT had to be returned as one of the policy objectives for promoting tax burden reduction and internalization of yuan currency. In the case of VAT return system, the government increased the return rate by three times for about 10,000 export items to address the effects of the financial crisis. However, the government cancelled the export return because of the anti-dumping decision in 406 steel and metal products in 2010. The above circumstances demonstrate that the Chinese government could become flexible in operations considering the country's macroeconomics and international trade situations.

The government actualized the prices of 2,000–5,000 yuan in commodity sales and 1,500–3,000 yuan and 15–200 yuan for daily service based on the VAT taxable point. The government also increased monthly prices to 5,000–20,000 yuan and daily prices to 300–500 yuan. Effective August 1, 2013, the government completely exempted from the VAT law small businesses that earn less than 20,000 yuan in monthly sales from the VAT law. Finally, the major contents of the Chinese VAT system were converted into VAT system in business tax and the non-taxable service areas were expanded.

Chinese business tax is a kind of sales tax, in which the supplied taxable services were taxed with the sales as taxable standards. Under the business tax, tax burden was heavier than VAT, and purchase tax could not be deducted from the transaction procedures (transportation, construction, and installation). Therefore, the tax burden in service business was extremely heavy. This issue was resolved by the Chinese government by converting the business tax system into VAT system beginning in Shanghai in 2012.

In July 2013, the government expanded the tax ranges, targeting the transportation business and several personal service industries in large cities (e.g.,



Shanghai and Beijing) and in 11 state cities, including six central states. The government also began to enforce the tax invoice reform nationwide on August 1, 2013. Given that the conversion of the business tax system into VAT system addressed the double taxation problem for service business and greatly reduced the tax burdens of taxation object business field (e.g., service business), the promotion effect in service business development can be expected. Therefore, to promote the further development of service businesses, the Chinese government is expected to convert the business tax in all service businesses to VAT and achieve full scale reduction of the tax burden with the 12.5 plans period.

In 2014, the Chinese government increased the VAT taxable point from 20,000 yuan to 30,000 yuan and lowered the tax rates of some currencies, applying

6% of the tax rates as a simple taxation method. At present, the government continues the active tax reduction trend, including the complete exemption from VAT of the film industry and for the social welfare of the handicapped.

This adjustment in VAT taxable point and VAT exemption for small-scale business are incorporated into the tax reduction policies intended to protect small-scale businesses. Accordingly, the Chinese academic field estimates 130 billion yuan of tax reduction through the conversion of production type VAT system into consumption type VAT system, reduction of applied tax rates for small-scale taxpayers, and conversion of business tax into VAT. The reforms related to the Chinese VAT system specified above are summarized in Table 5.

Table 5.	Major	reforms	in	VAT	system	in	recent	China
					-			

Year	Contents	Characteristics
2005	Trial conversion of consumption VAT (3 Northeastern states)	tax reduction
2007	Trial conversion of consumption VAT (6 central states)	tax reduction
2008	Full-scale execution of consumption VAT Raised applied tax rates of metal (non-ferrous metal) $(13\%\rightarrow17\%)$ Raised applied tax rates of some import mining products $(13\%\rightarrow17\%)$ Adjusted withholding ratio of waste recycling companies ( $70\%\rightarrow50\%$ ) Give preference to VAT for specialized farming Joint venture companies Raised the return rate of some export commodities like textile products	tax reduction tax increase tax increase tax reduction tax reduction tax reduction
2009	Tax exemption for equipment purchase of R&D companies Adjusted small size taxpayer's judgment standards (industrial company 500,000yuan, commercial company 800,000yuan) Adjusted applied tax rates for small taxpayers (commercial company 6%, industrial company 3%)	tax reduction tax reduction tax reduction
2010	VAT return for vessel lease companies in Tianjin area VAT return when trading company makes the trading payment with yuan Cancelled the return for some anti-dumping commodities	tax reduction tax reduction tax increase
2011	Raised VAT taxable point (5000yuan~20000yuan, 300yuan~500yuan each time(daily)) Tax exemption for equipment purchase by R&D companies	tax reduction tax reduction
2012	Trial execution of tax invoice(Shanghai, Zhejiang, Tianjin etc)	tax reduction
2013	Full-scale execution of tax invoice Stopped taxation of VAT for the small-scale business with less than 20,000yuan	tax reduction tax reduction
2014	Expanded items and issuers of tax invoice to post, railroad, general services Stopped taxation of VAT for the small-scale business with less than 30,000yuan Lowered the applied tax rates to 3% for the business with 6% of simplified taxation Exempted VAT taxation for the development of film industry	tax reduction tax reduction tax reduction tax reduction

### (2) Business Tax (BT)

The taxation range of BT in the early years of China was stipulated as the BT object service provided within the Chinese borders based on the territorial principle. In 2009, however, the provision of all services occurring in China was stipulated through the amendment of BT ordinances.

This step indicates that the taxation range of BT was converted from territorial into personal principle,

and the application ranges were expanded to overseas. The Chinese government amended the regulation in 2009, exempting overseas borrowings granted by financial institutions from BT. Moreover, the government decided to impose BTs on local financial institutions within the country (including foreign-based local banks and braches) as well as individuals who borrow from overseas financial institutions (retroactively applied on January 1, 2008, applied tax rate of 10%). Business revenues earned by local



taxpayers living within the country and working in international transportation service were also exempted from BT.

Meanwhile, the Chinese government exempted sales amount of technology-oriented service companies in 20 major cities from BT to support the development of these companies. The government also executed the tax reduction policy for service businesses and several financial institutions. Such a policy was implemented by exempting stock investor and future price investor protection funds accumulated by the Chinese Stock Investor Protection Fund Limited Liability Company as part of security companies from BT. These funds were accumulated as part of operating profits in security and future price investments during the financial crisis.

The government strengthened its financial support to the farmers by exempting small loan amounts of less than 50,000 yuan from BT. The government also stipulated that light tax reduction (3%) could be applied for the financial insurance revenues of loan companies and corporations established by banks, agriculture joint venture banks, and rural community commercial banks whose locations are lower than Hyun class. The government also actualized the taxable point of BT in November 1, 2010 as it lowered the point of monthly business revenues of 1000 – 5000 yuan and daily revenues of

10 yuan in the past to monthly business revenues of 5000 - 20000 yuan and daily revenues of 300 - 500 yuan, resulting in a significant reduction in BT burden.

However, the government levied BT in real estate to promote the stability of this market. When personal houses did not exceed five years or the house was not for residential purposes, the transfer of the houses that met the requirements was exempted from BT. House sale with structural adjustments could also be exempted from BT. More importantly, China realized the conversion reform of BT to VAT on a trial basis and expanded this reform to large cities (e.g., Shanghai and Beijing) and 11 states, including six central state cities until July 2013. The government has continued to execute the reform, targeting transportation businesses and some personal services.

On August 1, 2013, the government expanded the tax invoice reform. Consequently, BTs in all service businesses are expected to be converted to VAT within period of the 12.5 plan. In the same year, the government decided to exempt small-scale businesses with less than 20,000 yuan monthly income from BT. In 2014, the government reduced the tax burden of small-scale businesses by increasing the taxable point in BT from 20,000 yuan to 30,000 yuan.

# Table 6. Major reforms in BT system in recent China

Year	Contents	Characteristics
2009	Expanded taxation range (territorial principle $\rightarrow$ personal principle) Taxation of the business tax on foreign investment companies and foreigners' overseas loan interests Exemption of BT on business revenue which were acquired by technology-oriented companies in external business (20 cities) Exemption of BT on stock investor protection fund and future price investor protection fund Reduced house holding period in case of general house transfer of the individual (5years $\rightarrow$ 3years, by 2010)	tax increase tax increase tax reduction tax reduction tax reduction
2010	BT exemption for farmer related small loan interest BT exemption for international transportation service which was provided by the taxpayers within the border Light tax reduction rate for loan companies in rural areas and rural community Joint venture Bank whose locations are under Hyun class	tax reduction tax reduction tax reduction
2011	Raised taxable point (monthly 5000yuan~20000yuan, each time(daily) 300yuan~500yuan) Expanded BT exemption period for farmer related small loan interest Exemption for the real estate transfer in the cases of residential houses (held longer than 5 years) and structural adjustment	tax reduction tax reduction tax reduction
2012	Started conversion of business tax system to VAT system	tax reduction
2013	Stopped BT for small businesses with less than 20,000yuan monthly business revenue Conversion of business tax system to VAT system	tax reduction tax reduction
2014	Stopped BT for small businesses with less than 30,000yuan monthly business revenue	tax reduction

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The tax reduction effects in various service business companies through the recent implementation of the tax invoice reform increase of taxable income in BT, and reduction of BT for smalland medium-sized companies as well as for individual business entrepreneurs are determined to be a minimum of 12 billion yuan and over 15 billion yuan every year. The recent reforms and characteristics of BT in China are enumerated in Table 6.

# (3) Consumption Tax (CT)

CT was first introduced by the tax reform in 1994 and was stipulated to be imposed on shampoo and cosmetics, considering the disposable income and indispensable goods of Chinese people at that time. However, as the income level of Chinese people increased after the reform and opening up policy of the Chinese government, CT on shampoo and cosmetics was no longer in accordance with its purpose, thereby causing an increase in the tax burden of the Chinese people. Hence, the Chinese government amended the CT provisional ordinances in 2006 and conducted a full-scale reform of the CT object items.

To prevent the inclusion of high class commodities such as golf clubs and paraphernalia, luxury watches, and other items, which were classified as new luxury commodities and taxed accordingly, the amendments to the CT provisional ordinances included general consumption goods such as disposable chopsticks and hardwood floor materials and finished oil products such as naphtha, petroleum benzene, lubricants, fuel, and aviation fuel as taxation objects. At the same time, CT for skin and hair protection products was abolished because these had lost taxation meaning as they have already been designated as ordinary consumption goods in 2006. However, high quality skin and hair protection goods were also included as taxation objects along with high quality cosmetics. In 2009, with the aim to save natural resources and protect the environment, the Chinese government levied CT on oil products (e.g., naphtha, petroleum benzene, and lubricant), and increased the tax previously imposed on these goods (from 0.2 and 0.1 yuan per liter to 1 and 0.8 yuan per liter). A year after, several biodiesel products were excluded from CT. The CT return rate of certain naphtha products and their raw materials was adjusted in 2013 and 2014. To ensure environment protection and strategic resource reserve, the fixed tax rate in CT for finished oil products (e.g., naphtha, petroleum, benzene, and lubricants) and fuel was gradually increased. The prices of these items were increased to 1.4 and 1.2 yuan per liter. Finally, based on the disposable income of Chinese people, the taxation of CT motorcycles below 250cc, car tires, and liquors was also abolished.

### 3.3. Property Tax System

# (1) Urban Land Use Tax (ULUT) and Occupying Farmland Tax (OFT)

In 2007, the Chinese government increased the tax standard three times by amending the ULUT, which was previously imposed only on foreign investment companies. In 2008, the government increased the tax standard of OFT by fivefold. OFT was levied only on domestic capital companies, but was consequently levied on foreign investment companies as well. These efforts have been interpreted as a measure of addressing the unfair tax burdens between domestic and foreign investment companies. Issues have emerged because of the encroaching of foreign investment companies in rural areas that they could not previously enter and to prevent the decrease in available land because of unregulated land use. Subsequently, the Chinese government temporarily exempted farming wholesale market from land use tax and reduced taxes by 50% on taxable lands owned by logistics companies for business purposes. Public rental housing users, public traffic facilities, and other related facilities were also exempted from ULUT. However, the wild mountains and lands that were not previously taxed have also now been regarded as objects of taxation, and partial adjustments have been made for purpose of taxation according based on the structural tax reduction policy.

# (2) Urban Real Estate Tax (URET)

The URET, which was imposed only on foreigners, was abolished in 2009. Instead, a stipulation that the same defense tax provisional ordinances similar to those imposed on locals would apply. Comparable to ULUT and OFT, URET is also interpreted as a means of addressing the unfair tax burden problem between locals and foreigners in owning houses and buildings given that the residence restriction of foreigners has been abolished. However, the abolition of the URET is considered to have caused a heavier real property tax burden on foreigners owning and using real estate than in the past.

# (3) Urban Maintenance and Construction Tax (UMCT)

On December 1, the Chinese government rectified the UMCT, which was originally collected from domestic capital companies and locals. Consequently, UMCT was also imposed on foreign investment companies and foreigners. UMCT is taxed under the China Railroad Corporation with a 1% tax rate.

# (4) Vehicle Purchase Tax (VPT)

The government lowered VPT from 10% to 5% for automobiles with less than 1600cc of engine



displacement to overcome the depression in the automobile industry resulting from global financial crisis in 2009. The tax rate was increased from 5% to 7.5%, exhibiting the flexible operation of the government in accordance with existing economic conditions. The new regulations were enacted in 2013 to strengthen the taxation of VPT. In 2014, new energy vehicles were exempted from taxation.

# 4.4. Others

# (1) Resource Tax

The Chinese government modified the resource tax system, which, since 2009, has been uniformly taxed according to the past fixed amount method, by amending the resource tax provisional ordinances levied. Crude oil and natural gas were taxed under a fixed rate method, whereas other resources were also taxed with the same channel, but with a greatly increased tax burden amount. This approach was adopted to bring the wanton development of resources and arbitrary adjustment of tax revenues executed by local governments by altering applied tax rates or tax amounts. Zhu (2012b) states that only the Ministry of Finance State Council could change the applied tax rates and tax amounts, thereby depriving the local government of the authority to adjust resource-related applied tax rates or taxes. In 2012, the Chinese government also changed the taxation method for resource tax for iron ore, which was then taxed under a fixed rate method. In 2014, the government amended the regulations, which required crude oil and natural gas to be taxed under different tax rates based on the contents of each component. Coal products must also be taxed under a fixed rate method (applied tax rates from 2% to 10%).

# (2) Securities Exchange and Stamp Taxes

In order to promote the development of capital market, The Chinese government lowered the applied tax rates for stock exchange tax from 3% to 1% to promote the development of the capital market. The government also reduced the tax burden by changing the taxation method from taxing on both concerned parties to taxing only on one party (seller). Full-time rural joint venture companies requiring political support were exempted from stamp tax and tax burden in rural community was reduced. The stock exchange and stamp taxes in stock trading by nonlisted small- and medium-sized companies as well as in preferred stock trading were taxed at a 1% tax rate. Stamp tax for financial a institution that lend funds to small- and medium-sized companies, such as related to dormitories and restaurants, is non-taxable. Public rental housing is also exempted from stamp tax and the tax burdens of the low-income population were reduced.

# (3) Land Appreciation Tax (LAT)

A problem observed in LAT is that the real estate business is consistently overheated in China. Moreover, previous LAT-related regulations could not reflect real estate prices, which have already increased. However, in recent years, the Chinese government has considered this reality and provided rational adjustments to the accumulated taxation rates as well as the scheduled taxation rates for LAT. The government also focused on strengthening the taxation management by amending the 2010 LAT law.

# 4. Prospects and Implications

For the past several years, China has steadily enforced its structural tax reduction policy, which aims to reduce taxes for low- and middle-income classes as well as for small- and medium-sized companies that require tax reduction, while raising taxes for the highincome class.

However, despite the structural tax reduction policy, tax revenue and tax burden in China exhibit a continuously increasing trend. This condition is observed although the Chinese government has been actively implementing the tax reduction policy for specific classes and areas in need of tax reduction and despite compensating for the tax revenue shortage caused by the partial tax reduction through the tax increase policy for classes and areas that can afford a tax increase.

Evaluating the structural tax reduction policy in terms of its contribution to the Chinese economy based on the increase in the disposable income of Chinese people and the expansion of domestic consumption, as well as in weathering the global financial crisis and contributing to the continued development of the national economy, the policy has had positive effect. Accordingly, future structural tax reduction policies in China must incorporate tax reductions for specific areas and classes that require tax reduction, while consistently increasing taxes for high-income classes through tax increase within an appropriate range to ensure that tax revenues are not decreased.

For example, the Chinese financial incomes in 2011 were 8 trillion, 972 billion yuan, accounting for 19.03% of the total GDP of 47 trillion, 156.4 billion yuan. If the social expenditure of 1 trillion, 870 billion yuan is included, 10 trillion, 842 billion yuan would account for 23% of the total GDP of 47 trillion, 156.4 billion yuan. The GDP growth rate in China is 9.2%, but its tax revenue growth is 22.6%.

In general, GDP is calculated with constant prices, but tax revenue is measured with the current price rate. Therefore, the tax revenue is approximately 17.5% if it is calculated based on the current price. This finding reveals that the tax revenue growth rate is slightly higher than the GDP growth rate. However,



the tax revenue growth rate in China is still low when compared with that of the member countries of the Organization for Economic Co-operation and Development, such as Canada (32%), Germany (37.3%), UK (34.3%), and France (42.4%).

The percentages of consumption taxation (VAT, BT, CT, UMCT, construction tax, VPT) in tax revenues are approximately 51%, representing only 15.8% of EIT, 7% of IIT, and 4% of property tax (defense tax, contract tax, land use tax). This observation indicates that percentage of consumption taxation is highly prohibitive than in other tax revenues. Thus, the Chinese tax system can be interpreted as having an advantageous structure for achieving horizontal equality, but is disadvantageous for realizing vertical equality and addressing global imbalance issues.

Based on the above analyses, future Chinese tax reforms must focus on addressing the income imbalance and tax burden inequality within the country as well as the global imbalance issues. These reforms must also be focused on completely realizing China as a socialist country through the optimum allocation of resources. By considering these macroeconomic situations in China and the related policy prospects, the Chinese government should consider implementing the following tax reforms in the future.

First, in China, the basic tax rate in VAT is 17%, which is excessively high, and is considerably more prohibitive than that in neighboring countries such as Korea (10%) and Japan (5%). The exemption ranges in China are also relatively narrow, and the tax burden of the taxpayers remains high. Eventually, such a burden may affect the disposable income of Chinese people and could constrict domestic consumption particularly because VAT has the characteristic of being a substantive tax burden passed to the final consumer. Therefore, the Chinese government must actively take tax reduction measures to lower the basic tax rate in VAT or to expand the exemption range as a means of expanding the domestic consumption within the country by decreasing the tax burden for low- and middle-income classes.

Second, the percentage of CT represents only 3% of the entire consumption-related tax revenues. Thus, taxable goods cannot properly reflect the rapidly increasing trend. Taxable goods are connected with the income level of Chinese people in 2006, but are no longer in accordance with the current income level. Hence, the applied tax rates or taxable goods must be adjusted based on the trend of increasing disposable income of Chinese people in the future.

BT partially solves the double taxation problem of VAT and BT through the tax invoice reform. However, BT is still being imposed on financial service areas, and the issue of double taxation cannot be addressed completely. Specific alternatives cannot be suggested to compensate for the decreased tax revenues of local governments because of the tax invoice reform. Nonetheless, the abolition of BT is a logical topic of discussion because BT is also a type of transformed VAT. Nullifying BT is the only direction for addressing the issue of double taxation and inequality of tax burdens. BT must be completely abolished and integrated into VAT based on the non-deductible VAT.

Third, IIT is expected to increase from the current 3,500 yuan, which is the taxable point for wage earners, to a minimum of 4,800 yuan to achieve vertical equality. Taxation on aggregate income may also be introduced extensively, and capital gains tax must be strengthened in the future on the assumption that the real-name financial and real-name real estate transaction systems would be introduced based on the progress of anti-corruption reforms in China.

Regarding EIT, the tax preference policies for central and western areas and high technology industries must be reformed consistently to address regional imbalance and growth issues. A consolidated taxation system must also be executed to improve national competiveness by restricting state-owned companies and dismantling the monopoly system.

Finally, in international and resource tax areas, foreign companies and foreign investment companies in China display an increasing trend in tax evasion behavior by providing intangible assets and personal services that differ from they have provided in the past. Therefore, laws and regulations that control these negative trends must be enacted, and transfer pricing investigation on related behaviors must be realized. In particular, regulations related to revenue owners and anti-tax avoidance must also be more stringent. The Chinese government aims to achieve consistent economic development within the country and intends to expand its influence on international societies by controlling rare resources. In this event, the future increases in basic tax or export return rate and custom tax rate adjustment must be utilized more actively. This undertaking could also increase the resource tax burden significantly.

China's policy flows has huge implications on our country as China is our primary trading partner and investment target. China, which has a close economic relationship with our country, is not a capitalist market economy country similar to ours. Second, China has already established a very long national development plan (spanning 70 years) and has been executing such a plan for the past 30 years. Finally, China follows the concept of virtuous circulation, which can be described as follows: increase of disposable income  $\rightarrow$  expansion of domestic consumption  $\rightarrow$  consistent growth of national economy. China is pursuing this through the execution of the tax burden structure adjustment referred to as structural tax reduction policy".

More importantly, the structural tax reduction policy currently implemented in China focuses on increasing the tax imposed on high-income class and large companies while decreasing the tax burden on



low- and middle-income classes as well as on smalland medium-sized companies, resulting in an increase in the disposable income of these sectors. The policy of increasing the disposable income of the underprivileged population by reducing the tax burden of high-income class does not contribute significantly to the expansion of domestic consumption. Instead, reducing the tax imposed on middle- and low-income classes would increase their disposable income and consequently revitalize the domestic market. Many countries focus currently on tax policy competence for large companies and overseas market as well as export increase because of the limitations of the local market. However, a policy must be established to guarantee the continuous development of the national economy by increasing the disposable income of small- and medium-sized companies as well as that of middle- and low-income classes. This enhancement can be achieved through the implementation of tax reductions and by revitalizing the local market.

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# IS THE SOUTH AFRICAN EXCHANGE RATE VOLATILE? APPLICATION OF THE ARCH FRAMEWORK

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#### Abstract

This study applies the autoregressive conditional heteroscedasticity (ARCH) model to forecast exchange rate volatility in South Africa for the period 1990Q1 to 2014Q2. The ARCH (1) and ARCH (2) models were constructed using four variables; namely, exchange rate, gross domestic product, inflation and interest rates. Upon addressing the issue of stationarity, the models were fitted and the ARCH (1) model was found to be fit. This model revealed a high volatility of exchange rate compared to the ARCH (2) model. Prior to forecasting, the selected model was subjected to a battery of diagnostics tests and was found to be stable and well specified. The forecasts from the ARCH (1) model proved that in the near future, exchange rate will not be highly volatile though SA will experience depreciation in its currency.

Keywords: Exchange Rate Volatility, ARCH, Macroeconomic Variables, Stationarity

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### 1. Introduction

In the era of globalization, there is a need for foreign currency in order to manage economic activities such as exports, imports and investments. There are other components that benefit from the exchange of foreign currency such as industrialization and advancement, government departments, industries and organisations (Rishipal and Jain, 2012). The authors emphasise that the availability of various economic resources and means of production in the South African government depends largely on the value of exchange rate. As a result, the resources responsible for evaluation of exchange rate are not stable and fixed. Subsequently, the value of exchange rate fluctuates with respect to its purchasing power in the government and foreign currencies.

Exchange rate volatility has been found to have a significant effect on the overall economy of a country as reported by Rishipal and Jain (2012). The adverse consequences of exchange rate volatility on various parts of the domestic economy have now been well documented in numerous research works as highlighted by Rahmatsyah et al. (2002). Having said that, the Economist Intelligence Unit in 2007 affirmed that the impact of exchange rate on the economy has become an important question for economic policy makers. The former President of South Africa (SA) Thabo Mbeki created the Myburgh Commission to investigate the causes of the acute depreciation of the rand in 2001. The unit reported that the South African rand remains one of the most volatile of emerging market currencies, and is prone to sharp movements. It was then concluded that exchange rate volatility is a problem that affects the country's economy and investments.

Exchange rate across the world has fluctuated widely particularly after collapse of the Bretton Woods system of fixed exchange rate (Srinivasan and Kalaivani, 2012). Excessive fluctuations have been observed in the exchange rate in countries. These fluctuations have been reported to be the major causes of uncertainties worldwide as reported by Chaudhary et al. 2012. SA was one of the countries that experienced this volatility according to Nyahokwe (2013). After the collapse of the Bretton Woods system of fixed exchange rate, majority of the affected countries initiated the flexible/floating exchange rate system (Chaudhary et al., 2012). In their study, Insah and Chiaraah (2013) highlighted that the change in the exchange rate regime from fixed to floating exchange rate system in 1983 caused a spike in exchange rate volatility in SA and this had marked effects on economic growth, capital movements and international trade. Fixed and floating exchange rate systems are identified by literature as the types of exchange rate as highlighted in Mohr et al. (2008). Some countries use the fixed exchange rate while others use the floating exchange rate systems. According to their explanation, Rishipal and Jain (2012) are of the view that fixed exchange rate system does not fluctuate overtime, while floating exchange rate system keeps on changing continuously.



Immediately after the move to a floating exchange rate system, exchange rate became highly volatile in SA, Omojimite and Akpokodje (2010) warned that this had negative repercussions for trade, investment and growth. Volatility in the exchange rate affects the country in such a way that an appreciation in the exchange rate may create current account problems because it leads to overvaluation. This in turn makes imports artificially cheaper for foreign buyers while the volume of exports becomes relatively expensive for foreign buyers. Takaendesa (2006) alluded that exchange rate volatility reduces the international competitiveness of a country. Moreover, volatility in exchange rate hurt producers and investors alike because it affects their projected (planned) revenue and costs, including profits margin (Ben et al., 2010).

Campbell et al. (1997) commented on the statistical inefficiency and inconsistency of the assumption of a constant variance over some time period. He mentioned that in financial data the variance changes with time and defines this phenomenon as heteroscedasticity. It is of utmost importance to study models which accommodate this possible variation in variance. Numerous researches have been conducted in SA where the problem of exchange rate volatility was considered. Unfortunately, none of these researches used mathematical methods on quarterly data to model the conditional variance and performed forecast of exchange rate volatility. Therefore this study applies the autoregressive conditional heteroscedasticity (ARCH) framework to model and accommodate the dynamics of conditional heteroscedasticity in exchange rates. Moreover, the study intendeds to model long term performance of quarterly exchange rates of SA for the period 1990 to 2014.

The rand volatility is regarded as the biggest encounter faced by the South African economy. The Congress of South African Trade Union and other firms in the manufacturing industry had previously made calls to reduce the rand value. However, by far, the steadiness of the South African exchange rate is regarded as the most preferable choice for the financial sector and the industry at large. The inconsistencies in the rand resulted into one of the serious political-economic dilemma for the country. Most studies reported the volatility of the rand as one of the determinants which slows down the economic wellbeing of SA. The stock market is also suffering due to these volatility effects. It is however also necessary to investigate what could be the factors of exchange rate volatility. This information could be useful to policy makers in the country.

The findings of this study may be of help to economic policy makers in the country as they would know what to emphasise on in respect of exchange rate volatility. The findings may also help in bridging a gap in literature on the subject. This study may also give a guide to policy makers in the country to embark on policies that could help with reducing if not stabilising the challenge of exchange rate volatility. SA is a developing country, and other countries benchmark on it. It is therefore important come up with policies that are informative not only to the South African government policy makers but also to other countries who are investors or wish to invest their resources in the country. Good investment is good for the country as it helps in boosting the economy and as a result poverty is alleviated and more jobs are created. Researchers and academicians in the field of finance and economics may also find this study as a useful guide when dealing with the issues of exchange rate. The recommendations made by this study may help prevent further exchange rate volatility in SA. The remainder of this paper is structured as follows; Section 2 provides a brief literature review, Section 3 describes the methodology, followed by results and discussion in Section 4. Section 5 gives concluding remarks.

# 2. Literature review

This section examines the review of studies on exchange rate volatility with the aim of identifying statistical framework and the variables adopted. Uddin et al. (2013) in their study suggest that, before exploring a new phenomenon, it is necessary for a researcher to look into various aspects already studied. As research is a continuous process and it must have some continuity with earlier facts. In this section, we elaborate on the research problem by looking into studies that already investigated exchange rate volatility. The emphasis is basically on what the theory says about the research problem.

Various studies around the world have investigated the factors affecting exchange rate volatility using different methods. For instance, in Pakistan, Zada (2010) studied the factors affecting exchange rate volatility using annual data for the period 1979 through 2008. The author employed multiple regression technique whereby inflation, interest rate, foreign exchange reserves, trade balance, money supply and gross domestic product were used as independent variables. The findings of the study indicated that inflation rate, interest rate and foreign exchange reserves strongly influence the exchange rate volatility and remained significant at 1% level while other variables such as gross domestic product (GDP), money supply, and trade deficit remained insignificant.

In Nigeria, Mayowa and Olushola (2013) used annual time series data to investigate the determinants of exchange rate volatility for the period 1981 through 2008. Variables used in the study include exchange rate, productivity, trade openness, government expenditure, real interest rate and money supply. The GARCH (1, 1) technique and the error correction model (ECM) were applied to examine the various determinants of exchange rate volatility. The findings



of the study indicated that openness of the economy, government expenditure, interest rate movement as well as the lagged exchange rate is among the major significant variables that influence exchange rate volatility.

Umaru et al. (2013) investigated the impact of exchange rate volatility on export in Nigeria. The study used GARCH (p, q) on time series data covering the period 1970 to 2009. The findings of the study indicated that exchange rate volatility impacts exports in Nigeria. The study recommended that, Nigerian government implement a fixed and sustainable exchange rate policy that will promote greater exchange rate stability and improve terms of trade.

Danmola (2013) studied the relationship between exchange rate volatility and GDP, foreign direct investment (FDI) and trade openness. The study used annual data which covered the period 1980 to 2010 in the Nigerian context. For the purpose of analysis, the author employed the correlation matrix, ordinary least square (OLS) and Granger causality test to test the short run dynamics. The findings of the study indicated that GDP, FDI and Trade Openness have a positive influence on exchange rate volatility. The findings further indicated that all variables are stationary at different levels of significance and order of integrations.

The study by Mahmood et al. (2011) looked into the relationship between exchange rate volatility and FDI, GDP and trade openness in Pakistan. The investigation was mainly to check whether fluctuations in exchange rate volatility affect FDI, GDP and trade openness in Pakistan. The study used annual data from 1975 to 2005. GARCH (1, 1) model was applied and the findings of the study indicated the impact of exchange rate volatility on macroeconomic variables in Pakistan. The results further indicated that exchange rate volatility positively affects GDP and trade openness and negatively affects the FDI. From the literature gathered above, it is evident that the subject is of interest and has been investigated in several countries. It is evident that less interest is paid to ARCH as a method of investigation. This is an indication that the application of this model has not been exhausted in the field of econometrics. This study is important since there is no evidence that the same has been done in SA.

# 3. Data and methodology

# 3.1 Data

The empirical analysis uses quarterly data that covers the period 1990Q1 to 2014Q2. The sample period is selected because it covers the 2007 and 2008 financial crisis and the period gives a clear trend of what happened prior to and after the apartheid era. Moreover, with a considerable number of observations, the assumption of normality may also not be violated and the effective applications of the methods chosen for data analysis are catered for. Data is mainly sourced from the electronic data delivery system of the South African Reserve Bank (SARB) and Organization for Economic Co-operative and Development (OECD). The econometric views (E-Views) version 8 software package is utilized to analyse data. E-Views helps with data management, perform econometric and statistical analysis, generate forecasts and model simulations, and produce high quality graphs and tables. The variables used in the analysis are exchange rate (ER), gross domestic product (GDP), and inflation rate (INF) and interest rate (INTR). A brief description for each of these variables is given below.

**Exchange rate (ER):** Todaro and Smith (2011) define the ER as the price of one unit of foreign currency in terms of domestic currency for instance, the exchange of the Rand for the US dollar. This variable is used in this study as a dependent variable ER and is measured in percentages.

**Gross Domestic Product (GDP):** Mohr et al. (2008) define GDP as the total value of all goods and services produced within the boundaries of a country in a particular period (usually on year). According to Rishipal and Jain (2012), a volatile ER, especially when it depreciates constantly, affects the GDP which will lead to exports becoming cheaper and imports expensive. GDP is an independent variable and is measured in millions.

**Inflation rate (INFR):** Mohr et al. (2008) define INFR as a continuous and considerable rise in prices in general. According to Chaudhary and Goel (2013), INFR is a determinant of ER whereby a higher INFR in the country will be followed by a depreciation of the currency while a lower INFR in the country will be followed by an appreciation of the currency. INFR as an independent variable in the model is measured in percentages.

**Interest rate (INTR):** According to Mohr et al. (2008), INTR is the percentage charged by the lender to the borrower for the use of money/assets. A higher INTR in the domestic country attracts foreign investors which in turn increases the value of the domestic currency. INTR as another independent variable in this study is measured in millions.

Exchange rate in this study is modelled as percentage the first difference of the series defined as:

$$r_{t} = 100 * \log\left(\frac{E_{t}}{E_{t-1}}\right)$$
(1)

where  $r_t$  is the daily percentage return to the exchange rate and  $E_t$  and  $E_{t-1}$  is denoted the exchange rate at the current and previous day respectively.

#### 3.2 Methods

Preliminary data analysis is performed before the primary statistical data analysis. Firstly, it is important



to explore the behavior of a random variable. Therefore trend analyses are employed for this reason.

#### 3.2.1. Stationarity analysis

Challis and Kitney (1991) define stationarity as a process whereby the statistical parameters, for

$$E[X_t] = \mu \text{ for all } t \text{ and } Cov(X_t X_{t-k}) = E[(X_t - \mu)(X_{t-k} - \mu)] = \gamma_k \text{ for all } t \text{ and any } k.$$

Sibanda (2012) asserts that the dependent and independent variables of a classical regression model be stationary and the errors have a zero mean and finite variance. Hill et al. (2008); Bowerman and O'Connell (1979) provide reasons why stationarity of variables needs to be assessed. The first basic reason is to avoid spurious results. Secondly, if a regression model has variables which are non-stationary, then tratios do not follow a t-distribution. The sequence for stationarity check is to firstly show time series plots which determine the behaviour of random variables. This further assesses whether or not the properties of time series are violated. The formal tests conducted are the Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) formal tests. These tests are important as they give insight into the structural breaks, trends and stationarity of the data set (Brooks, 2008). Discussed below is the ADF and PP test for stationarity.

#### Augmented Dickey Fuller (ADF)

A customized version of the Augmented Dickey-Fuller (ADF) was developed by Dickey and Fuller (1979). Phillips Perron (PP) slightly differs from ADF in terms of the heteroscedasticity in the error term and the serial correlation. The PP uses a different approach to approximate the ARMA structure of errors in the test regression and ignores any serial correlation as compared to the ADF that uses a parametric auto regression. The ADF test was recommended by Chun-Leng (2006) as a good measure for assessing stationarity of the series. The following regression equation adopted from Moroke (2014) is used for testing stationarity:

$$\Delta Y_{t} = \alpha + \beta Y_{t-1} + \sum_{i=1}^{k} \phi_{i} \Delta Y_{t-1} + \varepsilon_{t}, \qquad (2)$$

where  $\Delta$  represents the first difference operator, *t* is the time drift, *k* is the number of lags used and  $\mathcal{E}_t$ is the error term,  $\alpha$  and  $\beta$  are the model bounds. The ADF test includes a constant and deterministic trend. Assuming that the series  $\{Y_t t_{-1}^T\}$  follows an AR (p) process, Hamilton (1990) highlights that the rejection or acceptance of the null hypothesis of a unit root is based on running the regression:

$$Z_{t} = \mu + (\phi_{1} - 1)Y_{t-1} + \sum_{j=1}^{p-1} C_{j}Z_{t-j} + \varepsilon_{t}$$
(3)

instance, the mean and standard deviation of the process do not change with time. On the other hand, Aas and Dimakos (2004) clarify that a sequence of random variables  $X_t$  is stationary if there is no trend and if the covariance does not change over time, that is:

where 
$$Z_{t-i} = Y_{t-i-1}$$
 for j = 0, 1, 2,..., p -1 and

 $\mathcal{E}_t$  is a white noise process. The ADF test statistic is given as;

$$\hat{\tau}_{ADF} = \frac{\hat{\phi}_1 - 1}{se(\phi_1)},\tag{4}$$

 $se(\phi-1)$  Represents the standard error of  $\phi-1$ . The null hypothesis of a unit root  $H_0: \phi_1 = 1$  is rejected if  $\hat{\tau}_{ADF}$  is less than the appropriate critical value at some level of significance.

# **Phillips Perron (PP)**

Phillips-Perron (1988) test of stationarity is a more comprehensive theory of unit root non stationarity. The test uses non-parametric statistical methods in order to take care of the serial correlation in the error terms without adding lagged difference terms (Brooks, 2008).The test is similar to the ADF test but it incorporates an automatic correction to the DF procedure to allow for auto correlated residuals. The PP test involves fitting the regression:

$$y_i = \alpha + \rho y_{i-1} + \varepsilon_i \tag{5}$$

where  $\mathcal{E}_t$  is I(0) and may be heteroscedastic. The test statistic is calculated with the equation:

$$\hat{\tau}_{pp} = \left(\frac{t_{\phi-1}}{\xi}\right) \Gamma_0^{\frac{1}{2}} - \frac{N}{2} \left(\frac{\xi^2 - \Gamma_0}{\xi \sigma}\right) se(\phi - 1)$$
(6)

where  $t_{\phi-1}$  is the test statistic of  $\phi-1$ ,

 $se(\phi-1)$  is the standard error of  $\phi-1$ ,  $\sigma$  is the standard error of the test regression and  $\Gamma$  is the truncation lag. The asymptotic distributions of the PP test statistics are the same as those of the ADF test. Here again, the null hypothesis of unit root  $H_o: \phi_1 =$ 

1 is rejected if  $\tau_{ADF}$  or  $\tau_{pp}$  is less than the appropriate critical value at some level of significance.

#### 3.2.2. ARCH model estimation

The variance of the disturbance term is assumed to be constant in economic modelling. However many economic series do not have a constant variance and a number of these series are exposed to periods of high, others to low period of volatility (variance). Exchange rate has been found to be prone to the volatility. The ARCH model is recommended to capture these effects of conditional heteroscedasticity. This model was first introduced by Robert Engle in 1982. The model could also be applied when the researcher desires to simultaneously model estimates of the mean and the variance of a series. As the name of the model indicates it assumes heteroscedasticity of the residual and takes it into account (Abdalla, 2012). The autoregressive part comes from the fact that it uses realized values of old residuals, which are obtained from the mean equation.

$$r_t = \varepsilon_t$$
,  
where  $\varepsilon_t \sim N(0, \sigma_t^2)$  and  $\sigma_t^2 = c$ .

The model is mostly used in finance. Engle (2001) supported by Brooks (2008) recommends the ARCH model when the goal of the study is to analyse and forecast volatility. Volatility is referred to as the spread of all likely outcomes of an uncertain variable. Abdalla (2012) cautions that in financial markets, we are often concerned with the spread of asset returns. The statistical definition of volatility is a measure of the sample standard deviation as;

$$\hat{\sigma} = \sqrt{\frac{1}{T-1} \sum_{t=1}^{T} (r_t - \mu)^2}$$
(7)

where  $r_t$  is the return on the day and t and  $\mu$  is the average return over the T-day period. Poon (2005) asserts that volatility as a measure strictly for uncertainty could be due to a positive outcome. In the presence of the ARCH effects, the variance will no longer be time independent and the ARCH model that

deals with the heteroscedastic variance becomes:

$$\varepsilon_t \mid I_{t-1} \sim N(0, \sigma_t^2) \tag{8}$$

This paper uses the variance as a measured of volatility. Adopting the procedure used by Abdalla (2012), the general form of the ARCH (q) model is

$$\sigma_t^2 = \alpha_0 + \sum_p^q \alpha_i \varepsilon_{t-1}^2 \tag{9}$$

The residual is conditionally heteroscedastic and depends on all information available at time  $t - 1, I_{t-1}$ . The residual becomes;

$$\mathcal{E}_t = \mathcal{U}_t \sigma_t \tag{10}$$

And  $v_t$  is a white noise process and is assumed to be normally distributed with mean 0 and variance 1, i.e.  $v_t \sim N(0,1)$  and is independent of  $\sigma_t \cdot \sigma_t$  is a non-negative stochastic process. The variance of  $\mathcal{E}_t$  is no longer a constant and depends on the lagged values of the residual, where  $\alpha_0 > 0$  and  $\alpha_t \ge 1$  (necessary to restrict the variance to be positive) (Abdalla, 2012). The ARCH model is advantageous to use as the conditional forecasts are vastly superior to unconditional forecasts because they incorporate all information available. The unconditional forecast for the mean and variance of an ARCH (1) model becomes:

$$E(\varepsilon_t) = 0 \tag{11}$$

$$E\left(\varepsilon_t^2\right) = \frac{\alpha_0}{1 - \alpha_1}.$$
 (12)

The conditional forecasts of these coefficients would be;

$$E(\varepsilon_{t} | I_{t-1}) = 0$$

$$E(\varepsilon_{t}^{2} | I_{t-1}) = \alpha_{0} + \alpha_{1}\varepsilon_{t-1}^{2}$$
(13)

(14)

In this instance, the conditional mean is still zero due to the white noise process but the conditional variance is different and is dependent on the realized value of  $\mathcal{E}_{t-1}^2$ . The unconditional variance only looks at the estimated values of  $\alpha_0$  and  $\alpha_1$ . If the realized value of  $\mathcal{E}_{t-1}^2$  is large so will  $\mathcal{E}_t^2$ . It is a desirable feature for financial series since most of them display evidence of volatility clustering and the ARCH process takes it into account (Abdalla, 2012).

#### 3.3 Model selection criteria

Model selection criteria provide a basis for model selection (Acquah, 2010). The study uses the Akaike information criterion (AIC) and Schwarz information criterion (SIC) in order to select between candidate models. Discussed below is the procedure for using the AIC and SIC criteria. AIC was developed by Akaike (1973) while SIC was developed by Schwarz (1978). The AIC test is aimed at finding the best approximating model to the unknown data generating process (Acquah, 2010).

Gujarati and Porter (2009) emphasise that the advantage of forecasting performance of a regression model using the AIC is not only in-sample but also out-of-sample. The advantage of using the SIC is to identify the true model (Fox, 2008). Gujarati and Porter (2009) emphasises that the SIC can be used to compare in-sample or out-of-sample forecasting performance of a model. Both models are given in equations 15 and 16 respectively:

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$$AIC = -2\log_{\varepsilon} L(\hat{\theta}) + 2s$$
$$SIC = -2\log_{\varepsilon} L(\theta) + s\log_{e} n$$

where  $L(\hat{\theta})$  is the maximised log likelihood under the model and  $\theta$  is the parameter vector for the model. The model with the smallest AIC and SIC is chosen and used for further analyses.

# 3.4 Model diagnostics tests

The model that satisfies the requirements of the AIC and SIC is subjected to a battery of diagnostics tests prior to the forecasting process. This step ensures that the model is adequate enough to be used for further analyses. Tandrayen-Ragoobur and Emandy (2011) emphasise that model diagnostics testing is important as it helps in identifying misspecification of a functional form and the stability of regression coefficients. In light of the above information, the cumulative sum control chart (CUSUM) stability test and Ramsey's (regression error specification test) RESET tests are used to test for stability of the coefficients and misspecification of a functional form. The description of these tests is given below;

# Cumulative Sum Control Chart (CUSUM) stability test

Checking model stability is necessary for prediction and econometric inference (Hansen, 1992). The author further cautions that model instability generally makes it difficult to interpret regression results. In the present study, the CUSUM stability test is used to assess stability of the long run dynamics (Tandrayen-Ragoobur and Emandy, 2011). The test is essentially designed to detect instability in the model. This test was developed by Page (1954). It is based on a normalized version of the cumulative sums of the residuals (Brooks, 2008). Tandrayen-Ragoobur and Emandy (ibid) point out that, if a plot of the CUSUM statistics stays within the critical bounds of 5% significance level, it means that all coefficients in the model are stable. Stability of the model implies that the explanatory variables are fit for [16] selected model.

# Ramsey's Regression Error Specification Test (RESET)

The RESET test was developed by Ramsey (1969). This test is a general misspecification test designed to check the inappropriate functional form of the model. It further tests whether a regression model is correctly specified in terms of the regressors that have been included in the model (DeBenedictis and Giles, 1998). The rejection rule is to reject the null hypothesis if the probability value associated with the Ramsey's RESET test is greater than 0.05 or 5%. According to Hill et al. (2008), rejection of  $H_0$  implies that the specification of the equation can be improved.

# 4. Results and discussion

This section provides and discusses the results based on the objective of the study and the methods employed.

# 4.1 Stationarity test result

The initial analysis of data involves analysing the time series plots in order to identify the salient features of the data. This further helps in deciding about the properties of the model to fit. Figure 1 is a graphical representation of the four variables used in the study.





Figure 1. Time series plots

It is evident from figure 1 that exchange rate is explained by irregular components and has disturbance errors between the years 1993 and 1998. The figure shows that the rand experienced a sharp depreciation in the year 2000. This is a period when the inflation targeting-flexible exchange regime was adopted by the country and the currency underwent an era of excessive volatility. Also depicted is an accelerated devaluation which took place from 2000 until 2002. A sharp depreciation of the rand was experienced in 2000 and continued with the weakening trend 2001. This rapid depreciation in 2001 became an enormous concern and forced the government to make a formal inquiry in to the depreciation of the rand by Myburgh Commission. Several of the macroeconomic variables were reported to be the causes of this depreciation. Major reasons to this were among others a slowdown in global economic activity, contagion from events in Argentina, and a worsening in the current account balance in the fourth quarter of 2001 as reported by Bhundia and Gottschalk (2003). According to the Industrial Development Corporation, the South

African rand exhibited excessive volatility from the year 1996 to 2001 and the pace of the depreciation was particularly strong but then again the rand strengthened between the years 2003 and 2006.

During the subprime mortgage crisis which took place in 2007 and the financial crisis in 2007 and 2008, the rand embarked on a generally declining trend but increased again in the years 2009 and 2010. A volatile exchange rate cause uncertainties in terms of foreign investment and therefore macroeconomic factors such as gross domestic product, interest rate and inflation rate are affected negatively. The findings of the study by Ozturk (2006) highlighted that changes in exchange rate create uncertainty about the profits to be made and hence, reduces the benefits of international trade.

Other three variables just like the exchange rate are explained by trend and irregular components are said to be non-stationary. This means that the mean and variance of the series are not constant. In addition to the visual representation of the series, the ADF and PP tests are used to confirm the results. The results are summarized in Table 1 and 2.



Variable	Level of test	Number of lags	T-statistics (ADF test)	Critical value – 5%	Conclusion
LOG_ER	Level	0	-9.544059	-2.89155	Stationary
	1st Difference	1	-12.73441	-2.8922	Stationary
LOG_GDP	Level	4	-0.472878	-2.892879	Non stationary
	1st Difference	3	-2.789771	-2.892879	Non stationary
LOG_INF	Level	0	-4.72665	-2.89155	Stationary
	1st Difference	1	-9.489337	-2.8922	Stationary
LOG_INTR	Level	0	-1.037114	-2.89155	Non stationary
	1st Difference	1	-8.212624	-2.8922	Stationary

Table 1. Augmented Dickey Fuller (ADF) results including intercept

The results in Table 1 reveal the presence of stationarity for the exchange and inflation rates at levels. The test indicates stationarity at a 5% significance level with the exception of LOG\_GDP

and interest rates. Based on these findings, first differencing was applied to the series to render them stationary. However, gross domestic product only became stationary after second differencing.

Variable	Level of test	Bandwidth	T-statistics (PP test)	Critical value – 5%	Conclusion
LOG_ER	Level	3	-9.551906	-2.89155	Stationary
	1st Difference	29	-48.45519	-2.891871	Stationary
LOG_GDP	Level	15	0.447924	-2.89155	Non stationary
	1st Difference	20	-16.79365	-2.891871	Stationary
LOG_INF	Level	0	-4.72665	-2.89155	Stationary
	1st Difference	11	-13.4538	-2.891871	Stationary
LOG_INTR	Level	10	-0.895208	-2.89155	Non stationary
	1st Difference	15	-8.831559	-2.891871	Stationary

Table 2. Phillips Perron (PP) results including intercept

In Table 2, the results of the PP stationarity test including intercept are presented. The results indicated that The PP unit root test proves that gross domestic product and interest rate are non-stationary at levels. However, exchange and inflation rates are stationary at 5% level of significance. For the sake of consistency all the variables were subjected to first differencing to induce stationarity. It is evident from the results that all the variables are stationary according to the ADF and PP tests.

# 4.3 ARCH (1) and ARCH (2) modeling results

This Section provides the results of the ARCH (1) and ARCH (2) models presented in Tables 3 and 4. In the case were the ARCH (q) model is interpreted, the variance equation coefficients exhibit low volatility when they are less than 1 and high volatility when they are greater than 1.

Table	3.	ARCH	(1)	model
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Dependent Variable Method: ML - ARC Sample: 199001 20	Exchange Rate H (Marquardt) - Nor 1402	mal distribution	1	
Pre sample variance	backcast (parameter	r = 0.7)		
Variable	Coefficient	Std. Error	z-Statistic	Prob.
GDP	-2.13E-05	1.48E-05	-1.442250	0.1492
INF	0.013084	0.129442	0.101079	0.9195
INTR	-0.493796	0.359411	-1.373901	0.1695
С	13.29741	8.850257	1.502488	0.1330
	Variance E	quation		
С	20.31837	2.862861	7.097226	0.0000
RESID(-1)^2	0.063162	0.164584	0.383769	0.7011

The estimated ARCH (1) model from the results is given as:



 $ER_t^2 = 13.29741 - 0.0000213(GDP) + 0.013084(INF) - 0.4937961(INTR)$ 

The results suggest that gross domestic product and interest rates have a negative effect on exchange rate while inflation rate has a positive effect. These findings disagree with those by Khan et al. (2012) who reported a positive relationship between these variables. A 0.00213% decline in exchange rate leads to a situation whereby imports in South Africa become artificially cheaper for foreign buyers while the volume of exports become relatively expensive. This as a result reduces international competitiveness in South Africa.

The results prove that increased inflation rate is influenced by increased interest rate which inflates the government's fiscal burden. This consequently causes the exchange rate to appreciate. These results are not in accordance with those obtained by Chaudhary and Goel (2013) and Mirchandani (2013). Moreover, the results confirm that increases in interest rates lowers the exchange rates with about 49.38% and these findings are not in accordance with Chaudhary and Goel (2013) and Mirchandani (2013). In the variance equation, RESID (-1) indicates that the ARCH (1) model gives a lower measure of volatility of about 0.063162(6.316%). This is an indication that the three determinants contribute to exchange rate volatility. Presented next in Table 4 are the summary results for of the ARCH (2) model.

Table 4. ARCH (2) model

Dependent Variable: Exchange	ge Rate			
Method: ML - ARCH (Marqu	uardt) - Normal dis	tribution		
Sample (adjusted): 1990Q1 2	014Q2			
Pre sample variance: backcas	t (parameter $= 0.7$ )			
Variable	Coefficient	Std. Error	z-Statistic	Prob.
GDP	-1.77E-05	1.36E-05	-1.305563	0.1917
INF	-0.089170	0.135544	-0.657868	0.5106
INTR	-0.310334	0.343453	-0.903568	0.3662
С	10.39456	8.252242	1.259605	0.2078
	Variance E	quation		
С	16.24788	2.869194	5.662874	0.0000
RESID(-1)^2	0.140945	0.168579	0.836076	0.4031
RESID(-2)^2	0.130146	0.101505	1.282165	0.1998

The estimated ARCH (2) model given as:

 $ER_{t}^{2} = 10.39456 - 0.0000177(GDP) - 0.089170(INF) - 0.310334(INTR)$ 

The results of this model differ from the ARCH (1) model with regard to the inflation rate. However, this model yields volatility measures greater than that of ARCH (1). The three determinants contribute to even higher exchange rate volatility of about 27.1%

when represented with ARCH (2) model. The results of this study are in support of those by Mirchandani (2013), Umaru et al. (2013) and Ngailo (2011).

#### 4.4 Model selection results

 Table 5. Model selection criterion

Criterion	ARCH (1) model	ARCH (2) model		
SIC	3.777125	3.820431		
AIC	3.618861	3.635790		

The results provided in Table 5 reveal that the ARCH (1) model prove to be the best model when compared to ARCH (2) model. ARCH (1) has the smallest AIC and SIC. This model is subjected to the diagnostics tests and if found fit will be used for further analyses. Presented next are the diagnostic checking of ARCH (1) in Section 4.5.

#### 4.5 Model diagnostic results

Presented in this section are the results on model specification and stability tests.

#### CUSUM stability test results





Figure 2. CUSUM stability test

The null hypothesis that all the coefficients in the regression model are correctly specified cannot be rejected at 5% level of significance based on the results in Figure 2. The plot of CUSUM statistic remains within the critical bounds which suggest that the ARCH (1) model is stable. Stability of this model implies that the determinants used are suitable to explain exchange rate volatility. The plot further shows that changes in the exchange rate for the selected period was seen in 2002 onwards but such changes remained within the critical bounds.

#### Ramsey's REST test

Table 6.	Ramsey	RESET	test	statistic
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Ramsey RESET test				
	Value	Df	Probability	
F-statistic	1.022155	(1, 93)	0.3146	

The observed probability value associated with the Ramsey's RESET testis greater than 0.05 / 5% significance level. This leads to failure to reject the null hypothesis of no misspecification.

# 4.6 Forecasting results

Forecasting is very crucial as predictions of future events are used for decision making processes in many organisations (Bowerman and O'Connell, 2005). One of the objectives of this study is to compute forecasts for exchange rate volatility. Presented in Figure 3 is the six years in sample forecasts of exchange rate volatility obtained from ARCH (1) model.



Figure 3. ER volatility forecasts for 2014Q3 - 2020Q4



Figure 3 displays forecasted values of exchange rate volatility for the period 2014Q3 to 2020Q4. A downward trend is seen from the period 2014 Q1. The picture could be appealing to SA since the country depends largely on trade. Mirchandani (2013) advised that weak exchange rate makes currency more attractive which in turn increases the demand for the currency for the domestic country. It is evident that past values of the series (denoted as actual) are equivalent to the forecasted values (shown as forecasts) confirming the validity of the ARCH (1) in forecasting exchange rate volatility. The forecast indicate that in future exchange rate will not be volatile but SA will experience depreciation in its currency. The actual and forecasted values of exchange rate volatility slightly differ due to disturbances which occurred during the periods indicated by long spikes in Figure 3.

### 5. Concluding remarks

The current investigation evaluated exchange rate volatility in South Africa. The analysis took into consideration the objectives as outlined in section 1. Secondary data covering the period 1990Q1 through 2014Q2 was obtained from the SARB and OECD databases. Gross domestic product, interest rates and inflation rate were used to explain exchange rate volatility in the context of South Africa. Stationarity testing on the series was performed using the ADF and PP tests. The series were found to be non-stationary at their level but stationarity after first differencing was imposed.

For primary analyses, this study applied ARCH (1) and ARCH (2) models to assess exchange rate volatility in SA. This was done to determine the model which reveals high exchange rate volatility and ARCH (1) outperformed the ARCH (2) model also according to the AIC and SIC. The ARCH (1) model was found to be fit and stable for the data according to the diagnostic checking. This model was used for producing forecasts of exchange rate volatility in South Africa for the period 2014Q3 and 2020Q4. Exchange rate volatility forecasts exhibited a downward trend or movement starting after the year 2014Q3. The downward trend of forecasts serves as good news for South Africa because a weak exchange rate makes currency more attractive as a form of investment. Finally, the study concludes that exchange rate volatility can be modelled with the ARCH model.

Based on these findings, the study makes the following recommendations:

• A downward trend starting from 2014Q3 means currency in South Africa becomes weaker which leads to foreign investments favouring South Africa for the next 6 years. Therefore, the South African government should start identifying sectors where possible investments can be made. The

exchange rate may be used as a policy tool to attract foreign portfolio investments.

• These forecasts may also be used when embarking on new policies concerning exchange rate in the country.

• Based on the literature reviewed and the results of this study, the study recommends reimplementation of the fixed exchange rate system in SA. A volatile exchange rate has a potential to unsettle foreign investors, and therefore foreign trade and investments are affected negatively.

• A fixed exchange rate would encourage government to implement a policy on import restrictions. A weak exchange rate will enable foreign countries to import more and uncontrolled imports tend to affect domestic industries (markets). Domestic markets will not be able to export mainly because foreign currency will be expensive as compared to the South African Rand. Further research is proposed to improve this study results significance where daily or weekly data is analysed. Studies have shown that using more frequent observations better capture the dynamics of exchange rate and other financial variables. The use of multivariate GARCH family models is also recommended.

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# THE IMPACT OF FISCAL POLICY ON INFLATION IN NIGERIA

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# Abstract

Inflation is a major problem in Nigeria. To stabilize the economy, policy makers have often used fiscal and monetary policies to address inflation. For efficacy of policy, it is important to know the likely influence of each of these on inflation in order to properly prescribe a solution. This work attempts to see the impact of fiscal policy on inflation. This is necessary because of the current demands of the Academic Staff Union of Universities (ASUU), which is likely to increase government spending and possible inflation. Using data from the Central Bank of Nigeria spanning 32 years, the study used an ordinary least squares regression analysis, and observed that fiscal policy impacts on inflation but such impact is not significant. Therefore, government may on the basis of this study, implement the agreement it had with the Academic Staff Union of Universities without the fear of inflation.

Keywords: Inflation, Fiscal Policy, Government Revenue, Government Spending

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# 1. Introduction

The Academic Staff Union of Universities (ASUU) in Nigeria is now on Industrial action. The Union has resolved not to return to work until government honours the pact it signed with the Union in 2009. This pact is majorly about better funding of public universities in the country, including the need to raise budgetary allocation to the education sub-sector, payment of earned allowances and general infrastructural development (Isa 2013). The Union seems embarrassed that four years into the agreement, not much has been done on the ground except rhetoric. However, another school of thought within the Union believes that government is probably working on advice from multilateral agencies, who may have advised the government to cut down public spending and fiscal deficits in order to improve macroeconomic performance (Isa 2013). Apart from this, inflation is a major challenge in Nigeria. There is fear that if government spends more as demanded by the Union, inflation is likely to rise to an unbearable level (Otto 2009, Isa 2013).

This study therefore seeks to identify the impact of fiscal policy on inflation in Nigeria. This is important to empirically identify appropriate policies to address inflation or to allay the fears of government. There is no doubt that theoretically, fiscal and monetary policies are instruments of stabilization. However, countries differ in their responses to such policies. It is therefore necessary to understand macroeconomic responses to such stabilization policies. More clearly, to what extent does fiscal policy impact on inflation in Nigeria?.

# 2. Conceptual Issues

Fiscal policies define the use of taxation and public spending by government to achieve pre-set macroeconomic goals. It is about the use of government income and expenditure to direct the economy in the way governments deem fit. Such macroeconomic objectives include the attainment of: (i) full employment (ii) stable prices, (iii) a positive balance of payment (iv) economic growth (v) equitable distribution of income among others (Jhin Ghan, 2008). Some of these goals may conflict; for instance, a policy that will drive up employment is likely to create inflation, while a policy that will reduce inflation is likely to generate unemployment and lower the rate of economic growth (Philips, 1958). Studies (Rudiger, 1992) have also identified the problem of stagflation in many developing economies. This work simply attempts to examine the impact of fiscal policy on inflation in Nigeria.

Inflation defines a rise in the general level of prices of goods and services in an economy over a period of time (Otto, 2011) Inflation may also be defined as a sustained rise in general price levels or a period of persistent rise in prices (Otto, 2011). The implication is that each unit of the currency in question will buy less than it had previously bought. Inflation could bring about the debasement of the means of exchange.

Historically, infusions of gold or silver into an economy lead to inflation. Ball (1991) noted that when gold was used as currency, government could collect gold coins melt them down, mix them with other metals such as silver, copper etc., and reissue



them at the same nominal value. By diluting gold with other metals, government could issue more coins without needing to increase the amount of gold used to make them. When the cost of each coin is lowered in this way, government profits from an increased seigniorage (i.e using the same quantity of gold to produce more money in coins). This practice increases the money supply but at the same time the relative value of each is lowered. As the relative value of the coin is lowered, consumers would need to give more coins in exchange for the same goods and services as before. These goods and services experience a price rise as the value of each coin is reduced (Otto, 2011). Inflation could be creeping, galloping or hyper. Increases in the quantity of money had occurred in different societies at different times in history.

### Theories of Inflation

Several theories have been used to explain inflation worldwide, namely Demand – pull inflation; Cost – push inflation; Structural inflation and imported inflation. These theories will be discussed one after another below.

#### The Demand Pull Theories of Inflation

Demand-pull theories of inflation define inflation situations where aggregate demand for goods and services exceed aggregate supply, thereby leading to a general rise in price levels (Gbanador 2007). Usually the shortages create competition on the side of demand for the few available products leading to some kind of informal bidding for available items. The aggregate demand for these goods and services include the private demand for consumers' goods, business firms and government including final output and inputs (Gbanador, 2007). The demand-pull inflation may also be called surplus demand inflation because it arises from too much money chasing few goods. More often it occurs where there is full employment so that the excess pressure on the factors of production leads to higher prices for the factors, ultimately leading to rise in the cost of production. It could also be a short run phenomenon where demand dynamics were not well anticipated. When there are production constraints, demand beyond the possible output level could also create inflation (Otto, 2011).

Demand- pull inflation may occur during cyclical booms during or immediately after war, this explains its high rates in Nigeria during 1969 to1970 Nigerian civil war. The rate of inflation during the war was very high (Otto, 2011). In the Biafran enclave, inflation was in three digits. These may not have been officially reported in their exact forms. In other words, inflation rates in Nigeria are generally believed to be under reported (Otto, 2011). The demand pull inflation may be explained using the old or new quantity theory of money or the Keynesian theory. The quantity theory of money attempts to explain the link between money and general price levels. The quantity theory (also referred as monetarists view) emphasize the influence of money supply as prime determinants of inflation (Jhinghan, 2008) while the Keynesians emphasize on nonmonetary factors such as government expenditure, spending pattern and credits. The classical economist of the 17th Century connected the quantity theory of money to the general rise in prices. The crude quantity theory of money (of classical economy) state that the quantity of money at any given point in time is proportional to rise in prices (Jhinghan, 2008).

The onetarist school of thought led by Milton Friedman (1942) posits that inflation is 'always and everywhere a monetary phenomenon and that it is everywhere since increases in the quantity of money always exceeds output'. Irving Fisher's equation of exchange could be employed to explain the monetarist view. Fisher (1913) starts the analysis with a single identity that MV=PT. Fisher believes that in every transaction, there is a buyer and seller in the aggregate economy, the value of sales must be equal to the value of receipts. This identity can be mathematically modelled as follows:

$$MV = PT(1)$$

M = Quantity of money (nominal) in circulation V = Transaction velocity of money in final expenditures

P = General price level

T = Volume of transactions

Therefore in reviewing the monetarist view and the concept of circulation, Fisher defines price (P) as a function of money supply (M), volume of transactions (T) and velocity of circulation (V), i.e

$$P = F(M, V, T)(2)$$

In equation (1), where MV = PT, Fisher assumes V and T to be constant variables, so, M varies directly with P.

$$\mathbf{P} = \mathbf{M} \quad (3)$$

However, Fisher's equation failed to consider the impact of interest rates. It is also doubtful that M.V.P and T are fully independent as a change in any of them impacts on the others and can affect inflation.

This shortfall in Fishers' equation, prompted Keynes (1940) to focus on the inflationary gap. Keynes explained that inflationary gap is a process where planned expenditure exceeds the equilibrium in the system; if there is a state of under-employment in the economy, an increase in the money supply will eventually lead to an increase in aggregate demand, output and employment (Onuchuku & Adoghor, 2000). However, as aggregate demand, output and employment rise further, and impacts on price. When money supply increases beyond full employment, output ceases to rise. The excess money supply leads to an excess demand over supply and leads to an inflationary gap. This to Keynes is the true source of inflation. Keynes inflationary gap analysis is illustrated graphically in fig. 1 below.



Figure 1. Illustration of Keynesians Theory of Demand Pull Inflation Source: (Keynes cited in Onuchuku and Adoghor, 2000)

Fig.1 shows the points where full employment (YEF1) equilibrate with the total output. It is being represented by a  $45 \square$  line which cuts through point B. However, if there are further increases in aggregate demand, it will cause a shift in expenditure as shown at point E, and this will make the total expenditure to be at YE1 while the available output is BAYE (See Onuchuku Adoghor 2000). Nevertheless, Keynes has been criticized. The major thrust of critics is that the inflationary gap analysis is focused on the commodity

market only and the analysis neglects the role of the factor markets. It is argued that inflation affects both commodity and factor markets because the excess demand caused by the commodity market would have an impact on the factor market. In point, Keynes analysis has two main drawbacks: (a) it lays emphasis on demand (b) it ignores the possibility that a rise in price may in turn lead to further increases in aggregate demand, which may in turn lead to further rise in prices (See Jhinghan 2008).



Figure 2. The Demand Pull Theory of Inflation (Quantity Theory Version) Source: Gbanador (2007)



Fig. 2 shows that if the economy is in full employment, the Equilibrium price P1 cuts the Demand curve Di at A. However, further demand as shown in D2 will raise prices to P2. It means that employment, and aggregate supply cannot be increased at the short run to offset the excess demand created by the shift. This is because output and supply are fixed at 0Y1.

# Cost – Push Theories of Inflation:

Cost- push defines inflation arising from the supply side. It is often caused by the rising cost of production. This occurs when production costs increase and impact on the prices of the final products (Otto & Nenbee, 2011). The cost push inflation can also be called the 'market power inflation' because the increase in the prices of goods and services originates from the supply side of the economy. These increases may arise from increased wage rates or a fall in productivity, which also increases cost of labour output. It may also arise out of other factors of production or cost of inputs such as power supply, transport or raw materials (Otto & Nenbee 2011). In Nigeria, multiple taxation and corruption are major suspects (Otto 2011). These and other factors cumulatively influence the cost structure of products and determine the prices of the final output. Producers would react to rise in input prices by increasing prices of output including their profits margins, since these are usually set at fixed percentage of cost of production. However, an increase in the cost of production can force producers to cut down production (Otto 2011).

Cost- push inflation may also arise as a result of profit motives of producers in monopolistic and Oligopolistic industries (Otto 2011). Since there is a state of imperfection in such industries, their producers could administer their prices through price discrimination techniques.



**Figure 3.** Diagram Depicting the cost – push Inflation *Source: Gbanador (2007)* 

Figure 3 Illustrates inflationary tendencies caused by supply- side factors. Point M. is referred to as the equilibrium point at full employment. At this point, price is P1 and quantity of output is Yf, but if the cost of inputs rise (such as increasing wages, rising cost of power supply through removal of fuel subsidy, amongst others), some suppliers with limited resources could cut production. This will lead to a fall in aggregate output of the particular industry as shown in YN. So, supply moves from S1yF to S2YN.. This reduction in total supply distorts the full equilibrium position and causes bidding among demand (from buyers) for the available goods, which

ultimately shoot-up the price from P1 to P2 and a new equilibrium point at X. This explanation makes meaning in a market economy where the market is an allocator of economic resources. Another way to explain the cost-push (supply – side) inflation is to look at the behaviour of suppliers. As a result of increasing cost of production (often not peculiar to any producer), suppliers generally shift the burden of increased cost of production to the consumers by way of general price increases (Onuchuku Adoghor, 2000). If all suppliers do so, this is likely to lead to general rise in the prices of products. This is more common in imperfect markets.



In Nigeria, cost-push inflation is quite common. Every time government announces a new minimum wage, there is a rise in the prices of goods and services leading to inflation (Otto, 2011). This often nullifies the gains of the wage rise, leaving the Nigerian worker sometimes poorer than he or she was before the wage rise. However, Otto (2011) attributes this scenario to the announcement effect. Examples include the Udoji award of 1973 and the Shehu Shagari's salaries and wages review of 1980 respectively (Otto, 2011). Between 1941 and now there has been about 15 of such wage reviews. These wage increases, often are not matched with increases in productivity and so lead to inflationary situations.

Fable 1.	Wage	Reviews	in	Nigeria
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s/n	Wages Reviews	Year
1	Bridges Committee	1941
2	Tudor Davis Commission	1945
3	Harragim Commission	1946
4	Miller's Commission	1947
5	Gorsuch Commission	1955
6	Mbanefo and Morgan's Commission	1959
7	Morgan's Commission	1963
8	Adebo's Commission	1970
9	Udoji's Commission	1973
10	Shagari Award	1980
11	I.B.B. Wage Review	1992
12	Abdulsalam Wage Review	1999
13	Obasanjo Wage Review	2001
14	Yar'Adua Minimum Wage Review	2008
15	Jonathan Minimum Wage Review	2011

Source: Various sources

Philips (1958) examined the relationship between unemployment and inflation in Britain. He observed that there was an inverse relationship between unemployment and inflation. This is known as the Philip's curve. He observed that when unemployment rate is high and the wage rates low, inflation will be low because of insufficient demand. This is a typical feature of an economy in recession because in such situation output shrinks. This was also the scenario in the world in the 1920s and 1930s before the Second World War (Keynes, 1940). On the other hand, a growing economy with increasing output was more likely to be inflationary. This is because the increase in economic activities will call forth various economic factors. The high demand for these factors of production drive up the cost of factors of production and the cumulative effect of the rise of input (factor) costs lead to increases in output prices. For the fact that these factors are supplied by households, these households are more economically empowered and this empowerment facilitates their ability to bear the cost of the rising output prices (Gbanador, 2007). The upshot of Philips' finding was that a trade-off exists between inflation and unemployment is both mutually exclusive. If government opts for full employment, it must tolerate some level of inflation but if does not want inflation at all, it should minimize its growth and full employment objectives.

Since the era of Philips, the fact of stagflation has diminished the significance of Philips. In many developing economies, inflation and unemployment exist side by side. South American countries especially Brazil exemplified stagflation in the 1970s and 1960s (Rudiger, 1992).

#### Theories of Structural Inflation

Structural inflation defines inflation that is associated with the process of economic development. This is because the process creates disequilibria through the structural changes which are necessary for development (Luc, Lionel & Paternostra, 2003). Theorists (Friedman 1942; Friedman, 1957; Varshney & Maheshwari, 2014) believe that inflation is usually associated with economic growth especially in developing countries where institutional and structural constraints are real. Inflation also has a long-run tendency especially in the industrialized western countries owing mainly to differences in the rates of growth of productivity in the industrial and service sectors. According to Turvey (1951 cited in Jhinghan 2008) inflation arises from the process of competition to maintain total income, total real expenditure and total output. This view is reinforced by Schultz (1959).

Schultz (1959) observed from a study of inflation in United States of America 1955-1957, that

price increases were neither caused by demand pull nor cost-push factors but by sectorial shifts in demand. He postulated that since price do not fall in deficient sectors, the excess demand in other sectors will lead to a general price rise in a deficient sector and this will cause an inflationary trend in the economy.

# Imported Inflation

This type of inflation is suffered by economies with high reliance on imported goods or services (Jhinghan, 2008). Such inflation could arise from the dumping of goods in the importing economy either as inputs or final output. The high prices of these imported goods are transmitted into the local economy which leads to an inflationary tendency (Jhinghan, 2008). A number of channels have been identified through which inflation is transmitted. One of the most efficient anti-inflationary policies in Nigeria would be to increase the domestic supply of goods and services to meet growing demand, if this was possible. However, the inelastic of demand for foreign goods is a major constraint that must be dealt with. For oil producing countries like Nigeria, inflation could be controlled if crude oil could be refined in the country in the short run and a restructuring of the economy into a more organized system in the long-run (Otto, 2014). An efficient management of the exchange rate can minimize imported inflation.

# Inflationary Trends and Effect in Nigeria

Table 2 presents some macroeconomic variables in Nigeria including inflation

YEAR	MSO=NB	INT %	INF %	MSS=NB
1980	3485.9	9.50	16.11	15100
1981	13847.9	10.00	17.4	16161.7
1982	15633.5	11.75	6.90	18093.6
1983	10797.4	11.60	38.80	20879.1
1984	9532.8	13.00	22.60	23370
1985	12032.4	11.75	11.00	26277.6
1986	11582.6	12.00	13.70	27389.8
1987	12041.6	19.20	9.70	33667.4
1988	13713.9	17.60	51.20	45446.9
1989	14011.5	24.60	44.70	47055
1990	14702.4	27.70	3.60	68662.5
1991	16078.5	20.80	23.00	87499.8
1992	15357.2	31.20	48.80	129085.5
1993	14788.1	36.09	61.30	198479.2
1994	14991.4	21.00	76.80	266944.9
1995	13836.1	20.79	51.60	318753.5
1996	13953.4	20.86	14.30	370333.5
1997	14010	23.32	10.20	429731.3
1998	13046.3	21.34	11.90	525637.8
1999	13494.6	27.19	20.00	699733.7
2000	13958.8	21.55	14.50	1036079.5
2001	14935.1	21.34	16.50	1315869.1
2002	16439.4	30.19	12.10	1599494.6
2003	17369.6	22.88	23.80	1985191.8
2004	19436.8	20.82	10.00	2263587.9
2005	21305.1	19.49	11.60	2814846.1
2006	23305.9	18.70	8.60	4027901.7
2007	25535.5	18.36	6.60	5349253.3
2008	27806.8	18.70	15.10	8518489.2
2009	30013.8	22.90	12.10	10767377.8
2010	32281.31	22.51	13.80	11154782.8

Table 2. Macroeconomic V	Variables in	Nigeria	(1980 -	2010)
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Source: Central Bank of Nigeria Statistical Bulletin (See Cenbank.org)

Key: MSS = Money Supply; MSO = Manufacturing Sector Output; INT = Interest Rate; IFL = Inflation Rate





Figure 4. Inflation and Interest Rates in Nigeria 1980-2010 Source: Constructed from Table 2

Inflation poses serious challenge especially in developing countries (Dornbusch, 1992) such as Nigeria. Inflation increases the cost of goods, deepens poverty and makes life difficult for the poor. Inflation in Nigeria keeps soaring in spite of unemployment. Figure 4 shows the relative movement of inflation and interest rates in Nigeria between 1980 and 2010. The specific effects of inflation in Nigeria include:

# **Planning Problems**

Inflation in Nigeria impacts on planning and financial projections. Inflation makes it difficult to estimate the cost of living or cost of production based on current prices, because sooner or later inflation creates cost overrun which distorts these plans (Tamuno & Otto, 2006). The instability does not encourage foreign investors into the economy.

# **Project Execution**

Government Projects are often abandoned on account of inflationary pressures in Nigeria. Projects planned on the basis of current prices may soon run into difficulties because inflation may have doubled the assumed prices (Tamuno & Otto, 2006). These costs over runs make it difficult for contractors or project executors to continue such projects. This is a major source of uncompleted projects in Nigeria.

# **Discourage Savings**

An inflationary economy discourages savings, because the real value of the saved sum is eroded by inflation. Thus, it is not efficient to save monies during inflation. However, savings are critical for investments (Friedman, 1957). Apart from investments the need to address emergent difficulties are ever present with us. And in an economy where accesses to funds are difficult, this is a real challenge.

#### Inequality

Inflation heightens social inequality. Quite often those with head starts tend to benefit more from inflation. Producers take advantage of inflation to increases their profits, while workers become causalities. This causes frustration among workers and drive instincts for sharp practices or other survival strategies on the worker (Otto, 2014). At the same time the over empowered wealthy Nigerians occasioned by inflation uses this access to wealth in a manner that will encourage capital flight from the economy (Todaro & Smith, 2009).

### **Pensioners and Fixed Income Earners**

Fixed income and pension income earners have suffered greatly from inflation in Nigeria. Inflation has eroded their spending abilities greatly. Recently, the Kano state Government came to the rescue of pensioners by increasing the norminal earnings from about N200 monthly to N6, 000.00 for the minimum pensioner in order to shore up with inflation (Otto, 2014). N200.00 was a lot of money many years ago, but that amount may not buy a loaf of bread in Nigeria today nor is it enough to serve as transport fare to where the payment could be made. The fall in real incomes impacts negatively on the welfare of fixed income earners.



# 3. Research Methodology and Data Analysis

This study relies on secondary time series data obtained from the Central Bank of Nigeria for its analysis. The data is for a period of 32 years (1980 – 2011). This span of time is sufficient to identify a trend. Using E-view an OLS regression was done. However, historical data is often affected by serial correlation which could render such results spurious

(Koutsoyiannis, 1977). To overcome this, the study used econometric tools to test for unit root and cointegration. The research data include Government Revenue, Gross Domestic Product, Government Expenditure and Inflation.

#### **Model Formulation**

The model for the work was specified as:

# $$\begin{split} INFL = (GDP, \, GREV, \, GEXP) \ (1) \\ Infl = \beta_0 + \beta_1 \, GDP + \beta_2 GREV + \beta_3 GEXP + U \ (2) \end{split}$$

For the fact that some of these are in whole numbers and others in fractions the linear model was converted into log as follows:

# $LogInfl = \beta_0 + Log\beta GDP + Log\beta_2 GREV + Log\beta_3 GEXP + U$ (3)

# Table 4. Result of Short Run Analysis

#### Table 4a. Linear Regression Result

Dependent Variables: IN	IFLATION			
Method: Least Squares				
Date: 08/02/13 Time: 21	1:26			
Sample: 1989 2011				
included observations: 3	32			
Variable	Coefficient	Std. Error	<b>T-Statistic</b>	Prob
С	17.27102	13.74759	1.256294	0.2194
GREV	-1.45E-05	2.21E-05 -0.568191		0.5158
GEXP	1.65E-06	1.69E-05 0.097867		0.9227
GDP	3.84E-05	5.81E-05 0.660312		0.5144
R-Squared	0.119827	Mean dependent var		21.42156
adjusted R-Squared	0.025523	S.D dependent var		18.95562
S.E of regression	18.71216	Akaike infor criterion		8.812692
Sum Squared resid	9804.054	Schwarz criterion	8.995909	
Log likelihood	-137.0031	Hannan – Quinn cri	8.873424	
F-Statistic	1.270642	Durbin - Watson St	at	1.106345

	Table 4	b.	Log-	Linear	Regre	ession	Resul
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Dependent Variables: LOG (IN	FLATION)			
Method: Least Squares				
Date: 08/02/13 Time: 21:29				
Sample: 1980 2011				
included observations: 32				
Variable	Coefficient	Std. Error	<b>T-Statistic</b>	Prob
С	2.281433	4.280998	0.532921	0.5983
LOG(GREV)	0.053224	0.893595	0.059562	0.9529
LOG(GEXP)	-0.147275	0.988868	-0.148933	0.8827
LOG(GDP)	0.129029	0.455710 0.283139		0.7792
R-Squared	0.028476	Mean dependent van	r	2.740899
adjusted R-Squared	-0.075616	S.D dependent var		0.791788
S.E of regression	0.821178	Akaike infor criterion		2.560316
Sum Squared resid	18.88134	Schwarz criterion		2.743533
Log likelihood	-36.96505	F-statistic		0.273562
Durbin – Waston Stat	1.129605	Prob (F-statistic)		0.843937

Source: Author's Computation and Extracts from E-view Printout



# 4. The Results

The results show that fiscal policy can only account for 28% of inflation in Nigeria. In other words, inflation is affected by other factors such as monetary policy, corruption, scarcity, multiple taxations amongst other factors.

Table 5. Augmented	<b>Dickey Fuller</b>	(ADF) U	Jnit Root Test
U	2	· · · ·	

Variables	ADF statistic		Critical values		Remarks
		1%	5%	10%	
Inf	-5.603232	-3.677322	-2.967767	-2.622989	I(1)
GREV	-6.465170	-3.670170	-2.963772	-2.621007	I(1)
GEXP	5.720744	-3.670170	-2.963970	-2.621007	I(0)
GDP					

Source: E-views 7 computation

Jarque-Bera (JB) statistic of 5.901877 with probability of 0.052291, which is statistically insignificant at 5%, indicates that the residuals are normally distributed. Further verification of the existence of constant variance using Breusch-Pogan-Godfrey procedure reveals an insignificant F-statistic of 0.193908 ( $\rho = 0.8997$ ). This is an evidence that the error variance are equally spread. The cumulative sum (CUSUM) test was employed to ascertain parameter stability. From the test, the line is between the critical bounds. This indicates that the model is stable.

#### Table 6. Test for Cointegration

Trace Statistic	0.05 Critical Value	Prob. Value
77.67473	47.85613	0.0000
39.82339	29.79707	0.0025
19.62164	15.49471	0.0113
6.671274	3.841466	0.0078

Source: Computed from field study: E-view Results

The test for co-integration follows the Johansen procedure, from the above table, the trace statistic

obtained are more than the 5% critical values, thus, the variables tend to have a long-run relationship.

abie it of angel ou abunt, i es	Table	7.	Granger	Causality	Test
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Null Hypotheses	F-statistic	ρ-values
GGEXP does not Granger cause INF	3.84773	0.0349
INF does not Granger cause GGREV	4.58719	0.0201

Source: E-view

Granger causality test conducted reveals that the direction of relationship flows from GEXP to INF, and then, from inflation to GREV. Implicitly, this means that changes in GEXP precedes changes in the level of inflation. Also, changes in inflation, precedes changes in GGREV. This further suggests that, to a meaningful extent, inflationary pressure tends to exhibit strong influence on government capacity to Similarly, the level of accumulate revenue. government spending tends to spur general prices of commodities. This brings to mind the existence of demand-pull inflation which is attributed to persistent increase in public spending in Nigeria. Further test that is based on the application of error correction mechanism reveals that the ECM coefficient is significant and appears with the correct sign, which suggests that the variables tend to adjust meaningfully to short-run disequilibrium.

# **Conclusion and Recommendation**

From the study, there is evidence to show that fiscal policy impacts on inflation but the level of impact is not significant in Nigeria. Inflation in Nigeria is affected more by scarcity of goods, corruption, multiple taxation, high cost of borrowing and infrastructural deficits. There is a need for infrastructural development in order to encourage the private sector to produce more. Government should increase its capital spending to provide roads, basic education, health, pilot industries and encourage the private sector to take over industries that can better be



privately run. If properly done, this symbiosis will create room for economic development and growth, which will lead to high employment level. The high level of employment calls for policies that will encourage private sector participation in the economy. In addition, there is need to create structures that will ensure that entrepreneurs equitably distribute gains from their investments with their workers. Government may on the basis of this study, implement the agreement it had with the Academic Staff Union of Universities without the fear of inflation. As shown by Otto (2009), there is every need to encourage an intensification of domestic output and discourage imports of goods that have local substitution this is better done when human capital is available locally to drive the process.

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# THE CLAIMS HANDLING PROCESS OF LIABILITY INSURANCE IN SOUTH AFRICA

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# Abstract

Liabilities play a very important financial role in business operations, professional service providers as well as in the personal lives of people. It is possible that a single claim may even lead to the bankruptcy of the defendant. The claims handling process of liability insurance by short-term insurers is therefore very important to these parties as it should be clear that liability claims may have enormous and far-reaching financial implications for them.

The objective of this research paper embodies the improvement of financial decision-making by shortterm insurers with regard to the claims handling process of liability insurance. Secondary data was initially studied which provided the basis to compile a questionnaire for the empirical survey. The leaders of liability insurance in the South African short-term insurance market that represented 69.5% of the annual gross written premiums received for liability insurance in South Africa were the respondents of the empirical study. The perceptions of these short-term insurers provided the primary data for the vital conclusions of this research.

This paper pays special attention to the importance of the claims handling factors of liability insurance, how often the stipulations of liability insurance policies are adjusted by the short-term insurers to take the claims handling factors into consideration, as well as the problem areas which short-term insurers may experience during the claims handling process. Feasible solutions to address the problem areas are also discussed.

**Keywords:** Adjustment of Policy Stipulations, Claims Handling Factors, Claims Handling Process, Liability Insurance, Problem Areas

# JEL code: M

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# 1. Introduction

Liabilities play an important role in business operations, professional service providers as well as in the personal lives of people. While liability cover is vital for businesses and professional people where the financial, physical and legal interests of the public are involved, individuals realise that their pursuits and habits may lead to liability claims which may have enormous financial implications. The claims handling process of liability insurance is therefore of prime importance to business enterprises, professional services providers as well as individuals.

It should be born in mind that the main reason why short-term insurance is obtained by policyholders is situated in the successful and effective settlement of a claim when it is filed (Apte & Cavaliere, 1993:67). According to current literature there are some problems which may exist concerning the claims handling process in general and the research question focuses on the mitigation of the problems. The challenges of technology development, changes in the activities of the business sector and the competence of the claims handling personnel are but a few factors that may cause ineffective claims handling (Roberts, 2006:20-21).

The objective of this research paper embodies the improvement of financial decision-making by short-term insurers concerning the claims handling process of liability insurance. The research consists of two important components, viz. the secondary data in order to provide the basis for the empirical study. The secondary data will address the main types of liability insurance, the claims handling process in general, as well as the factors which influence the claims handling process of liability insurance.

The primary data focuses on an opinion survey which includes the top short-term insurers in South Africa which are occupied in liability insurance. Their perceptions regarding the claims handling process of liability insurance are of prime importance as they are the market leaders of this type of short-term insurance



in South Africa. The importance of particular factors when handling liability insurance claims, how often the stipulations of liability insurance policies are adjusted to take the claims handling factors into account, as well as the problem areas which shortterm insurers may encounter during the claims handling process, will receive the necessary attention in this research paper.

The results of this research should not only benefit the short-term insurance industry in South Africa. As this country is a member of the BRICS countries and has an emerging market economy, the empirical results should also be valuable to other developing countries, enabling them to improve their financial decision-making concerning the claims handling process of liability insurance. The secondary data is addressed in the next section.

# 2. Main Types of Liability Insurance

Liability insurance provides various types of coverage. This description will however only focus on the main types of liability insurance, which include the following:

- Employer's liability insurance,
- Public liability insurance,
- Product liability insurance,
- Professional liability insurance,
- Personal liability insurance, and
- Householder's liability insurance.

It should be pointed out that the first four types of liability insurance mentioned above mainly have the business operations, professional service providers and/or individuals in mind, while the remaining two types of liability insurance primarily should be to the benefit of individuals.

# 2.1 Employer's liability insurance

This type of liability insurance is often compulsory for employers, not only because it protects the employers from claims made by their employees, but also because it provides coverage to the employees when they are injured or contract a disease in the course of their employment (Diacon & Carter, 1988:24). It is important to note that even if the correct procedure is followed, an employer may sometimes be sued when he/she interviews, employs, disciplines or dismisses an employee. The limit of indemnity is usually stated in the insurance policy. Claims may be made in future by employees based on the current insurance policy and situation.

# 2.2 Public liability insurance

Public liability insurance covers claims from the general public against a business which are not covered under more specific liability policies (Diacon & Carter, 1988:24). Claims from the employees of an enterprise will be excluded as they are covered by

employer's liability insurance. It should be mentioned that acts of the policyholder and his/her employees against the community should be fair and reasonable in order to be covered by a public liability policy (Juma, 2013:60). The protection provided to the policyholder focuses on claims from third parties for damage to property and/or bodily injury to people (Diacon & Carter, 1988:24 & 25). It must be emphasised that coverage is usually provided only for unpredictable negligent acts during the operation of the business or by an individual.

There is often not a legal obligation to obtain public liability insurance, although it should be beneficial to policyholders when accidental events occur which lead to public liability claims. The indemnity limit of a public liability policy may be limited to any one occurrence while no limit for the period of the policy may apply (Bishop, 2011). An aggregate indemnity limit for a period may however sometimes be specified in the insurance policy.

# 2.3 Product liability insurance

Product liability may arise somewhere during the cycle of a product which starts at the design phase and proceeds to the production, distribution, marketing and disposal thereof (Ryan, 2003:20). The designer, manufacturer and/or seller of a product can be held liable for injuries to a person or damage to property caused by the use, according to its intended purpose, of a defective product. The legal approaches towards product liability may however differ between various regions in the world (Skipper, 1998:217-221).

Designers, manufacturers and sellers of products are facing an increasing challenge because of a growing market, where products are developed in order to get them as quickly as possible to the highly competitive market. Due to a higher level of education and expectations, product safety is of prime concern to consumers who continuously evaluate existing as well as new products (Rados, 1969:144-145). Designers, manufacturers and sellers of products therefore need product liability insurance to protect them when consumers sue them for bodily injuries or damage to property due to accidental defects in their products.

# 2.4 Professional liability insurance

Professional people are often under pressure to meet their clients' demand for cost-effective solutions and/or quick answers. As professionals are only human beings they may err due to the pressure put on them by their clients and the requirements of their professional bodies. Professionals may therefore become liable to their clients due to their negligence as they may not always apply reasonable care and skills as required by their professions (Diacon & Carter, 1988:26).



The intension of professional liability insurance is to indemnify professional people when they are negligent. If the service or act of a professional was fraudulent or dishonest, a short-term insurer may reject the claim of a client against a professional person, although the professional person may still be liable to his/her client. It is of prime importance to professional people to obtain adequate professional liability coverage which covers all their activities in every country where they operate (Ziss, 2012:1-3).

# 2.5 Personal liability insurance

This type of liability insurance provides coverage to the insured and the members of the insured's household against liability claims arising from bodily injury and/or property damages to third parties when they are not at their home due to their personal negligence acts (Rejda, 1995:144-145; The Insurance Institute of South Africa, n.d.:9/8). A personal liability insurance policy will usually have an upper limit of liability stated in the policy (Crane, 1984:177). It should be mentioned that damage to property which belongs to the insured and/or the insured's household will not be covered by this type of liability insurance policy (as property insurance is available to property owners as a separate type of insurance policy). Personal liability insurance may be provided by a short-term insurer as a separate insurance policy or it may be included as part of short-term insurance policy another (Rejda, 1995:144).

# 2.6 Householder's liability insurance

A householder's liability insurance policy covers the insured for bodily injury or damages to the property of a third party due to accidents occurring on or about the insured's premises (The Insurance Institute of South Africa, n.d.:9/8). It should be emphasised that a householder is not necessary the house-owner as the property may be rented to a householder. Problems may occur when a property which only has houseowner's coverage is rented, while the tenant does not have householder's liability insurance (Trupin, 2012:12). Householder's liability insurance coverage may exclude the injury of employees as well as damage to the property not caused by accidents occurring on or about the insured's premises, as other types of insurance policies are available to cover these risks.

# 3. The Claims Handling Process

The claims handling process can be divided into various important steps which will be briefly discussed in this section (Greene & Trieschmann, 1988:119; OECD, 2004:2-10). Insurance policies usually require that claims must be verbally reported by the policyholder as soon as possible and in writing within a specified number of days after the occurrence of the detrimental event. If the insured does not report the claim within the specified period, the short-term insurer may reject the claim. A claim form must be duly completed by the insured while official and supporting documents must also be provided to the short-term insurer.

Once the short-term insurer has received all the necessary information, the claim will be assigned to a particular loss adjuster who will handle the claim. The loss adjuster may be an employee of the short-term insurer or an independent loss adjuster may be nominated by the short-term insurer. The processing of a claim's information should focus on the details concerning the detrimental event and the particulars of the people involved. While the summary and validation of the data is of prime importance for the particular claim, it may also help the short-term insurer to detect possible fraudulent claims by analysing possible trends relating to previous claims by the insured.

During the assessment of a claim, a loss adjuster will, amongst others, ensure whether the insurance policy is valid, whether all the premiums are paid up to date, whether the insurance policy covers the particular loss or damage and whether all the conditions stated in the insurance policy are met by the policyholder. The loss adjuster must thereafter determine the proximate cause of the loss or damage as well as the amount that will be fair to pay out to the insured or the third party which is involved in the detrimental event.

When a short-term insurer decides to settle the claim, the policyholder must be informed about the amount involved as well as when the settlement will be done. Insurers usually have the option to pay, repair or reinstate the policyholder. In the case of liability claims short-term insurers often apply payments. In order to minimise negative effects on the insurer's image, the complaints of clients are usually managed in a timely and objective manner by the insurer. An arbitrator is sometimes used by a shortterm insurer to settle disputes between the insurer, policyholder and/or the third party which are involved. Necessary improvements of the policy documentation and/or the coverage provided can be identified in this manner. It should be to the benefit of insurers to manage their claims handling process in a proper way as it has a major impact on an enterprise's image and its competitive advantage.

# 4. The Factors Influencing the Claims Handling Pro-Cess of Liability Insurance

Various factors will impact on the claims handling process of liability insurance and short-term insurers should pay special attention to them before settling a claim. The first factor to mention embodies the basic principle of insurable interest which emphasises the fact that a policyholder must have a legal and/or



financial relationship with the subject matter in order to obtain short-term insurance (Diacon & Carter, 1988:53-55; Dorfman, 1996:203; O'Connor & Moodley. 2014:93). A short-term insurer will probably reject a claim if the policyholder does not have an insurable interest in the subject matter of the insurance policy.

In order to adhere to the basic principle of utmost good faith, an insured must not only provide all material information to a short-term insurer when concluding the insurance policy, but the existence of any information since underwriting must also be reported to the insurer (Diacon & Carter, 1988:48-51). When material information is not duly reported to a short-term insurer, the underwriter may reject a claim as a breach of contract may have occurred.

Before settling a claim, the short-term insurer will thoroughly study the claims history of the policyholder. Special attention will be paid to possible previous false of fraudulent claims by the policyholder. The short-term insurer will also determine whether the proximate cause of the loss is covered under the particular insurance policy by studying particulars of the detrimental occurrence as well as the documentation and other supporting evidence (Harrington & Niehaus, 1999:336; Williams et al., 1998:515). The validity of the insurance policy should be verified by the short-term insurer by focusing on the name and details of the policyholder, whether all the premium payments are paid up to date and whether the safety and security precautions of the insurance policy are met.

A policyholder should also file a claim within the stipulated time frame specified in the insurance policy. Special attention should be paid by a shortterm insurer to coverage of the particular risk provided by another insurer or insurers as the basic principle of contribution may play an important role in the claims handling process (Diacon & Carter, 1988:63-65).

# 5. Research Methodology

Secondary as well as primary data are necessary to achieve the *objective* of this research, which was already defined as the improvement of financial decision-making by short-term insurers concerning the claims handling process of liability insurance. The secondary data which was discussed in the preceding sections served as the basis to compile a questionnaire that was sent (accompanied by an invitation letter) to the top 10 short-term insurers in South Africa who are occupied in liability insurance. These 10 short-term insurers received more than 77% of the annual gross written premiums in 2011 and they are therefore regarded as the South African market leaders of liability insurance (Santam, 2012: 6 & 25).

During the collection process of the empirical data it was found that one of the companies changed their company's policy and that the particular company was outsourcing their insurance business to one of the other nine short-term insurers. To avoid a double counting of the same respondent, the sample size was reduced to nine short-term insurers. Eight of the remaining nine short-term insurers completed their questionnaires, which means that the respondents represented 69.5% of the annual gross written premiums received for liability insurance in South Africa during 2011 (Santam, 2012: 6 & 25).

It should be mentioned that some of the questions on the questionnaire applied a five point Likert interval scale. As it was explicitly stated on the questionnaire that the five point Likert interval scale forms a continuum, the weighting of the answers was possible (Albright *et al.*, 2002:224-229 & 245). The answers of the respondents, which are depicted in Section 6, were weighted by assigning the following weights:

**Table 1.** The weights assigned to the answers of the respondents

Answers of the respondents:		Weights assigned:
Extremely important	Always	5
Highly important	Very often	4
Moderately important	Sometimes	3
Little important	Seldom	2
Not important	Never	1

# 6. Empirical Results

This section contains the results which were obtained by the empirical survey. The following aspects will be depicted and addressed:

- The importance of particular factors when handling liability insurance claims,
- How often the stipulations of liability insurance policies are adjusted to take the claims handling factors into account, as well as
- The problem areas which are experienced by short-term insurers in the claims handling process of liability insurance and possible solutions to solve them.

# 6.1 The importance of particular factors when handling liability insurance claims



The perceptions of the respondents concerning the importance of particular factors when handling liability insurance claims are depicted in Table 2. One of the eight respondents did not provide his/her perception concerning *all* the claims handling factors of Table 2. The answers of this particular respondent

are therefore excluded from this table to obtain a fair comparison between the factors. The number of valid responses for this table, as well as Table 3 which is based on the information of Table 2, is therefore seven.

Table 2.	The importance of the factors when handling liability insurance claims, as perceived by the
	respondents

Claims handling factors	Extremely important	Highly important	Moderately important	Little important	Not important
Name and details of the policyholder	4	3			
Whether premium payments are paid up to date	5	2			
Particulars of the occurrence and the documentation as supporting evidence to determine the specific proximate cause of the loss	5	2			
The coverage of the risk by the liability insurance policy of <i>another</i> insurer(s)	6		1		
Whether the insured met the safety and security precautions of the insurance policy	4	1	1	1	
The claims history of the claimant	2		3	2	
Previous false and/or fraudulent claims by the claimant	5	1	1		
Whether the claim is filed within the stipulated time frame	5	1		1	
The existence of any information <i>not</i> mentioned by the insured <i>since</i> underwriting the insurance policy	5	2			
Whether the claimant has an insurable interest	6		1		

Two of the factors mentioned in the preceding table were perceived as extremely important by six of the seven respondents, viz.:

- The coverage of the risk by the liability insurance policy of another insurer or insurers, as well as
- Whether the claimant has an insurable interest.

The preceding answers of the respondents, which are based on the five point Likert interval scale, were weighted by applying the weights discussed in Section 5 of this paper. The weighted responses on the importance of the claims handling factors appear in the following table.

**Table 3.** The weighted responses on the importance of the factors when handling liability insurance claims, in a declining order of importance

Total weighted score calculated	Declining order of importance	The various claims handling factors	Weighted mean value	Median value
33	1	Whether premium payments are paid up to date	4.71	5.00
33	1	Particulars of the occurrence and the documentation as supporting evidence to determine the specific proximate cause of the loss	4.71	5.00
33	1	The coverage of the risk by the liability insurance policy of <i>another</i> insurer(s)	4.71	5.00
33	1	The existence of any information <i>not</i> mentioned by the insured <i>since</i> underwriting the insurance policy	4.71	5.00
33	1	Whether the claimant has an insurable interest	4.71	5.00
32	6	Name and details of the policyholder	4.57	5.00
32	6	Previous false and/or fraudulent claims by the claimant	4.57	5.00
31	8	Whether the claim is filed within the stipulated time frame	4.43	5.00
29	9	Whether the insured met the safety and security precautions of the insurance policy	4.14	5.00
23	10	The claims history of the claimant	3.29	3.00

The weighted mean values as well as the median values are also provided as they enable the reader to obtain a better idea of the distribution of the results depicted in Tables 2 and 3. The weighted mean values range from 4.71 to 3.29 while the median values range from 5.00 to 3.00, which indicate that all the factors mentioned in Table 3 are *at least* moderately

important according to the perceptions of the respondents.

The preceding table shows that the following five factors are the *most* important factors when short-term insurers are handling liability insurance claims and that the five factors obtained the *same* total weighted score calculated:

• Whether premium payments are paid up to date,



- Particulars of the occurrence and the documentation as supporting evidence to determine the specific proximate cause of the loss,
- The coverage of the risk by the liability insurance policy of *another* insurer(s),
- The existence of any information *not* mentioned by the insured *since* underwriting the insurance policy, and
- Whether the claimant has an insurable interest.

Short-term insurers should therefore pay special attention to these five factors when they are handling the claims of liability insurance. The next section will address the adjustment of liability insurance policies to take the claims handling factors into consideration.

# 6.2 How often the stipulations of liability insurance policies are adjusted to take the claims handling factors into account

There are a number of possible stipulations which short-term insurers can adjust to account for the claims handling factors of liability insurance. The perceptions of the respondents on how often they adjust the stipulations of liability insurance policies to take the claims handling factors into consideration are depicted in Table 4.

Table 4. How often the stipulations of liability insurance policies are adjusted to take the claims handling factors
into account, as perceived by the respondents

Stipulations of the insurance policy	Always	Very often	Sometimes	Seldom	Never
The insurer adjusts the level of the premium	2	1	1	3	1
The insurer adjusts the excess (deductible) to be paid when a claim is made	2			4	2
The insurer adjusts the safety and security precautions on the subject matter of the insured to reduce the risk of liability claims		2	2	3	1
The insurer excludes the application of the basic principle of contribution when the insured has liability coverage for the same risks, same subject matter and in the same period from <i>other</i> insurer(s)	2			1	5
The insurer adjusts the liability limits of the insured's liability insurance policy	3	1		2	2
The insurer adjusts the length of the coverage period	2		1	3	2

The information of the preceding table is based on the five point Likert interval scale. The weighted responses on how often the stipulations of liability insurance policies are adjusted to take the claims handling factors into account (which appear in the following table) were obtained by applying the weights discussed in Section 5 of this paper.

**Table 5.** The weighted responses on how often the stipulations of liability insurance policies are adjusted to take the claims handling factors into account, in a declining order of frequency

Total weighted score calculated	Declining order of frequency	The stipulations which are adjusted	Weighted mean value	Median value
25	1	The insurer adjusts the liability limits of the insured's liability insurance policy	3.13	3.00
24	2	The insurer adjusts the level of the premium	3.00	2.50
21	3	The insurer adjusts the safety and security precautions on the subject matter of the insured to reduce the risk of liability claims	2.63	2.50
21	3	The insurer adjusts the length of the coverage period	2.63	2.00
20	5	The insurer adjusts the excess (deductible) to be paid when a claim is made	2.50	2.00
17	6	The insurer excludes the application of the basic principle of contribution when the insured has liability coverage for the same risks, same subject matter and in the same period from <i>other</i> insurer(s)	2.13	1.00

The preceding table also provides the weighted mean values and the median values. These values should enable the analyst to obtain a better idea of the distribution of the results as shown in Tables 4 and 5. While the weighted mean values range from 3.13 to 2.13 the median values range from 3.00 to 1.00. It can therefore be concluded that the stipulations of liability insurance policies are *at most* sometimes adjusted by short-term insurers to take the claims handling factors



into account, based on the perceptions of the respondents.

Table 5 indicates that short-term insurers *most* frequently adjust the liability limits of the policyholders' liability insurance policies to account for the claims handling factors. The adjustment of the premium level represents the stipulation *second* most frequently adjusted by the short-term insurers in this regard. The problem areas which short-term insurers

encounter during the claims handling process of liability insurance are addressed in the next section.

# 6.3 Problem areas in the claims handling process of liability insurance and possible solutions to solve them

The respondents were requested to indicate the three most important problem areas which they experienced when they were handling liability insurance claims. The results are depicted in Table 6.

 Table 6. Problem areas which were experienced in the claims handling process of liability insurance, as perceived by the respondents

Problem areas	Number of respondents who mentioned the problem area		
The insureds do not fully understand the terms, conditions and coverage of the insurance policy	б		
The absence of safety and security precautions as required by the liability insurance policies	5		
The high cost of legal representation during a litigation process	5		
The high cost of claim pay-outs	4		
The insureds are filing fraudulent and/or false claims, do not disclose material facts at the time and place of the loss and therefore causing a breach of contract (including a breach of utmost good faith)	1		
Insureds do not have an insurable interest	1		
The application of the basic principle of contribution when the insured has liability coverage from more than one insurer	1		
Pre-existing conditions which have an impact on the claim	1		

Four prominent problem areas which the respondents experienced evolved from this empirical study, namely:

• The insureds do not fully understand the terms, conditions and coverage of the insurance policy,

• The absence of safety and security precautions as required by the liability insurance policies,

• The high cost of legal representation during a litigation process, and

• The high cost of claim pay-outs.

The policyholders' lack of knowledge concerning liability insurance policies, the absence of the insureds' due diligence to apply safety and security precautions, as well as the high cost of legal representation and claims pay-outs seem to be the main causes of the related problem areas. Possible solutions to address these problem areas are therefore as follows:

• Better communication between the shortterm insurer and/or the insurance broker on the one hand and the policyholders on the other hand should contribute to the policyholders' comprehension of the terms, conditions and coverage of the insurance policy.

• The premises of policyholders should be randomly surveyed by the short-term insurers to check whether the policyholders adhere to the safety and security precautions as required by the liability insurance policies. Insurance policies should immediately be cancelled by the short-term insurers when policyholders do not maintain the safety and security precautions.

• It is very difficult for short-term insurers to steer clear of the high cost of legal representation and claims pay-outs of liability insurance. A possible solution for this problem may be to implement available technology to ease the claims handling process by providing relevant information at various stages of the process. Short-term insurers can only make proper decisions regarding legal representation and claims pay-outs when they have adequate and applicable information at their disposal.

# 7. Conclusions

The *objective* of this research paper embodies the improvement of financial decision-making by short-term insurers regarding the claims handling process liability insurance. The conclusions of this research are based on a literature study as well as an empirical survey which focused on the leaders of liability insurance in the South African short-term insurance market. As this country has an emerging market economy, the following conclusions should be valuable to short-term insurers in other countries which are classified similarly:

(1) All the factors mentioned in this study for the handling of liability insurance claims are perceived by the respondents as *at least* moderately important. The following five factors are however the *most* important



factors when short-term insurers are handling liability insurance claims and short-term insurers should therefore pay special attention to them during the claims handling process:

• Whether premium payments are paid up to date,

• Particulars of the occurrence and the documentation as supporting evidence to determine the specific proximate cause of the loss,

• The coverage of the risk by the liability insurance policy of *another* insurer(s),

• The existence of any information *not* mentioned by the insured *since* underwriting the insurance policy, and

• Whether the claimant has an insurable interest.

(2) The stipulations of liability insurance policies are *at most* sometimes adjusted by short-term insurers to take the claims handling factors into account, based on the perceptions of the respondents. When short-term insurers however adjust the stipulations of liability insurance policies for this purpose, they *most* frequently adjust the liability limits of the policyholders' liability insurance policies to account for the claims handling factors. The adjustment of the premium level represents the stipulation *second* most frequently adjusted by the short-term insurers in this regard.

(3) Four prominent problem areas are experienced by short-term insurers during the claims handling process, viz.:

• The insureds do not fully understand the terms, conditions and coverage of the insurance policy,

• The absence of safety and security precautions as required by the liability insurance policies,

• The high cost of legal representation during a litigation process, and

• The high cost of claim pay-outs.

The policyholders' lack of knowledge concerning liability insurance policies can be addressed by better communication between the short-term insurer and/or the insurance broker on the one hand and the policyholders on the other hand. The premises of policyholders can further be randomly surveyed by the short-term insurers to check whether the stipulated safety and security precautions are adhere to, which may lead to immediate cancellation of the liability insurance policy when the precautions are not applied.

Although the high cost of legal representation and claims pay-outs associated with liability insurance remains a real challenge, the implementation of available technology to ease the claims handling process by providing adequate and applicable information at various stages of the process, may lead to proper decision-making regarding these two aspects.

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