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**PENSION ACCOUNTING DISCLOSURES: ACTUARIAL GAINS AND  
LOSSES AND MARKET PRICE REACTIONS**

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**Master of Sciences (International Accounting)**

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## ABSTRACT

This paper seeks to investigate the market price reactions towards actuarial gains and losses (AGL) disclosure and the determinants of Cumulative Average Abnormal Return (CAAR) by using Cumulative Market Adjusted Return Model (CMAR) and efficient market theory among 86 company-years in Malaysia that has disclosed AGL in annual report for the year 2012 until 2014. The finding shows that there is a negative reaction of CAAR before the financial year ended of AGL disclosure as the information has been spread before the financial year ended. However, the positive market price reaction on and after the financial year ended indicates that the announcement is most welcomed by the investors. Besides, the actuarial losses (AL) are more likely to have significant market price reaction as compared to actuarial gains (AG). It indicates that the investor and shareholder of the company may react immediately towards AL disclosure rather than AG and maybe the investors seem to be conservatism in making their investment decisions. In addition, the study found significant negative relationship between CAAR and AGL disclosures. This finding indicates that investors are more looking for AL disclosures rather than AG disclosures where the actuarial losses disclosures give significant negative market price reactions.

**Keywords: Efficient Market Theory, Actuarial Gains and Losses, Malaysia, Market Price Reactions, Cumulative Market Adjusted Return Model**

## ABSTRAK

Kertas kerja ini bertujuan untuk menyiasat tindak balas harga pasaran terhadap pendedahan keuntungan dan kerugian aktuari (AGL) dan faktor penentu kumulatif purata pulangan tidak normal (CAAR) dengan menggunakan model kumulatif pasaran pulangan diselaraskan (CMAR) dan teori pasaran yang cekap (*Efficient Market Theory*) di kalangan 86 syarikat-tahun di Malaysia yang telah mendedahkan AGL di dalam Laporan Tahunan bagi tahun 2012 hingga 2014. Hasil kajian menunjukkan bahawa terdapat satu reaksi negatif CAAR terhadap pendedahan AGL sebelum akhir tahun kewangan kerana maklumat telah didedahkan sebelum tahun kewangan berakhir. Walau bagaimanapun, tindak balas harga pasaran yang positif pada dan selepas tahun kewangan berakhir menunjukkan bahawa pengumuman itu amat dialu-alukan oleh pelabur. Selain itu, pendedahan kerugian aktuari (AL) adalah lebih cenderung untuk mempunyai reaksi harga pasaran yang ketara berbanding dengan pendedahan keuntungan aktuari (AG). Ia menunjukkan bahawa pelabur dan pemegang saham syarikat bertindak balas dengan segera terhadap pendedahan AL berbanding pendedahan AG dan ini mungkin pelabur seolah-olah menjadi konservatif dalam membuat keputusan pelaburan mereka. Di samping itu, kajian ini mendapati hubungan negatif yang signifikan antara CAAR dan pendedahan AGL. Kajian ini menunjukkan bahawa pelabur lebih mengutamakan pendedahan AL berbanding pendedahan AG di mana pendedahan kerugian aktuari memberi reaksi harga pasaran negatif yang ketara.

**Kata Kunci: Teori Pasaran Yang Cekap, Keuntungan Dan Kerugian Aktuari, Malaysia, Tindak Balas Harga Pasaran, Model Kumulatif Pasaran Pulangan Diselaraskan**

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## LIST OF ABBREVIATIONS

Abbreviations	Descriptions of Abbreviations
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$\alpha$	Alpha
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AAR	Average Abnormal Return
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AGL	Actuarial Gains and Losses
-----	----------------------------

$\beta$	Beta
---------	------

CAAR	Cumulative Average Abnormal Return
------	------------------------------------

CEO	Chief Executive Officer
-----	-------------------------

CMAR	Cumulative Market Adjusted Return
------	-----------------------------------

DB	Defined Benefit
----	-----------------

DC	Defined Contribution
----	----------------------

DV	Dependent Variables
----	---------------------

EPF	Employee Provident Funds
-----	--------------------------

EPS	Earnings Per Share
-----	--------------------

$\epsilon$	Error Term
------------	------------

FRS	Financial Reporting Standards
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H	Hypothesis
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<b>Abbreviations</b>	<b>Descriptions of Abbreviations</b>
IAS	International Accounting Standard
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFRS	International Financial Reporting Standards
IV	Independent Variables
KLCI	Kuala Lumpur Composite Index
LNTA	Log Natural Total Assets
MASB	Malaysian Accounting Standards Board
MFRS	Malaysian Financial Reporting Standard
N	Number of Observations
OECD	Organisations Economic Cooperation Developments
OLS	Ordinary Least Square
Sig	Significant
SPSS	Statistical Package for the Social Sciences
Std.	Standard
STDV	Standard Deviation

<b>Abbreviations</b>	<b>Descriptions of Abbreviations</b>
US	United States
US GAAP	United States Generally Accepted Accounting Principles
UUM	Universiti Utara Malaysia
VIF	Variance Inflation Factor



## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

The disclosures of accounting information are important to user of financial statement especially when it could influence the company's share price (Titas Rudra 2010). The reliable and timely information will increase the confidence level among decision-makers and enables the user to make good decisions especially when it affects the profit and risk of investments (OECD, 1999). The disclosure of accounting information also helps user to understand the business activities, procedures and performance in regards to legal requirements, ethical and environmental standards and also to improve rapport between stakeholders, communities and the companies itself (OECD, 1999). Thus, it requires the company to disclose this accounting information either in the notes to the financial statements or in supplemental reporting.

The disclosure or supplementary information could provide a convenient means of experimenting with new requirements on what may be included in the main accounts and how the items must be measured (Macve, 1997). Basically, the disclosure of accounting information can be powerful regulatory tools to encourage and comply with best practice and enable stakeholders or third parties to proceed with further actions (Winter Report, 2003). Therefore, this disclosure requirement could be more flexible, efficient and easier to impose. Furthermore, the complexity of business operation also requires the companies to disclose more information such as pension accounting disclosures (Lode and Yusof, 2014).

Pension accounting disclosures such as actuarial gains and losses (AGL) are more complex and volatile components in pension cost accounting (Collie and Gannon,



2011). AGL can be defined as the changes in the present values of the defined benefit obligation due to changes in actuarial assumptions and experiment adjustments (MRFS 119, para 128). The disclosure requirements based on MFRS 119, para 135 are as follows; (a) explains the characteristics of entity's defined benefit plans and risk associated with them; (b) identifies and explains the amounts in entity's financial statements arising from its defined benefit plans; and (c) describes how entity's defined benefit plans may affect the amount, timing and uncertainty of the entity's future cash flows.

Based on study done by Lode and Yusof (2014), only 29 out of 70 companies which adopt the Defined Benefit (DB) pension schemes in Malaysia disclose AGL for year 2009. The information related to AGL disclosures in Malaysia is limited where 52% of the companies were reported actuarial losses meanwhile for actuarial gains were reported 48% of the companies in Malaysia (Lode and Yusof, 2014). Besides, further analysis found the stock markets are not significantly reacted AGL disclosures. Recently, Lode and Yusof (2015) investigate the price reaction towards AGL disclosures and found that average abnormal returns (AAR) for companies that disclosed actuarial gains are positive and significant after the disclosure date, while the markets have negatively reacted towards the disclosures of actuarial losses before the disclosure date. These findings suggest that the disclosures of actuarial gains are more welcomed by investors and signal "good news" after the financial year ended of financial statements.

Therefore, the disclosures of AGL provides the interesting question whether this Company's market price will react to AGL disclosures and could give a signal to investor as a good news or bad news in assisting them to make investments

decisions. The present study indicates that actuarial gains and losses disclosures give negative reactions towards investors. This AGL disclosure seems to give a signal as a bad news and the investors seem to be conservatism in making their investment decisions.

## **1.2 Problem Statement**

The current accounting standards give flexibility for corporations to account their cost of pension benefits and thus lead to the firm to recognise more quickly changes in the value of pension assets and liabilities in corporate income statements. Collie and Gannon (2011) stated that the most volatile component of pension cost is AGL which have been spread over several years in the income statements in order to avoid distorting earning numbers and create more excessive variability result from time to time. Thus, AGL disclosures could result to market price reactions (Lode and Yusof, 2015).

Napier (1983) argued that most of the actuarial calculations are greatly depending on the assumption rate (i.e. employee turnover rates, mortality rates and salary growth rates). Meanwhile, William (1959) highlighted three problems that could arise during the actuarial valuation such as testing the mathematical correctness of periodic actuarial valuation, examine the changes in liabilities and contributions levels from one valuation date to another as well as to review the valuation assumptions to assess their continuing appropriateness for estimation of the retirement plan liabilities. If the actuarial assumptions are wrongly calculated, it would cause a significant instability in the reported income statements if the AGL figure significant. Thus, it could have differential effect on market price reactions (Paul and Kevin, 2007).

Generally, the extent of the market price reactions towards AGL disclosures is worthy of exploration especially in Malaysia since there are few prior studies related to AGL disclosures and market price reaction (i.e. Lode and Yusof, 2014 & 2015) that have been conducted. Therefore, the present study aims to investigate the market price reactions toward AGL disclosures and determinant of Cumulative Average Abnormal Returns (CAAR) in Malaysia from year 2012 until 2014.

### **1.3 Research Objectives**

Based on these significant issues and by using efficient market theory, the objectives of this study are to examine the market price reactions towards pension accounting disclosures particularly AGL disclosures. There are two specific objectives which are as follows:

- i. This study by using event study methodology intends to examine the market price reactions towards AGL disclosures based on market adjusted return model; and
- ii. To examine the determinants of CAAR on Earning Per Shares (EPS), size of the company (LNTA) and AGL disclosures.

### **1.4 Research Questions**

Following the research objectives, the study seeks to answer the following questions;

- i. Does stock market react significantly towards AGL disclosures?
- ii. What are the determinants of CAAR on EPS, LNTA and AGL disclosures?

## **1.5 Scope of the Study**

The scope of this study consists of public listed companies on the Bursa Malaysia specifically company that disclosed AGL for DB Pension Scheme from year 2012 until 2014. This study examines the company's annual report for the period of three year which is from 2012 until 2014. Three year periods are considered adequate given the nature of this study and limitation of time frame lead to sample selected based on the Malaysian public listed companies in Bursa Malaysia that has disclosed AGL in Annual Report 2009.

## **1.6 Significance of the Study**

Previous studies had discussed the practice of pension accounting disclosures before and after the implementation of FRS 119 "Employee Benefits" in Malaysia using different years, measures, and methods (i.e. Lode, 2006; Tan, 2000; Shahrir, Yusof and Sharofi, 2004; and Lode and Yusof, 2014 & 2015). Thus, the presents study could contribute to literature in Malaysia especially on pension accounting disclosures as many prior studies are focusing on developed countries data (i.e. Landsman, 1986; Barth, 1991; Feldstein and Seligman, 1981; and Subramanyam, 2007).

Besides, this study could contribute to existing literature on efficient market theory which indicates that market price reacts to information in month zero, but begins to anticipate the good news or bad news in earning (Ball and Brown, 1968). The market price immediately reacts to the arrival of new information and all relevant information in an efficient capital market. Thus, this study contributes to efficient market theory which supported that the stock market is reacting to the AGL disclosures.

In addition, the practical implications of this study is to the accountants by documenting the current corporate disclosures of pension accounting disclosures especially AGL disclosures. This study finds that most AGL disclosures are from industrial industry (i.e. Pelikan International Corporation Berhad, BTM Resources Berhad, Atlan Holdings Berhad and D'nonce Technology Berhad), followed by constructions sector (i.e. Gamuda Berhad, IJM Corporation Berhad and YTL Corporation Berhad) and trading industry (i.e. CNI Holdings Berhad, Berjaya Corporation Berhad and UMW Holdings Berhad). The industrial industry is more likely to disclose AGL as compared to other industries may be due to fact these companies have other companies (e.g. subsidiaries, associates or holding companies) in overseas which require them to prepare the standardize financial reporting for harmonization purposes. Thus, by disclosing AGL information might ease the process of preparing the consolidation of financial statement between Holding and Subsidiaries Company.

Besides, this findings may be useful to the relevant bodies for example MASB in deciding the details format of pension accounting disclosures especially on AGL disclosures (e.g. discount rates, zero AGL etc.). This is because different company disclosed different format and items of disclosures in which may lead to earning management.

Furthermore, another practical contributions of the study to academicians, corporate companies, authority (i.e. Bursa Malaysia) and users of accounting information of current corporate disclosures particularly on AGL disclosures. The finding shows that there is a negative reaction of CAAR before the financial year ended of AGL as the information has been spread before the financial year ended. However, the positive market price reaction on and after the financial year ended indicates that the

announcement is most welcomed by the investors. Besides, the finding indicates that the actuarial losses are more likely to have significant market price reaction as compared to actuarial gains. It indicates that the investor and shareholder of the company may react immediately towards actuarial losses disclosures rather than actuarial gains. This may indicate that the investors seem to be conservatism in making their investment decisions. In addition, the study found significant negative relationship between CAAR and AGL disclosures. This finding indicates that investors are more looking for actuarial losses disclosures rather than actuarial gains disclosures where the actuarial losses disclosures give significant negative market price reactions. Therefore, it helps the users especially investor to make right decisions.

Lastly, this study encourages the academicians and researchers to test market price reactions towards AGL disclosures with bigger samples selected and longer periods as well as to test other variables in order to determine the CAAR.

### **1.7 Organisation of the Study**

The organisations of this study are as follows. Chapter one briefly introduce the study by discussing the background of the study, problem statements, research objectives, research questions, scope of study and significance of the study. Next, chapter two provides the literature review of accounting standards, underpinning theory and market price reactions studies (i.e. non-pension and pension accounting studies). Then, chapter three discusses the research methodology include population, method of data collection, hypothesis development, research framework, model developments and definition of variable selected. Chapter four provides the results

and discussion of the study. Finally, the summary, theory and practical contributions, future research and conclusion are clearly presented in chapter five.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter discusses the literature review relating to accounting standards which are the International Financial Reporting Standards (IFRS), Malaysia Financial Reporting Standards (MFRS) and pension accounting standards. Then, this chapter also explains the efficient market theory as underpinning theory and review the market price reactions studies that are related to this study. Finally, this chapter provides the conclusion for this chapter.

### **2.2 Accounting Standards**

This subsection discusses the accounting standards related to development of pension accounting standards:

#### **2.2.1 International Financial Reporting Standards (IFRS)**

The International Accounting Standards Board (IASB) developed the accounting conceptual framework for recognition, measurement, presentation and disclosures of requirements relating to transactions and events that are reflected in the company's financial statements (Adetoso and Oladejo, 2013). IFRS is a set of accounting standards with specific format to be used for financial reporting in order for public listed companies to provide financial details, compete globally and raise capital (Kaiser, Schmid, Sheward and Bennett, 2014). The objective of IFRS is to provide a unique and comparable accounting framework for public listed companies on how to prepare and disclose the financial statements globally. The most significant financial accounting and reporting was the adoption of IFRS across countries by public companies (Cotter, Tarca, and Wee, 2012). This accounting standards is well known



among UK and USA countries which are large developed industrial countries that playing the leading roles to adopt this standards (Prather-Kindsey, 2006).

Pension accounting standards under IFRS is known as FRS 19 'Employee Benefit'. Originally, this standard is known as IAS 19 'Accounting for Retirement Benefits in the Financial Statements of Employers' (Napier, 1983). This standard require that normal pension costs directly charged to income statements account over the expected remaining working life of the employees covered by the pension scheme whereas for past service costs should be charged over a period not exceeding the expected remaining working life of the employees affected (Napier, 1983). Furthermore, this standards limits the actuarial methods that could be used for determining costs by excluding 'pay-as-you-go' and 'terminal funding' methods. Consequently, IASB (formerly known as IASC) amended this original version of IAS 19. A few revision of IAS 19 has been made throughout the year (i.e. in year 1993, 1998, 2000, 2002 and 2004) (Lode, 2009).

The current version of IAS 19 was amended in year 2011(supersedes IAS, 1998) and effective in year 2013. This standards stated that the employee benefits' cost should be recognised in current year when the employee earned the benefit instead of when it is paid or payable. This standard also provides the guideline about short-term and post-employment benefits (IAS, 2011).The main changes from original IAS is to introduce a guideline to fully recognised the increase or decrease in net DB liability (asset) comprising immediately recognised the DB costs and need to disaggregate the overall components of DB cost and eliminate the 'corridor' approach where it require the re-measurements in other comprehensive income. Besides, this standard also enhances the disclosures of DB plans, modify the accounting treatment for

termination benefits and clarify the miscellaneous issues such as estimation of mortality rates, cost of administration and tax as well as employee benefit's classification (IAS, 2011).

### **2.2.2 Malaysian Financial Reporting Standards (MFRS)**

MASB has adopted the IFRS as its accounting policy which is issued by the IASB effective for beginning on or after 1 January 2012. Basically, these IFRSs have been well known for Malaysian business community since year 2008. This accounting standards comprises of IFRS; International Accounting Standards (IAS); IFRIC Interpretations; and SIC Interpretations. However, MASB had announced that an entity shall apply Malaysian Financial Reporting Standards (MFRS), *First Time Adoption of Malaysian Financial Reporting Standards* for beginning on or after 1 January 2012. MFRS is similar to IFRSs that apply to any financial reporting effective year 2012. The applications of MFRS are compulsory for entity otherwise it is non-compliance with IFRS (MFRS 1, 2012).

One of the accounting standards that has been replaced and amended by MASB was Employee Benefit. This accounting standard was known as MASB 29 "Employee Benefit" which then was replaced and amended by IAS 19. Then, in year 2007, IAS 19 was replaced by FRS 119 "Employee Benefit" which becomes effective since year 2010. As MASB had adopted the MRFS in year 2012, FRS 119 was renamed as MRFS 119. The guideline of accounting treatments and recognition of MRFS 119 are similar to IAS 19 (1998).

There are studies that had been conducted before the issuance of MFRS 119 (2003) where the studies found different pension accounting practice among DB adopters in Malaysia. In year 1990, prior studies (e.g. Tan, Loo, Barjoyai, Veerinderjeet,

Mahfudzah and Unvar, 1998) found that most of the DB adopters did not fulfil the requirement of IAS 19. Shahrir et al. (2004) also found the same findings where in year 2003, 99 companies in Malaysia were inadequately to disclose the pension accounting before the effective date of FRS 119. However, Lode (2006) found that the pension accounting disclosures for 246 companies had improved slightly after the effective date of FRS 119.

The current standards for pension accounting in Malaysia is known as MFRS 119 (i.e. has replaced FRS 119). There are four categories of employee benefits which are; (a) short-term employee benefit (expected to be settled before 12 months); (b) post-employment benefits such as retirement benefits (e.g. pensions and lump sum payments on retirement) post-employment life insurance and post-employment medical care; (c) other long-term employee benefit (e.g. long-service leave or sabbatical leave); and (d) termination benefits (MFRS 119, para IN2).

In Malaysia, there are two categories of retirement benefit which are Defined Contribution plan (DC) and Defined Benefit plan (DB). DC is the mandatory pension scheme that had been enacted by the Seri Paduka Baginda Yang di-Pertuan Agong with the advice and consent of the Dewan Negara and Dewan Rakyat in Parliament since 1991. DC pension schemes are administered by Employer Provident Funds (EPF). The amount contributed to EPF is calculated based on the monthly wages of an employee at range 8% to 11% for employers' contribution (effective salary/wage March 2016). Meanwhile, for DB pension schemes is calculated by using explicit formula which number of service times with the percentage of wages close to retirement date(Dent and Sloss, 1996).

Based on Alexander et al. (2005), the exact total amount of the DB pension plan will be known by the pensioner upon the retirement day (i.e. for lump sum payment) or upon they die (i.e. periodic payment). Basically, the total amount of the DB benefit maybe is unknown until the total claims have been received by all dependents. Collie and Gannon (2011) stated that the most unpredictable under employee benefit categories is the pension cost components which are AGL.

This study attempts to provide the empirical evidence on the market price reactions towards AGL disclosures and also the determinants of CAAR.

### **2.3 Underpinning Theory**

The underpinning theory that supports the variables for this study is an efficient market theory where this theory assumes that share prices of company could reflect to significant amount of information derived from different sources in the capital market (Pickholz and Horahan, 1982). The information disclosed in the annual income number is useful when it is related to share price (Ball and Brown, 1968).

However, Brown and Kim (1993) found that if small firms disclose the information related to non-earning disclosures (e.g. stock splits, takeover, new order), there are on average are significant related to increase in share price whereas for large firms, there are on average valuation neutral.

The efficient market theory also assumes that the market could not react to accounting information accurately. It argued that the share prices may not fully react immediately to accounting information but it may effect on market price return for certain period of time following the announcement of the information (Fama, 1970). In similar vein, Scott (2015) found that market may not always extract all the information content from financial statements which implies that share returns are

serially correlated in statistical term, whereas under market efficiency serial correlation is zero. If the firm announce good news in current earning, the firm's abnormal return could increase drastically for some time after the announcement but if the company release the bad news in earnings, the share price could be decreased for the same period (Scott, 2015).

The efficient market theory assumes to respond to the new information which could lead to unpredictable share prices (Fama, 1970). Thus, it is useful to determine the market price reactions towards AGL disclosures since the market may not reflect to accounting information upon the announcement of annual report as predicted by this theory. The theory could further assists the investors to revise their belief about market price reactions which assume the share price could be increased after the disclosures of AGL so that they can buy the company's share at the reasonable market price. Therefore, this study also focuses on the market price reactions over narrow window around the disclosures of AGL. Market price could be used to gain significant insight into companies and how these AGL disclosures are associated with market price of the company. Besides, this study expects that Malaysia stock market is behave efficiently in which the share returns over the short windows surrounding the AGL disclosures would be significant.

## **2.4 Market Price Reactions Studies**

### **2.4.1 Non-Pension Accounting Studies**

There were many prior studies related to non-pension accounting studies and market price reactions where the findings were mixed. The prior studies had different findings where they found that the market price was react to the announcement (i.e. Li and Ramesh, 2009; Curtis, McVay and Whipple, 2014; Reinganum, 1985; Denis

and Denis, 1995; Furtado and Rozeff, 1987; Dedman and Lin, 2002; Goyal and Park, 2002) but some of the previous researcher found that the market was not react to the announcement of the companies (i.e. Ismail, 2011; Ishak, 2012; and Stice, 1999).

Li and Ramesh (2009) found that the market reacts significantly surrounding the quarter periods reporting upon the filling correspondents to the first public disclosures of earning even though the 10-K reports in not subsumed by earning releases. Recently, there are evidence provided by Curtis, McVay and Whipple (2014) stated that the investors appear to efficiently price the transitory gains at the time of the earnings announcement, but this partially reverses at the time of the subsequent 10-Q/K filing.

Furthermore, there were also studies related to the announcement effect of top management. Based on study done by Reinganum (1985), there is a positive market reaction towards the announcement of internal succession but there is no relationship between the announcement of external succession and abnormal returns. Meanwhile, there were studies found significant positive abnormal returns during the announcement of top executive's dismissal (i.e. Denis and Denis, 1995; and Furtado and Rozeff, 1987). Whereas Dedman and Lin (2002) found that there is negative market reactions towards the announcement of top management turnover particularly upon the top executives leave for better offer or involuntary departure. The diverse findings of prior studies indicate that the announcement of CEO succession could have a significant impact on shareholder's wealth.

In addition, there was a study on the sensitivity of CEO turnover toward company's performance by using market adjusted return model (Goyal and Park, 2002). The study found that there is a significant negative coefficient on excess of share returns.

This finding indicates that the poor firm performance is significantly increase during the turnover of CEO.

Stice (1991) found that the market price was not react significantly to the SEC filing date even though the filling was the first announcement of earning for the quarter. However, his study provides the empirical evidence on the market price reactions toward the announcement of Wall Street Journal earnings.

Besides, Ismail (2011) study the relationship between the announcement of quarterly reports and company's share price performance for 100 top Malaysian Public listed companies. The study found that there is no significant positive relationship between the announcement and company's share price performance. This study also failed to find any significant cumulative abnormal returns in different window periods.

Ishak et al. (2012) also investigate the market price reactions towards the announcement of CEO succession. The study found that there is no significant market price reaction during the announcement of CEO succession but there is a positive reaction 10 days before the announcement. This result indicates that the information has been leakage before the formal announcements made by the companies and positive reactions shows that the news of CEO succession announcement is preferred by the investors.

Based on above discussion, it can be concluded that the information disclosed by the company would reflect to the company share price but either significant or insignificant on the date of disclosure. Even though the information was not significant on the date of announcement but before and after the announcement it can be seen that the market was react to the information disclosed by the companies. These prior findings support the efficient market theory which assumes share price

would reflect to the availability of information in certain period of time (Fama, 1970).

Therefore, this study focuses on the market price reactions over narrow window around the disclosures of AGL. Market price could be used to gain significant insight into companies and how these AGL disclosures are associated with market price of the company. Besides, this study expects that Malaysia stock market is behave efficiently in which the share returns over the short windows surrounding the AGL disclosures would be significant.

#### **2.4.2 Pension Accounting Studies**

There are prior studies related to pension accounting studies and market price reactions. Amir et al (1993) conducted the studies to examine the relationship between pension accounting information and share price. They examine between US versus non-US GAAP accounting measures by using Form 20-F Reconciliations which provide a set of precise measures of differences created by alternative accounting practice from year 1981 to 1991. The finding indicates that there is no value relevant between the differences of pension accounting measures determined by US GAAP versus non-US GAAP. These differences also were not significant to share price. This study only focuses on general accounting information rather than specific pension accounting information.

Barth and Clinch (1996) also examine on the US GAAP companies in which related to share price and pension accounting information which previously employed by Amir et al (1993). The sample selected based on US-listed firms which is UK, Australia and Canada from 1985 to 1991. However, this study use information extracted from financial statements rather than Form 20-F Reconciliations. The



results found that the GAAP reconciliations reflect useful information for UK and Australian firms in relation to explanatory power of accrual pension accounting. This study also consistent with Klumpes and Pope (2002) who found the pension accounting information significantly related to share return and price.

Furthermore, a few researchers (i.e. Amir et al., 1993; Barth and Clinch, 1996; Klumpes and Pope, 2002) examine the difference in pension liabilities between discounted long-term rates and market-based discount rates explain the relationship between share prices, earnings and book values. The sample selected from year 1994 to 1999 was considered timely by the researchers because the controversy of new proposals of pension accounting standards of FRS 17 in UK (Klumpes and Pope, 2002). The studies found that (a) there is international difference in pension accounting between UK and US GAAP which impact the share market valuation for US-listed UK firm's samples; (b) investors combine accruals and net pension assets in valuing US-listed UK firms but not pension expenses; and (c) capital market participants use conservative actuarial rates as compared to market rates in determining the firm pension liabilities.

In addition, Edward (2011) examined the value relevance of both recognized and disclosed pension information towards a fair-value based pension accounting standards for Fortunes 200 firm from 1998 until 2005. This finding indicates that fair-value-based accounting model is no more or less value relevant than pension information recognized under the SFAS 87 model. However, the disclosed off-balance sheet pension amount is incrementally value relevant for determining share prices but not relevant for the credit rating decisions.

Furthermore, Amir and Ziv (1997) examined the timing and method of adoption of accounting for post-retirement benefits other than pensions. This study considers the trade-offs between early and non-early reporting information to be released under new accounting standards and predicted that discretionary revelation of private information create good news. This study assumes that manager have information about the accounting standards' valuation effect and use the adoption timing choices to convey this information to the market. The study found that the market-adjusted return on a portfolio of 1991 adopters was significantly larger than portfolio of 1993 adopters.

Furthermore, Choi and Takuga (2007) found that market adjusted abnormal returns are significantly positive controlled by early write off-policy adopters in Japan for unfunded pension benefit obligation. The immediate write off by the company is interpreted as a signal effect to the sense that early write off policy choice signals financial affordability and quick removal of obligations even though the negative impact on accounting earnings.

However, these existing literatures seem to be inadequate and inconclusive in relation to pension accounting disclosure and market price reactions since the prior studies are conducted before the effective date of MRFS which is in year 2012 and not specifically on AGL disclosures.

There are few studies have been conducted related to AGL disclosures and market price reactions among DB adopters in Malaysia. Lode and Yusof (2014) found that stock market are not significantly reacted to the AGL disclosures. Furthermore, Lode and Yusof (2015) investigate the price reaction towards AGL disclosures and found that AAR for companies that disclosed actuarial gains are positive and significant

after the disclosure date, while the markets have negatively reacted towards the disclosures of actuarial losses before the disclosure date. These findings suggested that the disclosures of actuarial gains are more welcomed by investors and give signal “good news” after the announcement date of annual reports. These prior studies only focus on one year sample in year 2009 and limited observation of 29 companies.

Besides, Ana (2010) investigates the determinants of the choice of the accounting method for recognising AGL of DB plan for European listed companies in 2005. This study found that size, industry, profitability and the existence of actuarial gains or actuarial losses are important determinants in the choice of the accounting method for AGL. The finding also found that the company with actuarial gains tend to use the equity recognition method whereas the companies with actuarial losses tend to use the corridor method. However, this prior study related to developed country as compared to developing countries such as in Malaysia context.

Therefore, the presents study aims to examine the market price reactions toward AGL disclosures and determinants of CAAR in Malaysia from year 2012 until 2014.

## **2.5 Conclusion**

Based on the literature reviews conducted, it has been revealed that certain non-pension and pension accounting information may give significant influence to market price reactions. Besides, the pension accounting literature review especially on AGL in Malaysia also limited. Thus, the presents study intends to investigate the market price reactions towards AGL disclosures among Malaysian public listed companies, thus, this study contributes to pension accounting literature in Malaysia.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter explains the methodology of study where it discusses the population, method of data collections, research framework, hypothesis and model developments. The measurements for each variable and tool of data analysis are also explained in this chapter.

### **3.2 Population**

The study population consists of Malaysian public listed companies on Bursa Malaysia from 2012 until 2014 which had disclosed the AGL in the annual report.

#### **3.2.1 Target Population**

The target population is based on the Malaysian public listed companies in Bursa Malaysia that has disclosed AGL in Annual Report 2009 (Lode and Yusof, 2014 & 2015). Total companies disclosed the AGL are 29 out of 70 companies for the year 2009 in the financial statements that has been adopted the DB pension schemes. Bank and financial institution are excluded due to different rules and regulation requirements. Based on these selected 29 companies in year 2009, the data was collected from annual return for 29 companies which had disclosed AGL for the year 2012, 2013 and 2014.

### **3.3 Method of Data Collections**

The data used in this study is secondary data gathered from annual reports and data-stream. The annual report is for year 2012 until 2014 that were downloaded from Bursa Malaysia website. Meanwhile, for data stream was collected via Sultanah

Bahiyah Library, Universiti Utara Malaysia (UUM). Based on 29 companies in year 2009, AGL data was manually extracted from the annual report. Meanwhile, data collected from data stream are daily share price, daily Kuala Lumpur Composite (KLCI) price index, yearly EPS, and yearly total assets.

The data was analysed by using Statistical Package for the Social Sciences (SPSS) version 22 and Microsoft Excel (Ms Excel). The method of study is much similar to previous study which relied on secondary data (i.e. Lode and Yusof (2014 &2015)).

### **3.4 Hypothesis Developments**

The efficient market theory assumes that the share prices of company could reflect to significant amount of information derived from different sources in the capital market (Pickholz and Horahan, 1982). The information disclosed in the annual income number is useful when it is related to share price (Ball and Brown, 1968). However, Brown and Kim (1993) found that if small firms disclose the information related to non-earning disclosures (e.g. stock splits, takeover, new order), there are on average are significant related to increase in share price whereas for large firms, there are on average valuation neutral.

The efficient market theory also assumes that the market could not react to accounting information accurately. It argued that the share prices may not fully react immediately to accounting information but it may effect on market price return for certain period of time following the announcement of the information (Fama, 1970). Scott (2015) found that market may not always extract all the information content from financial statements which implies that share returns are serially correlated in statistical term, whereas under market efficiency serial correlation is zero. If the firm announce good news in current earning, the firm's abnormal return could increase

drastically for some time after the announcement but if the company release the bad news in earnings, the share price could be decreased for the same period (Scott, 2015).

Furthermore, Amir and Ziv (1997) examined the timing and method of adoption of accounting for post-retirement benefits other than pensions. This study consider the trade-offs between early and non-early reporting information to be release under new accounting standards and predict that discretionary revelation of private information create good news. This study assumes that manager have information about the accounting standards' valuation effect and use the adoption timing choices to convey this information to the market. The study found that the market-adjusted return on a portfolio of 1991 adopters was significantly larger than portfolio of 1993 adopters.

Furthermore, Choi and Takuga (2007) found that market adjusted abnormal returns are significantly positive controlled by early write off-policy adopters in Japan for unfunded pension benefit obligation. The immediate write off by the company is interpreted as a signal effect to the sense that early write off policy choice signals financial affordability and quick removal of obligations even though the negative impact on accounting earnings.

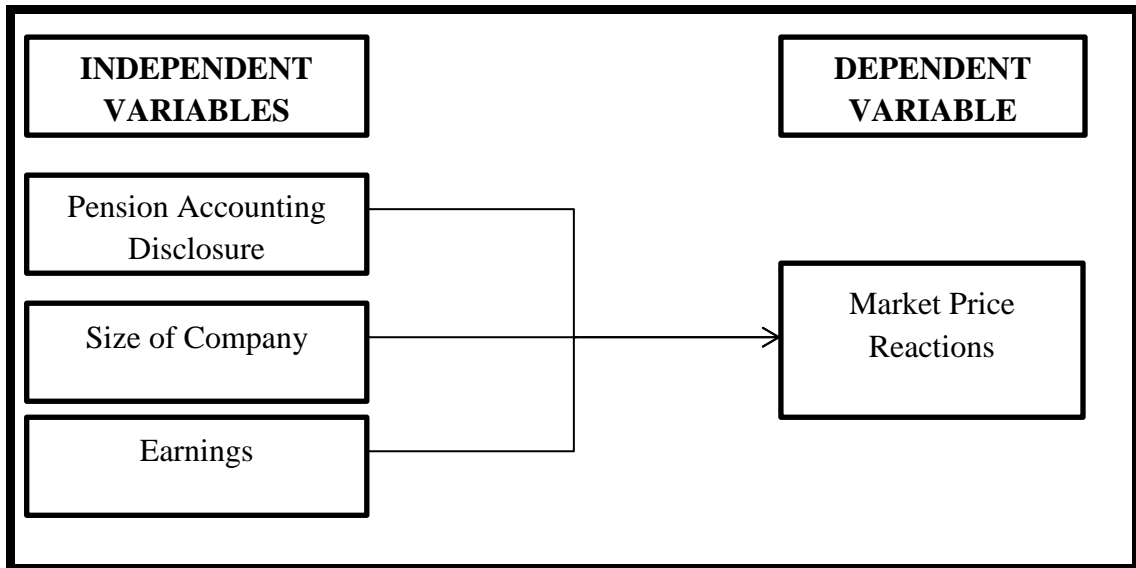
Therefore, this study focuses on the market price reactions over narrow window around the disclosures of AGL. Market price could be used to gain significant insight into companies and how these AGL disclosures are associated with market price of the company. Besides, this study expects that Malaysia stock market is behave efficiently in which the share returns over the short windows surrounding the AGL disclosures would be significant. The hypotheses developed for this study are stated as follow:

- H<sub>1</sub> : The market significantly reacts towards AGL disclosures in general;
- H<sub>2</sub> : The market significantly react differently between the actuarial gains disclosures and actuarial losses disclosures;
- H<sub>3</sub> : The market significantly react towards AGL disclosures for different window periods;
- H<sub>4</sub> : The determinants of CAAR on AGL disclosures, size of company (LNTA) and EPS;

### **3.5 Research Framework**

The research framework as per Figure 3.5.1 of this study is adopted from the previous studies of market price reactions towards pension accounting disclosures of AGL (Lode and Yusof, 2015). This research framework is developed based on efficient market theory which assumes that market price reacts to information in month zero, but begins to anticipate the good news or bad news in earning (Ball and Brown, 1968).

**Figure 3.5.1**  
**The Research Framework**



### **3.6 Model Developments**

There are two models that were developed for this study to answer the research questions which are Market Adjusted Returns Model and Simple Ordinary Least Square. Further explanations are as follows:

#### **3.6.1 Market Adjusted Returns Model**

The first model for this study is to investigate the market price reactions toward AGL disclosures. The event study methodology has been adopted to capture share price reactions towards the new information released by the companies (Fama, Fisher, Jensen and Roll, 1969). The share price of the companies may indicate the useful reaction to determine the relationship between company and an event by considering the changes in share price following the event becomes public information (Lode and Yusof, 2015). The market adjusted return model is used to investigate the market price reactions towards AGL disclosures which was originally proposed by



MacKinlay (1997) and then adopted by other researchers (i.e. Ishak and Latif (2012), Lode and Yusof (2014, 2015)).

By using this model, the study divided into three parts which are as follows:

- i. to investigate the market price reactions of AGL disclosures in general;
- ii. to investigate whether the market react differently between actuarial gains disclosures and actuarial losses disclosures; and
- iii. to investigate the market price reactions towards AGL disclosures for different window periods.

The benchmark for market index is referring to Kuala Lumpur Composite Index (KLCI). Daily share prices for each company's disclose the AGL in financial statements and the KLCI are collected from 8 days before and 60 days after the financial year ended (i.e. 31 December).

Daily share return for company *i* on day *t* is calculated as follow:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}}$$

Where,

$R_{i,t}$  : return on company *i* during day *t*

$P_{i,t}$  : price of company *i* shares at the end of day *t*

$P_{i,t-1}$  : price of company *i* shares at the end of day *t-1*

Also, the daily market return

$$R_{m,t} = \frac{CI_t - CI_{t-1}}{CI_{t-1}}$$

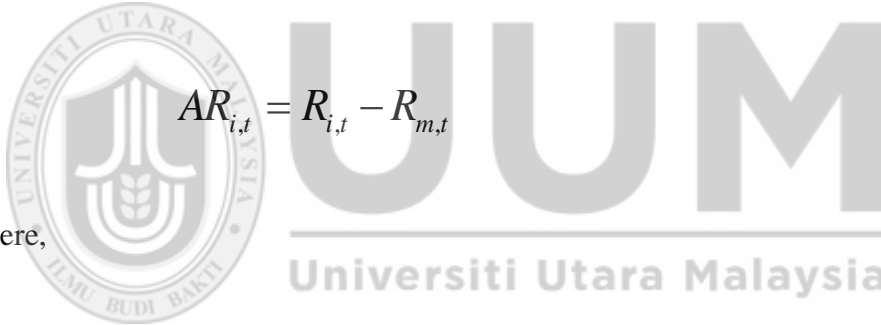
Where,

$R_{m,t}$ : Return on Composite Index during day  $t$

$CI_t$ : Composite Index level at the end of day  $t$

$CI_{t-1}$ : Composite Index level at the end of day  $t-1$

Abnormal returns for each day  $t$  are calculated by comparing company's daily share return and market's returns as follows:


$$AR_{i,t} = R_{i,t} - R_{m,t}$$

Where,

$AR_{i,t}$  is the abnormal return of I company on day  $t$ ,

$R_{i,t}$  is return on company  $i$  during the period  $t$ ,

$R_{m,t}$  is return on Composite Index during the period  $t$

The average abnormal returns (AAR) for the event day  $t$  is calculated based on daily abnormal returns on each event day for all sample companies are accumulated and then divided by the number of observations. The computation is summarised as below:

$$AAR_t = \frac{\sum_{i=1}^n AR_{i,t}}{n_t}$$

Where,  $n$  is the number of company on day  $t$ . The variance of  $AAR_t$  is

$$\frac{1}{n^2} \sum_{i=1}^n (AR_{i,t} - AAR_t)^2$$

$AAR_t$  is normally distributed and Z-statistics is equal to

$AAR_t$  divided by square root of the variance.

Then, the CAAR are computed from an earlier date,  $t_1$  to a later date,  $t_2$

$$CAAR_{t_1, t_2} = \sum_{t=t_1}^{t_2} AAR_t$$

The variance  $CAAR_{t_1, t_2}$  is  $\frac{1}{n^2} \sum_{i=1}^n (CAR_{i,t_1,t_2} - CAAR_{t_1,t_2})^2$ ,

Where,  $CAR_{i,t_1,t_2}$  is the cumulative abnormal return of company  $i$  from period  $t_1$  to  $t_2$ .  $CAAR_{t_1,t_2}$  is normally distributed and Z-statistics is equal to  $CAAR_{t_1,t_2}$  divided by square root of the variance.

### 3.6.2 Simple Ordinary Least Square (OLS)

Further analysis of this study is to assess the determinants of CAAR by using Simple Ordinary Least Square (OLS) which consists of AGL disclosures (AGL), size of the company (LNTA) and earnings (EPS) by using the following regression estimates:

$$CAAR = \alpha_t + \beta_1 AGL + \beta_2 LNTA + \beta_3 EPS + \varepsilon_{i,t}$$

Where,

CAAR	=	Cumulative average abnormal returns of companies from day 0 to day +2,
AGL	=	Disclosures of AGL, actuarial losses = 2, actuarial gains = 1, nil figure =0,
LNTA	=	The company's size is measured with natural log of total assets,
EPS	=	Company's earnings per share for the current year,
$\epsilon$	=	Error term

### 3.7 Definition of Variables

The dependent variable use for this study is CAAR from day 0 to day +2 whereas for independent variables are AGL disclosures, company's size (LNTA) and EPS, which are used to assess the determinants of CAAR towards AGL disclosures from year 2012 until 2014 for 86 company-years in Malaysia.

#### 3.7.1 Cumulative Average Abnormal Returns (CAAR)

CAAR is derived from the calculation of abnormal return by comparing company's daily share return and market's returns, then average it for all companies selected from day 0 until day +2. Selection of CAAR day 0 until day +2 is based on significant results for different windows period. Initially, all CAAR for different windows period was tested to find the most significant results for the determinants of CAAR. The data was collected from UUM data stream. The share price of the company is the share price at the end of financial year closing date (i.e. 31

December) whereas for market return is referred to Kuala Lumpur Composite Index (KLCI).

### **3.7.2 Actuarial Gains and Losses (AGL)**

AGL resulted from the changes in the present value of the DB obligation because of changes in experience adjustments and actuarial assumptions (MRFS 119, para 128, 2011). The data was extracted from annual report for 86 company-years in Malaysia for the period from year 2012 until 2014 via Bursa Malaysia website. AGL data was classified as independent variables where it has value of 0 (for nil figures), 1 (for actuarial gains) and 2 (for actuarial losses).

### **3.7.3 Total Assets (LNTA)**

Total assets consist of net property plant and equipment, long term receivables, investment in unconsolidated subsidiaries, other investments, total current assets, and other assets. The data was extracted from company's annual reports and data stream. Total assets are measured with natural log of total assets by using SPSS.

### **3.7.4 Earning Per Share (EPS)**

EPS is calculated by dividing profit or loss attributable to ordinary equity holders of the parent entity (the numerator) by the weighted average number of ordinary shares outstanding (the denominator) during the period (MRFS 133, para 10, 2011). The data is collected from data stream which is the latest annualised rate that may reflect the last financial year or be derived from an aggregation of interim period earnings.

### **3.8 Conclusion**

Research methodology and model developments for the present study are based on the previous researcher (i.e. Mac Kinlay, 1997) who studies on the market price reactions. The sample was selected based on Malaysian public listed companies in Bursa Malaysia that has disclosed AGL in Annual Report 2009. The definitions of each variables used for this study are derived from either UUM data-stream or MFRS.



## **CHAPTER FOUR: RESULTS AND DISCUSSION**

### **4.1 Introduction**

This chapter provides the discussion on the results of the study which investigate the market price reaction towards AGL disclosures among Malaysian listed companies which disclosed AGL and determinants of CAAR. This study uses abnormal return of the companies (where the share return of the companies minus market return) to investigate the daily share price reaction of the companies upon the disclosures of AGL and used size of the company (LNTA), EPS and AGL to assess the determinants of CAAR. This chapter is allocated into subsections comprising of the results of descriptive statistics, diagnostics check, market price reactions and regression analysis to assess the determinants of CAAR.

### **4.2 Data for Actuarial Gains and Losses Disclosures**

The data of AGL disclosures are based on the study done by Lode and Yusof (2015) which stated that AGL had been disclosed by 29 companies out of 70 companies for the year 2009 in the financial statements of Malaysia that has adopted the DB pension scheme. Based on 29 companies in year 2009, the data was collected from annual return specifically company that disclosed AGL for DB Pension Scheme from year 2012 until 2014. The distributions of AGL disclosures by year are presented in Table 4.2.1 and the distributions of AGL disclosures by Bursa Malaysia industry classification for the year 2012 to 2014 are presented in Table 4.2.2.

**Table 4.2.1**  
**Distributions of AGL Disclosures by Year**

<b>Year</b>	<b>Total Companies</b>
2012	29
2013	29
2014	28
<b>TOTAL</b>	<b>86</b>

Based on Table 4.2.1, the total companies which had been disclosed AGL in year 2012 and 2013 are 29 companies whereas for 2014 is 28 companies. This is because in year 2014, one of the companies which is JT International Berhad, selected from year 2009 was delisted in Bursa Malaysia as at 25 June 2014.

**Table 4.2.2**  
**Distributions of AGL Disclosures by Bursa Malaysia Industry Classification**

<b>Classification of Industry</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Utility	1	1	1
Electricity	1	1	1
Construction	3	3	3
Industrial	4	4	4
Food Processing	1	1	1
Utilities	1	1	1
Tobacco	1	1	0
Services	1	1	1
Trading	3	3	3
Plantation	2	2	2
Manufacturing	2	2	2
Leasing	1	1	1
Automotive	2	2	2
Drugs	1	1	1
Fixtures	1	1	1
Woods	1	1	1
Auto Manufacturer	1	1	1
Chemical Manufacturing	1	1	1
Energy/Logistics	1	1	1
<b>TOTAL</b>	<b>29</b>	<b>29</b>	<b>28</b>



Table 4.2.2 shows that the most of the AGL disclosures are from industrial industry (i.e. Pelikan International Corporation Berhad, BTM Resources Berhad, Atlan Holdings Berhad and D'nonce Technology Berhad), followed by constructions industry (i.e. Gamuda Berhad, IJM Corporation Berhad and YTL Corporation Berhad) and trading industry (i.e. CNI Holdings Berhad, Berjaya Corporation Berhad and UMW Holdings Berhad). The industrial industry is more likely to disclose AGL as compared to other industries may be due to fact these companies have other companies (e.g. subsidiaries, associates or holding companies) in overseas which require them to prepare the standardize financial reporting for harmonization purposes. Thus, by disclosing AGL information might ease the process of preparing the consolidation of financial statement between holding and subsidiaries Companies.

### 4.3 Descriptive Analysis

Table 4.3.1 presents the descriptive analysis of 86 company-years that had disclosed the AGL in the annual report for the year 2012 until 2014. This table explains the number of observation, minimum, maximum, mean, and standard deviation of the variables used in the simple linear regression.

**Table 4.3.1**  
**Descriptive Analysis**

<b>Variables</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
AGL	86	0.0000	2.0000	1.3488	0.7157
EPS (cents)	86	0.0000	2.4000	0.3028	0.4843
LNTA	86	10.0924	18.5219	14.2710	2.2072
CAAR	86	-0.0518	0.0941	0.0111	0.0198

Table 4.3.1 presents the variables used in this study that are AGL, Earning per Share (EPS), Total Assets (LNTA) and CAAR. The Dependent Variable (DV) is CAAR for day 0 to day +2 as proxy for performance during the disclosures of AGL. Selection of CAAR of day 0 to day +2 is based on the significant result of CAAR for different window periods.

Based on 86 company-years selected, 37% of the companies reported actuarial gains, 49% of the companies selected were disclosed actuarial losses and the remaining of 14% of the companies reported zero value in the financial statements from year 2012 until 2014 as per Table 4.3.2. The zero figure in the financial statement may be due to over estimation of AGL in the current year. The AGL has the value of zero when it has nil figure, and it will take the value of 1 for actuarial gains for positive value and the value of 2 when it has actuarial losses for negative value.

**Table 4.3.2**  
**AGL Disclosures for Malaysian Adopter of DB Scheme from Year 2012 to 2014**

AGL	Values	Frequencies	Percentages
Nil Figures (0 value)	0	12	14%
Actuarial Gains (positive value)	1	32	37%
Actuarial Losses (negative value)	2	42	49%
		<b>86</b>	<b>100%</b>

The descriptive analysis on Table 4.3.1 shows the mean of EPS is 0.30 cents with minimum amount of zero and maximum amount is 2.40 cents while standard deviation is 0.4843. Meanwhile, the mean size of the company as measured by natural log of total assets is 14.2710 with standard deviation of 2.2072. Besides, the minimum CAAR for sample selected is -0.0518 and maximum abnormal returns is 0.0941 while the mean and standard deviation are 0.0111 and 0.0198 respectively.

#### 4.4 Correlation Analysis

This subsection explains the correlations between independent variables and dependent variable. Based on Asteriou and Hall (2007), the correlation analysis determines the level of relationship between one variable with another variables. If the correlation estimation is 0, it means that there is no relationship between independent and dependent variables but if the correlation near to +1 or -1, it means there is positive or negative relationship between independent and dependent variables. However, if the correlation between 0.20 to 0.49, it means the relationship is strongly weak and if greater than 0.50, it means relationship weak but still significant.

**Table 4.4.1**  
**Pearson Correlation Coefficient of Variable**

Variables	AGL	EPS	LNTA	CAAR
AGL	1.0000			
EPS	-0.0317	1.0000		
LNTA	0.1102	0.2400*	1.0000	
CAAR	-0.0225*	-0.0839	-0.2081	1.0000

\*Correlation is significant at the 0.05 level (2-tailed)

Table 4.4.1 presents the *Pearson* correlation between variables for factors to determine the CAAR. The dependent variable is the CAAR (i.e. day 0, +2) whereas the independent variables are pension accounting disclosures (AGL), company's earnings (EPS) and size of the companies (LNTA). All the variables have show less than of 0.5 correlations with other variables where it shows strongly weak relationship with those variables.

EPS and LNTA have significant positive correlation at 0.05 significant level which indicates that any increase in LNTA would also leads to increase of 0.24 in EPS. Whereas CAAR and AGL have significant negative correlation at 0.05 significant

levels which indicate that any increase in AGL could lead to decrease of 0.0225 in CAAR. Both results indicate that the correlation between CAAR with AGL and EPS and LNTA was strongly weak but it was significantly correlated.

Based on Gujarati (2003), if the correlation coefficient is below 0.5, it indicates that the model has safe from multicollinearity problems and should not pose any problems to the model. Besides, Pallant (2010) stated that the correlation analysis should not take into consideration for recommendation due to analysis does not consider the diagnostics problems. Thus, further analysis on multicollinearity and normality test of the data was conducted before the regression analysis is carried out.

#### 4.5 Multicollinearity and Normality Test

The existence of the correlations between variables could be confirmed through multicollinearity test which explains the level of one variable's effect could be managed by other variables (Hair Jr, Anderson, Tatham, and William, 1995). Based on Healy (2002) and Kennedy (1992), one of the methods for multicollinearity test is variance inflation factor (VIF) for each independent variable to determine the existence of high colinearity among independent variables. If the results indicate of 10 and above of VIF, it means that there is high colinearity and this problem should be addressed.

**Table 4.5.1**  
**Multicollinearity Test**

Variables	Collinearity Statistics	
	Tolerance	VIF
AGL	0.984	1.016
LNTA	0.929	1.077
EPS	0.939	1.065

Based on Table 4.5.1, the VIF value of all independent variables are less than 10 which indicate that there is no existence of multicollinearity problem. Normality test also was carried out to determine the normality of data before proceed with statistical test. The data is normal when the distribution of skewness is less  $\pm 3$  and kurtosis is less than  $\pm 10$  (Kline, 1998). Table 4.5.2 provides the results of normality test which indicates that the statistic of skewness is less than  $\pm 3$  and kurtosis is less than  $\pm 10$ . The highest skewness and kurtosis is EPS and followed by CAAR. The results indicate that the data is normal and accurate for further statistical analysis.

**Table 4.5.2**  
**Normality Test**

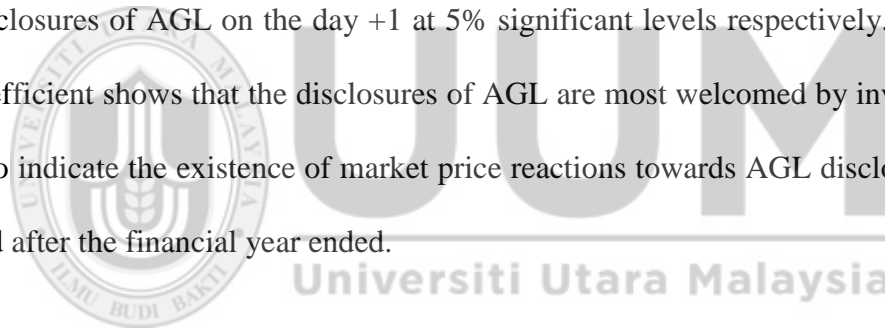
Variables	Observations	Skewness	Kurtosis
AGL	86	-0.631	-0.811
EPS	86	2.568	6.836
LNTA	86	0.185	-0.983
CAAR	86	1.264	6.386

#### 4.6 Market Price Reactions Analysis

The discussion is divided into two parts to address the research questions which are; (a) market price reactions towards the disclosures of AGL; and (b) determinants of CAAR. The first question of this study is to investigate the market price reactions towards the disclosures of AGL. This study used Cumulative Market Adjusted Return Model (CMAR) as explained in the chapter 3. The study uses 8 days before and 60 days after the disclosures of AGL to determine the significant of market price reactions toward AGL disclosures.

The sample comprises of 86 company-years that disclosed AGL in annual report from all industries from year 2012 until 2014. Table 4.6.1 provides the AAR for day -8 to day +10 surrounding the disclosures of AGL by using CMAR. Based on Table 4.6.1, its shows that there is a positive value of AAR about 0.0001 but insignificant on the day of the disclosures of AGL (i.e. day 0). This finding indicates that positive sign of AAR shows a good signal to investors to make decisions where they believe that the AGL disclosures may give true value of financial statements of the company even though the coefficient of CMAR is not significant on the disclosures of AGL.

The finding also indicates that there are significant negative price reactions before the disclosures of AGL on the day -1 and positive price reactions after the disclosures of AGL on the day +1 at 5% significant levels respectively. The CMAR coefficient shows that the disclosures of AGL are most welcomed by investors and it also indicate the existence of market price reactions towards AGL disclosures before and after the financial year ended.



**Table 4.6.1**  
**AAR For Day -8 to Day +10 Surrounding the Disclosures of Actuarial Gains and Losses**

EVENT DAY	ACTUARIAL GAINS AND LOSSES				
	AAR	CAAR	STDEV	T-STAT	P-VALUE
-8	-0.0001	-0.0001	0.0224	-0.0266	0.9790
-7	-0.0013	-0.0014	0.0201	-0.3455	0.7322
-6	-0.0034	-0.0048	0.0217	-0.8707	0.3911
-5	0.0067	0.0019	0.0644	0.5743	0.5702
-4	0.0017	0.0036	0.0192	0.4717	0.6407
-3	-0.0025	0.0011	0.0210	-0.6514	0.5199
-2	0.0007	0.0018	0.0227	0.1711	0.8653
<b>-1</b>	<b>-0.0056</b>	<b>-0.0038</b>	<b>0.0148</b>	<b>-2.0562</b>	<b>0.0489*</b>
0	0.0001	-0.0037	0.0172	0.0349	0.9724
<b>1</b>	<b>0.0095</b>	<b>0.0059</b>	<b>0.0223</b>	<b>2.3343</b>	<b>0.0267*</b>
2	0.0035	0.0093	0.0225	0.8496	0.4025
3	0.0034	0.0128	0.0203	0.9182	0.3661
4	0.0090	0.0218	0.0385	1.2800	0.2107
5	-0.0035	0.0182	0.0199	-0.9729	0.3386
6	0.0019	0.0201	0.0163	0.6278	0.5350
7	0.0052	0.0253	0.0243	1.1841	0.2460
8	-0.0050	0.0203	0.0229	-1.1995	0.2401
9	0.0048	0.0251	0.0272	0.9582	0.3459
10	0.0035	0.0286	0.0190	1.0096	0.3210

\*indicates significant at 5%

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It can be concluded that the market is significantly react to AGL disclosures in general before and after the financial year ended, thus, the Hypotheses (**H<sub>1</sub>**) are accepted.

Meanwhile, Table 4.6.2 provides the comparison of abnormal returns from day -8 to +10 based on the companies that disclosed either actuarial gains or actuarial losses. The finding indicates that AAR for both actuarial gains and actuarial losses has positive value of 0.09% and 0.03% respectively but not significant on the day of the disclosure of AGL. This result indicates that the market price react positively but not significant on the day of the disclosures for either actuarial gains or actuarial losses disclosures.

However, there is significant and negative price reactions before the financial year ended for actuarial losses disclosures on the day -1 at 5% significant level but there is no significant before the financial year ended for actuarial gains disclosures. This result indicates that the investors maybe were more conservatism and react immediately toward disclosures of actuarial losses rather than disclosure of actuarial gains. This finding is consistent with Lode and Yusof (2015) who observed that market is reacted negatively towards the disclosures of actuarial losses before the financial year ended (i.e. day -3, -8, -10). This condition happens due to information already known to the investors before the financial year ended.





**Table 4.6.2**  
**AAR For Day -8 to Day +10 Surrounding the Disclosures of Actuarial Gains and Losses Separately**

EVENT DAY	ACTUARIAL GAINS					ACTUARIAL LOSSES				
	AAR	CAAR	STDEV	T-STAT	P-VALUE	AAR	CAAR	STDEV	T-STAT	P-VALUE
-8	-0.0036	-0.0036	0.0250	-0.7856	0.4385	0.0024	0.0024	0.0204	0.6431	0.5252
-7	0.0017	-0.0019	0.0185	0.4983	0.6220	-0.0007	0.0017	0.0209	-0.1712	0.8652
-6	-0.0003	-0.0022	0.0205	-0.0806	0.9363	-0.0043	-0.0026	0.0223	-1.0597	0.2980
-5	0.0193	0.0171	0.1035	1.0224	0.3150	-0.0007	-0.0032	0.0163	-0.2259	0.8228
-4	-0.0031	0.0140	0.0130	-1.2918	0.2066	0.0048	0.0016	0.0227	1.1598	0.2556
-3	-0.0042	0.0098	0.0236	-0.9779	0.3362	-0.0015	0.0000	0.0191	-0.4435	0.6607
-2	-0.0007	0.0091	0.0196	-0.1965	0.8456	0.0043	0.0043	0.0252	0.9272	0.3615
-1	-0.0027	0.0064	0.0109	-1.3496	0.1876	-0.0102	-0.0059	0.0161	-3.4762	0.0016***
0	0.0009	0.0074	0.0144	0.3570	0.7237	0.0003	-0.0056	0.0206	0.0889	0.9298
1	0.0132	0.0206	0.0299	2.4249	0.0218**	0.0055	-0.0001	0.0169	1.7668	0.0878*
2	-0.0027	0.0179	0.0272	-0.5503	0.5863	0.0078	0.0077	0.0201	2.1396	0.0409**
3	0.0062	0.0241	0.0209	1.6358	0.1127	0.0018	0.0095	0.0218	0.4562	0.6516
4	0.0098	0.0339	0.0414	1.2956	0.2053	0.0064	0.0159	0.0407	0.8563	0.3988
5	0.0004	0.0343	0.0163	0.1236	0.9025	-0.0030	0.0129	0.0216	-0.7599	0.4534
6	0.0015	0.0358	0.0171	0.4877	0.6295	0.0018	0.0147	0.0168	0.5988	0.5539
7	-0.0014	0.0344	0.0183	-0.4186	0.6786	0.0117	0.0264	0.0288	2.2215	0.0343**
8	-0.0033	0.0311	0.0141	-1.2857	0.2087	-0.0075	0.0190	0.0296	-1.3830	0.1772
9	0.0005	0.0316	0.0128	0.2179	0.8290	0.0014	0.0204	0.0118	0.6626	0.5128
10	0.0063	0.0379	0.0204	1.6969	0.1004	0.0026	0.0230	0.0187	0.7654	0.4502

\*\*\*indicates significant at 1% level,

\*\*indicates significant at 5% level,

\*indicates significant at 10% level.

However, the market price react negatively but not significant for actuarial gains disclosures before the financial year ended (i.e. in day -1, -2, -3, -4, -6 & -8). This finding is inconsistent with Lode and Yusof (2015) who documented that market price react significantly before the disclosure of actuarial gains (i.e. day -1, -7 and -10). This situation happen may be due to small sample selected and different company-years.

Furthermore, there are positive and significant market price reactions after the disclosures for both actuarial gains (i.e. day +1) and actuarial losses (i.e. day +1, +2 and +7). This finding indicates that both actuarial gains and actuarial losses disclosures are accepted by investors as valuable since the market price react significantly and positively. This finding is also consistent with Lode and Yusof (2015) who argue that market price react positively and significantly after the financial year ended for actuarial gains disclosures (i.e. day +1, +2) and actuarial losses disclosures (i.e. day +1, +3).

Table 4.6.2 also shows that the disclosures of actuarial losses have more significant and positive AAR on the day +1, +2 and +7 as compared to actuarial gains only has on the day +1. These findings can be concluded that the disclosures of actuarial losses are more valued by the investors as compared to actuarial gains disclosures as actuarial losses disclosures are more likely to have positive and significant abnormal returns after the financial year ended.

In addition, there is only one significant event at 1% level for actuarial losses in day -1 which is before the financial year ended, whereas the remaining three is significant at 5% level for actuarial losses disclosures (i.e. day +2 and +7) and actuarial gain disclosures (i.e. day +1) after the financial year ended. This finding is inconsistent

with Lode and Yusof (2015) where the results of Lode's implies five significant events at 1% level for actuarial losses (i.e. day -10, -8, -7, +1) and actuarial gains (i.e. day +10).

It can be concluded that the Hypotheses ( $H_2$ ) are accepted since there is negative significant reaction to actuarial losses disclosures before the financial year ended and also positive significant reactions after the financial year ended for both actuarial gains and actuarial losses disclosures.

Further analysis on CAAR for different window periods by using CMAR also had been conducted to assess the cumulative market price reaction before and after the disclosures of AGL. Table 4.6.3 shows that there is no significant event surrounding the financial year ended (i.e. day -1 to day +1). The CAAR are positively significant after the disclosures of AGL on day 0 to +2, day 0 to +3, day 0 to +5, day 0 to +10 and day 0 to +30. However, the CAAR are negatively react but not significant before the disclosures of AGL (i.e. day -9 to 0, day -5 to 0, day -3 to 0, day -1 to 0).

**Table 4.6.3**  
**CAAR for Different Windows Surrounding AGL Disclosures Dates**

Event day	CAAR	STDEV	T-STAT	P-VALUE
CAAR -9,30	0.0347	0.0990	1.9183	0.0650*
CAAR -9,10	0.0251	0.0769	1.7866	0.0845*
CAAR -9,0	-0.0037	0.0667	-0.3004	0.7660
CAAR -5,0	-0.0056	0.0373	-0.8203	0.4187
CAAR -3,0	-0.0072	0.0304	-1.3055	0.2020
CAAR -1,1	-0.0055	0.0197	-1.5154	0.1405
CAAR -1,0	-0.0055	0.0197	-1.5154	0.1405
CAAR 0,1	0.0001	0.0172	0.0349	0.9724
CAAR 0,2	0.0095	0.0223	2.3343	0.0267**
CAAR 0,3	0.0131	0.0289	2.4823	0.0191**
CAAR 0,5	0.0255	0.0458	3.0512	0.0048***
CAAR 0,10	0.0289	0.0570	2.7743	0.0096***
CAAR 0,30	0.0386	0.1045	2.0251	0.0522*

\*\*\*indicates significant at 1% level, \*\*indicates significant at 5% level,  
\*indicates significant at 10% level.

In addition, it can be observed that the prices started to decrease a few days before the disclosures of AGL then increase drastically after the financial year ended. From the Table 4.6.3, it can be seen that the most significant and positive CAAR is from day 0 until day +5 and from day 0 until day +10. Generally, the market reacts quickly to the news from the day of announcements and after the disclosures of AGL. It can be concluded that the Hypotheses (**H<sub>3</sub>**) are accepted since the market is react significantly to AGL disclosures for different window periods after the financial year ended.

#### 4.7 Regression Analysis

This subsection provides the regression analysis to examine the relationship between dependent variable and independent variables of the study. The hypothesis that has been tested is to investigate the determinants of CAAR. The independent variables used as shown in Table 4.7.1 are EPS, LNTA and AGL.

**Table 4.7.1**  
**Regression Analysis**

Variables	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		2.9765	0.0038
AGL	-0.2079	-1.9549	0.0540*
LNTA	-0.1735	-1.5848	0.1169
EPS	-0.0489	-0.4494	0.6543
Adjusted R <sup>2</sup>	5.4%		

\*Significant at 0.10 level (2 tailed)

\*\*Dependent Variable is Cumulative Average Abnormal Return (CAAR day 0, +2)

The simple ordinary least square (OLS) is used to assess the determinants of CAAR after the announcement of AGL which consists of AGL disclosures (AGL), size of

the company (LNTA) and earnings (EPS) by using the following regression estimates:

$$CAAR = \alpha_{i,t} + \beta_1 AGL + \beta_2 LNTA + \beta_3 EPS + \varepsilon_{i,t}$$

Table 4.7.1 presents the regression result of the determinants of CAAR which shows negative significant relationship between AGL and CAAR at significant level 0.10 (2-tailed) with beta value of -0.2079 and p-value of 0.0540. The results indicate that any increase of AGL will lead to decrease of 0.2079 in CAAR. In other words, this finding indicates that investors are more looking for actuarial losses disclosures rather than actuarial gains disclosures where the actuarial losses disclosures give significant negative market price reactions. However, this result is inconsistent with Lode and Yusof (2015) who found that CAAR is not significantly related to AGL disclosures. The different findings by Lode and Yusof (2015) due to value use in AGL disclosures are the actual figure as compared to this study. AGL has value of 0 (for nil figures), 1 (for actuarial gains) and 2 (for actuarial losses). Another reasons due to different number of sample analysed where this study has 86 company-years from 2012 until 2014 as compared to Lode and Yusof (2015) only concentrate for one year data with 29 samples (i.e. 2009).

Furthermore, the finding indicates that LNTA and EPS are not significantly related to CAAR which indicates that size and earning of the company is not one of the significant variables to determine CAAR. The finding on EPS is consistent with Tony et al. (1999) who investigate the stock market reaction toward press notice. They found that EPS and cumulative abnormal return is not significantly related. However, it is contradicted with Lode and Yusof (2015) who found that EPS and CAAR is positively and significantly related which indicate that market react and

response to the announcement of earnings. The different results are maybe due to different number of samples and company-years used in this study.

Therefore, it can be concluded that the Hypotheses (**H4**) are partially accepted since there is only one independent variables which is AGL are significantly related to CAAR.



## **CHAPTER FIVE: SUMMARY, RECOMMENDATION AND CONCLUSION**

### **5.1 Introduction**

This subsection provides the summary of findings gained from the previous chapter based on stated research objectives and efficient market theory among DB pension schemes adopters for Malaysian Listed Companies from year 2012 until 2014. The objectives of this study are: first, to examine the market price reaction towards AGL disclosures based on CMAR; and second, to examine the determinants of CAAR on EPS, LNTA and AGL disclosures. This chapter will also explain the practical contributions, limitations of the study, and suggestions for future research, and finally conclude the overall of the study.

### **5.2 Summary of Findings**

This study presents the empirical evidence on the market price reactions towards AGL disclosures and the determinants of CAAR on EPS, LNTA and AGL disclosures by using CMAR. There are 86 company-years had been disclosed AGL in the annual report from 2012 to 2014. Total companies which had been disclosed AGL in year 2012 and 2013 are 29 companies whereas for 2014 is 28 companies. For year 2014, one of the companies which are JT International Berhad, selected from year 2009 was delisted in Bursa Malaysia as at 25 June 2014.

Furthermore, the most of the AGL disclosures are from industrial industry (i.e. Pelikan International Corporation Berhad, BTM Resources Berhad, Atlan Holdings Berhad and D'nonce Technology Berhad), followed by constructions industry (i.e. Gamuda Berhad, IJM Corporation Berhad and YTL Corporation Berhad) and trading industry (i.e. CNI Holdings Berhad, Berjaya Corporation Berhad and UMW Holdings Berhad). The industrial industry is more likely to disclose AGL as

compared to other industries may be due to fact these companies have other companies (e.g. subsidiaries, associates or holding companies) in overseas which require them to prepare the standardize financial reporting for harmonization purposes. Thus, by disclosing AGL information might ease the process of preparing the consolidation of financial statement between holding and subsidiaries Companies.

Based on 86 company-years selected, 37% of the companies reported actuarial gains, 49% of the companies selected were disclosed actuarial losses and the remaining of 14% of the companies reported zero value in the financial statements from year 2012 until 2014. The zero figure in the financial statement may be due to over estimation of AGL in the current year.

The correlation between variables was tested to examine the relationship between dependent variable (CAAR) and independent variables (AGL, LNTA, and EPS). All the variables have less than 0.5 correlations between each variable. This means strongly weak relationship with those variables. First, it is found that AGL is a significant determinant of CAAR among other variables for Malaysian listed company from 2012 until 2014. Second, the study found that the market was significantly react towards the disclosures of actuarial losses as compared to actuarial gains disclosures. In other words, the investors and shareholders of the company may react immediately towards actuarial losses disclosures rather than actuarial gains. They are more sensitive towards actuarial losses disclosures and conservatism in making their investment decisions.

Furthermore, this study also observed that there is a positive value of AAR (i.e. average 0.011%) but insignificant on the day of the disclosures of AGL by using



CMAR. This finding indicates that the investors may consider the disclosures of AGL as a significant event due to market price reacts positively during the disclosures of AGL. Besides, the positive sign of AAR shows a good signal to investors to make decisions where they believe that the AGL disclosures may give true value of financial statements of the company even though the coefficient of CMAR is not significant on the disclosures of AGL. In addition, the finding also indicates that there are significant negative price reactions before the disclosures of AGL (i.e. day -1) and positive price reactions after the disclosures of AGL (i.e. day +1). This signs suggests that the news of AGL disclosures were already revealed before the financial year ended as the quarter reports of listed company is compulsory to be reported in Bursa Malaysia (Bursa Malaysia, 1999). It means that the investors and shareholders immediately react based on the information disclosed in the media or quarter financial statements. The CMAR coefficient shows that the disclosures of AGL are most welcomed by investors and it also indicate the existence of market price reactions towards AGL disclosures before and after the financial year ended.

Furthermore, it is also found out that the AAR for both actuarial gains and actuarial losses have positive value but not significant on the day of the disclosures of AGL. This result indicates that the market price react positively on the day of the disclosures either actuarial gains or actuarial losses. On the other hand, there are significant and negative price reactions before the disclosures of actuarial losses (i.e. day -1) but there is no significant before the disclosures of actuarial gains. This result indicates that the investors are more conservatism and react immediately toward disclosures of actuarial losses rather than disclosures of actuarial gains. This finding is consistent with Lode and Yusof (2015) who argued that market is negatively

reacted towards the disclosures of actuarial losses before the financial year ended (i.e. day -3, -8, -10). This condition happens due to information already revealed before the financial year ended. Furthermore, there are significant and positive market price reactions after the disclosures for both actuarial gains (i.e. day +1) and actuarial losses (i.e. day +1, +2 and +7). This finding indicates that both actuarial gains and actuarial losses disclosures are accepted by investors as good news since the market price react positively. Overall, the disclosures of actuarial losses are more valued by the investors as compared to actuarial gains disclosures due to actuarial losses disclosures are more likely to have positive and significant abnormal returns after the financial year ended.

Further analysis on CAAR for different window periods by using CMAR also had been conducted to assess the cumulative market price reaction before and after the disclosures of AGL. It can be observed that the prices of CAAR started to decrease a few days before the disclosures of AGL then increase drastically after the financial year ended. The most significant and positive CAAR is from day 0 until day +5 and from day 0 until day +10. Generally, the market is react quickly to the news of AGL disclosures on and after the financial year ended.

It was further observed to assess the determinants of CAAR after the announcement of AGL by using the regression statistical. The results found that only one independent variable which is AGL that has significant and negative relationship with CAAR as compared to EPS and LNTA. This result indicates that investors are more looking forward to actuarial losses disclosures rather than actuarial gains disclosures as the actuarial losses disclosures has significant negative market price reactions. However, this result is inconsistent with Lode and Yusof (2015) who

found that CAAR is not significantly related to AGL disclosures. The different findings by Lode and Yusof (2015) with this study may be due to different in value use in AGL and the number of samples.

The summary of hypothesis results is presented in Table 5.2.1 as follows;

**Table 5.2.1**  
**Result Hypotheses**

HYPOTHESES		RESULTS
H <sub>1</sub>	: The market significantly reacts toward AGL disclosures in general;	Accept the hypothesis, the market significantly react to AGL disclosures before and after the financial year ended.
H <sub>2</sub>	: The market significantly react differently between the actuarial gains disclosures and actuarial losses disclosures;	Accept the hypothesis, there is a i. negative significant reaction to actuarial losses disclosures before the financial year ended and; ii. positive significant reactions after the financial year ended for actuarial gains and actuarial losses disclosures.
H <sub>3</sub>	: The market significantly react towards AGL disclosures for different window periods; and	Accept the hypothesis, the market react significantly to AGL disclosures for different window periods after the financial year

HYPOTHESES		RESULTS
		ended.
H <sub>4</sub>	: The determinants of CAAR on AGL disclosures, size of company (LNTA) and EPS.	Partly accept the hypothesis, the determinants of CAAR is only related to AGL disclosures.

### 5.3 Theoretical and Practical Contributions of the Study

The objectives of this study are to investigate the market price reactions towards AGL disclosures and the determinants of CAAR by using efficient market theory and CMAR. This study contributes and supports the efficient market theory which assumes that market prices reflect all available information about the companies. The study found that investors use available information to predict the company share price as the market price immediately reacts to the AGL disclosures before and after the financial year ended.

Besides, this study also contributes to the existing literature on market price reactions toward pension accounting disclosures. The investors found that the disclosures of AGL is react positively on the financial year end and this positive signal of AAR shows a good signal to investors to make decisions where they believe that the AGL disclosures may give true value of financial statements of the company even though the coefficient of CMAR is not significant on the financial year ended.

Therefore, these findings are consistent and support the efficient market theory which indicates that market price reacts to information in month zero, but begin to anticipate the good news or bad news in earning (Ball and Brown, 1968). Besides,

the market price immediately reacts to the arrival of new information and all relevant information in an efficient capital market. Thus, this study contributes to efficient market theory by disclosing the relevant and available information about the market price reactions to the investors.

In addition, the practical implications of this study is to the accountants by documenting the current corporate disclosures of pension accounting disclosures especially AGL disclosures. This study finds that most AGL disclosures are from industrial industry (i.e. Pelikan International Corporation Berhad, BTM Resources Berhad, Atlan Holdings Berhad and D'nonce Technology Berhad), followed by constructions sector (i.e. Gamuda Berhad, IJM Corporation Berhad and YTL Corporation Berhad) and trading industry (i.e. CNI Holdings Berhad, Berjaya Corporation Berhad and UMW Holdings Berhad). The industrial industry is more likely to disclose AGL as compared to other industries may be due to fact these companies have other companies (e.g. subsidiaries, associates or holding companies) in overseas which require them to prepare the standardize financial reporting for harmonization purposes. Thus, by disclosing AGL information might ease the process of preparing the consolidation of financial statement between Holding and Subsidiaries Company.

Besides, this findings may be useful to the relevant bodies for example MASB in deciding the details format of pension accounting disclosures especially on AGL disclosures (e.g. discount rates, zero AGL etc.). This is because different company disclosed different format and items of disclosures in which may lead to earning management.

Furthermore, another practical contributions of the study to academicians, corporate companies, authority (i.e. Bursa Malaysia) and users of accounting information of current corporate disclosures particularly on AGL disclosures. The finding shows that there is a negative reaction of CAAR before the financial year ended of AGL as the information has been spread before the financial year ended. However, the positive market price reaction on and after the financial year ended indicates that the announcement is most welcomed by the investors. Besides, the finding indicates that the actuarial losses are more likely to have significant market price reaction as compared to actuarial gains. It indicates that the investor and shareholder of the company may react immediately towards actuarial losses disclosures rather than actuarial gains. This may indicates that the investors seem to be conservatism in making their investment decisions. In addition, the study found significant negative relationship between CAAR and AGL disclosures. This finding indicates that investors are more looking for actuarial losses disclosures rather than actuarial gains disclosures where the actuarial losses disclosures give significant negative market price reactions. Therefore, it helps the users especially investor to make right decisions.

Lastly, this study encourages the academicians and researchers to test market price reactions towards AGL disclosures with bigger samples selected and longer periods as well as to test other variables in order to determine the CAAR.

#### **5.4 Limitations of the Study and Suggestions for Future Research**

This study provides the evidence as follows: first, the market price reflects information available; and second, the determinant of CAAR. However, there are limitations of this study. Firstly, there are other accounting disclosures that may

influence the market price reactions during the announcement period (e.g. restructure of company, CEO turnover, assets valuation, dividends declared etc.). Secondly, this finding should be interpreted with caution as limited observations are used for the market price reaction analysis and determinants of CAAR. A large sample and different variables would probably give different results.

## **5.5 Conclusion**

The objectives of this study to examine the market price reactions towards AGL disclosures and the determinants of CAAR by using CMAR and efficient market theory. The study was conducted on 86 company-years for Malaysian public listed companies who disclosed AGL in annual report in year 2012 until 2014. This study focuses on the market price reactions over narrow window around the disclosures of AGL. Market price is used to gain significant insight into companies and how these AGL disclosures are associated with market price of the company.

The finding indicates that there is a negative reaction of CAAR before the financial year end of AGL disclosures as the information has been spread before the financial year ended. However, the positive market price reaction on and after the financial year ended indicates that the announcement is most welcomed by the investors. Besides, the actuarial losses disclosures are more likely to have significant market price reaction as compared to actuarial gains disclosures.

In addition, the study also found significant negative relationship between CAAR and AGL disclosures. This finding indicates that investors are more looking for actuarial losses disclosures rather than actuarial gains disclosures where the actuarial losses disclosures lead to significant negative market price reactions. However, this result is inconsistent with Lode and Yusof (2015) who found that CAAR is not

significantly related to AGL disclosures. The different findings by Lode and Yusof (2015) may be due to value use in AGL and the number of samples. Therefore, this study provides that Malaysia stock market is behave efficiently in which market price react to the AGL disclosures. Thus, help investors to make investment decisions





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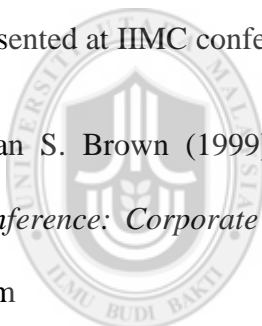
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