

**The impact of regulatory and statutory requirements on audit fees of  
JSE-listed companies**

**Gerhardus Johan Joubert, B.Com**

**Mini-dissertation submitted in partial fulfilment of the requirements for  
the degree Master of Business Administration at the Potchefstroom  
campus of the North-West University**

**Supervisor: Prof. J.P.S. Pretorius**

**November 2006**

---

## **ACKNOWLEDGEMENTS:**

Firstly, I would like to express my gratitude to my Creator God Almighty, for giving me the ability, persistence and the energy to complete this dissertation.

Secondly, I would like to extend my gratitude to the following people who have made a contribution towards the successful completion of this dissertation: (i) my study leader, Prof. J.P.S. Pretorius, for his guidance, assistance, support, time and patience; (ii) my family, for their continuous support and motivation, and (iii) my employer, Ernst & Young for their support throughout my studies.

Thirdly, I would like to thank Mrs Antoinette Bisschoff, for her contribution in editing this dissertation.

## **ABSTRACT**

The market for audit services has dramatically changed over the last couple of years and quality is more of a driver than ever before. Audits are, and will continue to be, driven by new regulatory actions and international changes in accounting standards. There has been a convergence of different standards into one set of global standards that are being adopted by most countries worldwide.

The introduction of more robust professional standards, legislation and regulation had a significant impact on the audit profession, which came in the wake of corporate and audit failures and resulted in negative perceptions about auditors and the profession as a whole.

The purpose of the research is to determine whether a correlation exists between audit costs and company specific financial variables and to identify and quantify the impact of recent changes in regulatory and statutory requirements on audit fees. The intention is to understand the impact the above has on audit fees, if any, and to apply this understanding in fee discussions in future. Primary and secondary forces impacting on the profession will be identified in this study as ancillary objectives.

The study embraced the following aspects:

- A literature study of the international environment
- A literature study of the local environment
- Empirical research by means of multiple regression analysis

The findings of the literature study were used to identify crucial aspects of the impact of statutory and regulatory requirements in the audit fees of JSE listed companies. The results have shown that the impact was significant and that the international market also experienced this impact. The changes to the accounting and auditing standards have unquestionably had an influence on audit fees of JSE listed companies as well as companies listed on the main bourses of the world. The literature study revealed that the transition to the new standards will have and have had a colossal impact locally and globally. An accurate assessment will be possible in the post-mortem and the financial impact should also be measurable in the 2006/07 reporting cycle.

---

The empirical study endorsed the use of a multiple regression model to analyse audit fees of companies. It has confirmed findings from earlier research and proved that regression analysis can be used in different countries and on different exchanges to determine whether a correlation exists between audit costs and company specific financial variables. The researcher found that the multiple regression model held to a 100% significance and is of the opinion that it can be used in future to forecast and determine audit fees. It also validates that the growth in audit fees is expected and should not be surprising.

The method of multiple regression analysis to model audit fees in the South African environment can contribute a considerable amount to the overall understanding and interpretation of audit fees for both auditors and audit clients. The researcher is of the opinion that the application of such a model in practice will assist in agreeing on audit fees that are reasonable, recoverable and sustainable. The multiple regression analysis and regression model has not convinced the author that a "one-size-fits-all" approach is the route to take. Every audit is unique and should be approached in this manner. The application of a regression model can assist in providing guidelines for audit fees.

Audit fees have been a contentious issue for many years and will continue to be a debatable topic in future. The perception that audit firms are charging too high fees and are realising abnormal profits will continue to exist. The plea from audit firms to their clients to help improve the recovery on audit engagements will also be pervasive in future. The market forces at play, such as new pronouncements, skills shortages and globalisation will further exacerbate the pressures on audit fees.

## CONTENTS

<b>CHAPTER 1: Background and rationale.....</b>	<b>1</b>
1.1 Introduction.....	1
1.2 Problem definition.....	4
1.3 Objectives of the study.....	5
1.3.1 Research questions to be addressed .....	5
1.3.2 Hypothesis.....	6
1.4 Research methodology.....	6
1.4.1 Literature study .....	6
1.4.2 Empirical study .....	7
1.4.3 Scope and progress of the study .....	7
1.4.4 Conclusion.....	8
<b>2 CHAPTER 2: Literature Study .....</b>	<b>9</b>
2.1 Introduction .....	9
2.2 Modelling of audit fees.....	9
2.3 Seminal work by Dan Simunic.....	10
2.3.1 The four common variables.....	11
2.3.1.1 Audited company's size .....	11
2.3.1.2 Complexity of the audited company .....	11
2.3.1.3 Audit risk .....	12
2.3.1.4 Size of the audit firm.....	12
2.3.2 Simunic and the competitiveness of the market.....	13
2.3.3 Results and interpretation of Simunic's research study .....	14
2.4 What research reveals about audit fees.....	17
2.4.1 Audit fees vary .....	17
2.4.2 Big 6 "premiums".....	17
2.4.3 "Abnormal" audit profits.....	18
2.4.4 Client risk considerations .....	18
2.4.5 Initial fee discounts .....	18
2.4.6 Non-audit services fee effects .....	19
2.4.7 Independence concerns.....	20
2.4.8 Comparability.....	20
2.4.9 Theory and methodology.....	21
2.4.10 Data .....	21
2.4.11 Implications and directions.....	21
2.5 Auditor and industry differences.....	22
2.5.1 Size .....	23
2.5.2 Complexity.....	23
2.5.3 Industry differences.....	24
2.5.4 Auditor differences as an explanation for variability in audit fees.....	24
2.5.5 Summary .....	25
2.6 The plural nature of risk.....	25
2.6.1 Risk defined.....	26
2.6.1.1 Business risk .....	26

## CONTENTS (continued)

2.6.1.2	Audit risk .....	26
2.6.2	Conclusions from this study.....	27
<b>2.7</b>	<b>Summary of audit fee modelling theory.....</b>	<b>28</b>
<b>2.8</b>	<b>New pronouncements.....</b>	<b>29</b>
2.8.1	Introduction.....	29
2.8.2	The impact of the Sarbanes-Oxley Act.....	31
2.8.3	The skills shortage in the global market.....	36
2.8.4	Changes to accounting standards.....	37
2.8.5	Evaluating your auditors.....	40
2.8.6	Independence.....	43
2.8.7	Big four versus second tier firms.....	45
2.8.8	Conclusion.....	48
<b>3</b>	<b>Chapter 3: Literature study of South African circumstances.....</b>	<b>49</b>
<b>3.1</b>	<b>Introduction.....</b>	<b>49</b>
<b>3.2</b>	<b>Factors and requirements unique to the RSA circumstances.....</b>	<b>50</b>
3.2.1	Accounting and auditing standards.....	50
3.2.2	The Companies Act, 61 of 1973.....	52
3.2.3	Johannesburg (Stock Exchange) Securities Exchange (of South Africa).....	54
3.2.4	Corporate governance.....	57
3.2.4.1	The King code.....	57
3.2.4.2	King II.....	58
3.2.5	The Audit Professions Act, 26 of 2005.....	59
3.2.6	Political and economic environment.....	61
3.2.6.1	Transformation and broad-based Black Economic Empowerment.....	62
<b>3.3</b>	<b>The skills shortage in the local market.....</b>	<b>67</b>
<b>3.4</b>	<b>Conclusion.....</b>	<b>69</b>
<b>4</b>	<b>Chapter 4: Empirical Study.....</b>	<b>71</b>
<b>4.1</b>	<b>Introduction.....</b>	<b>71</b>
<b>4.2</b>	<b>Objectives of empirical investigation.....</b>	<b>71</b>
<b>4.3</b>	<b>Data.....</b>	<b>72</b>
<b>4.4</b>	<b>Methodology.....</b>	<b>73</b>
4.4.1	Variables.....	74
4.4.1.1	Audited company's size – variable (ASSETS).....	74
4.4.1.2	Complexity of audited company – variable (SUBS).....	74
4.4.1.3	Financial distress of the audit company – variables (FINDIS & PRF).....	74
4.4.1.4	Audit risk – variables (RECV & INV).....	76
4.4.1.5	Size of the audit firm – variable (AUD).....	76
4.4.2	Choice of independent variables.....	77
4.4.2.1	Test for multicollinearity.....	77
4.4.2.2	Testing for auto correlation.....	77
<b>4.5</b>	<b>Analysis of the data.....</b>	<b>78</b>
4.5.1	The multiple linear regression function.....	78

## CONTENTS (continued)

4.5.2	Independent analysis of chosen variables .....	80
4.5.2.1	Tests for multicollinearity .....	80
4.5.2.2	Test for autocorrelation.....	87
4.5.3	Multiple linear regression analysis.....	91
<b>4.6</b>	<b>Factors impacting on the audit fees of JSE listed companies.....</b>	<b>93</b>
4.6.1.1	Impact of new regulatory and statutory requirements .....	95
4.6.1.2	Other factors with potential impact.....	96
<b>4.7</b>	<b>Conclusion .....</b>	<b>96</b>
<b>5</b>	<b>Chapter 5: Summary, limitations and implications .....</b>	<b>98</b>
<b>5.1</b>	<b>Introduction.....</b>	<b>98</b>
<b>5.2</b>	<b>Summary .....</b>	<b>98</b>
5.2.1	To identify and quantify the impact of recent regulatory and statutory requirements on the audit fees of JSE-listed companies.....	98
5.2.2	To determine if statistically significant trends and /or correlations exist between audit fees of JSE listed companies and company specific financial variables.....	100
5.2.3	Hypothesis.....	101
<b>5.3</b>	<b>Limitations.....</b>	<b>101</b>
<b>5.4</b>	<b>Recommendation.....</b>	<b>102</b>
<b>5.5</b>	<b>Future research.....</b>	<b>103</b>
<b>5.6</b>	<b>Conclusion .....</b>	<b>103</b>
<b>6</b>	<b>REFERENCES.....</b>	<b>105</b>

## LIST OF TABLES

Table 2.1 Increase in audit costs per market capitalisation 2002 – 2004 .....	33
Table 2.2 New work for the auditor.....	39
Table 3.1 BEE value and volumes (1995 - 2004) .....	66
Table 4.1 Distribution of companies .....	73
Table 4.2 Analysis of independent variables to audit fees for 2004 .....	85
Table 4.3 Analysis of independent variables to audit fees for 2005 .....	86
Table 4.4 Analysis of audit fees to assets for 2004 & 2005 .....	87
Table 4.5 Tests for autocorrelation between independent variables for 2004 .....	88
Table 4.6 Tests for autocorrelation between independent variables for 2005 .....	90
Table 4.7 Multiple linear regression analysis for 2004 .....	91
Table 4.8 Multiple regression function for 2004 .....	92
Table 4.9 Multiple linear regression analysis for 2005 .....	92
Table 4.10 Multiple regression function for 2005 .....	92
Table 4.11 Increase in actual audit fees in R'000s from 2004 to 2005.....	94

## LIST OF FIGURES

Figure 4.1 Distribution of the log transformed fees of sample companies.....	79
Figure 4.2 Scattergram of audit fees vs. assets for 2004 & 2005.....	81
Figure 4.3 Scattergram of audit fees vs. subsidiaries for 2004 & 2005 .....	81
Figure 4.4 Scattergram of audit fees vs. financial distress for 2004 & 2005.....	82
Figure 4.5 Scattergram of audit fees vs. profit asset ratio for 2004 & 2005.....	83
Figure 4.6 Scattergram of audit fees vs. inventory ratio for 2004 & 2005.....	84
Figure 4.7 Scattergram of audit fees vs. debtors ratio for 2004 & 2005 .....	84
Figure 4.8 Scattergram of audit fees vs. auditor size for 2004 & 2005.....	85
Figure 4.9 Log of audit fees plotted for 2004 & 2005 .....	94
Figure 4.10 Graphical display of forecasted impact on audit fees .....	95

## LIST OF ABBREVIATIONS

ASSETS	Total year-end assets
BEE	Black Economic Empowerment
BFA	Bureau of Financial Analysis
CEB	Corporate Executive Board
CPE	Continuing Professional Education
EU	European Union
FTSE	Financial Times Stock Exchange
GAAP	Generally Accepted Accounting Practices
GAO	General Accounting Office of the United States
IAASB	International Assurance and Advisory Board
IASB	International Accounting Standard Board
ICAEW	Institute of Chartered Accountants in England and Wales
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
INV	Ratio of Inventory to Total Assets
IoD	Institute of Directors
IRBA	Independent Regulators Board for Auditors
ISA	International Standards on Auditing
ISAE	International Standards on Assurance Engagements
ISQC	International Standards on Quality Control
ISRE	International Standards on Review Engagements
ISRS	International Standards on Related Services
JSE	Johannesburg Stock Exchange
NYSE	New York Stock Exchange
PAAB	Public Accountants' and Auditors' Board
PCAOB	Public Company Accounting Oversight Board
RECV	Ratio of Receivable to Total Assets
SA GAAP	South African Generally Accepted Accounting Practices
SACOB	South African Chamber of Commerce
SAICA	South African Institute for Chartered Accountants
SEC	Securities and Exchange Commission
SOA	Sarbanes-Oxley Act
SUBS	Number of subsidiaries
USGAAP	United States Generally Accepted Accounting Practices

# CHAPTER 1: Background and rationale

## 1.1 Introduction

The market for audit services has dramatically changed in recent years and quality is more of a driver than ever before. The reason and motivation for the change is not a result of one incident as many would like to believe, but rather a number of events impacting on the accounting industry. It stretches from a convergence of different standards into one set of global standards (Hourquebie, 2004:58), a series of corporate financial scandals, various cases of client misconduct in recent years and of course the collapse of a big five player in Arthur Andersen. Ultimately audits are, and will continue to be, driven by new regulatory actions, changes to international standards of accounting, changes to auditing standards, increased demand for high quality financial reporting and the availability and cost of professional resources.

The introduction of more robust professional standards, legislation and regulation had a significant impact on the audit profession, which came in the wake of corporate and audit failures and resulted in negative perceptions about auditors and the profession as whole.

The International Assurance and Advisory Standards Board (IAASB) released a new series of standards over the last two years to bridge the gap between the expectations of business, the public and the responsibility of auditors. These standards are not only applicable to companies, but all audits irrespective of the form of the business, and mean that auditors have to respond to ensure that they can continue to provide high quality service.

Traditionally companies throughout the world have produced their financial statements and all other statements of business entities according to local Generally Accepted Accounting Practices (GAAP) prevailing in their country. This has inevitably led to a great deal of inconsistency in the way that companies in different countries report their financial performance. For this reason the International Accounting Standard Board (IASB) developed common standards which are known as International Financial Reporting Standards (IFRS). IFRS aims to increase the consistency of financial reporting and enable greater comparability of companies across countries (Anon., 2006a:1).

Globally there are now two principal reporting platforms, namely US Generally Accepted Accounting Principles (USGAAP) and International Financial Reporting Standards (IFRS). Numerous countries, including those in the European Union (EU), Australia and South Africa have adopted IFRS as the platform to which they will conform. In South Africa SA GAAP has been aligned to IFRS, but has since started to introduce IFRS, thus all South African companies and those in Europe were required to convert to IFRS.

South African companies transitioned to IFRS to ensure that financial statements were more comparable globally. According to Sir David Tweedie, member of the IASB, the body which is responsible for setting global accounting standards, the goal is to create one single set of accounting standards that can be applied anywhere in the world. This will save millions for firms with more than one listing and will also allow investors to compare the performance of businesses across geographic boundaries for the first time (Tweedie, 2004b). Adoption of international accounting and auditing standards thus means that an auditor's report on a set of financial statements for a South African based business can be interpreted and understood in the same way anywhere in the world because the principles applied are the same. Companies registered with the US Securities Exchange Commission or subsidiaries thereof have to comply with additional requirements imposed by the Public Company Accounting Oversight Board (PCAOB), established in terms of the US Sarbanes-Oxley Act (SOA). This means auditors will also need to report in terms of the requirements of the PCAOB and on management's compliance with the provisions of SOA. O'Flaherty and Sehoole (2005:3) is of the opinion that this could be very onerous and time-consuming.

The result of the more robust requirements briefly referred to above, is an increase in time to complete an audit and therefore an increase in audit fees. The market's expectation and that of other role players like the South African Chamber of Commerce (SACOB), the South African Institute of Chartered Accountants (SAICA), the Institute of Directors (IoD) and the Public Accountants' and Auditors' Board (PAAB), now the Independent Regulators Board for Auditors (IRBA), are that audit fees could increase significantly depending on the impact that changes have on an entity. A more in-depth review on these changes will be done during the literature study.

The new standards have an immediate effect on the amount of additional audit effort now required and the accompanying cost increase (Austin, 2004:62). Companies have complained about soaring costs associated with the new statutory and regulatory requirements and its provisions on internal controls, which are supposed to ensure good accounting and detect fraud. A survey conducted by the Corporate Executive Board (CEB) indicated that the Big Four accounting firms have doubled their audit fees with US clients because of work mandated by the Sarbanes-Oxley legislation (AccountancyAge.com, 2005a). The survey, carried out by the CEB, found that the 43 companies questioned spent an average of between \$5m and \$8m to comply with the legislation in 2004. The business environment has also become progressively more challenging and audit firms have to ensure they remain up to date to meet their audit responsibilities. Similar trends are experienced in the rest of the global environment.

High levels of uncertainty for both clients and auditors regarding audit costs prevailed in 2004. These levels of uncertainty continued in 2005 and will be driven by the factors mentioned above in future. At the same time clients and the marketplace as a whole will be asking for predictability, transparency and clarity with regard to audit fees. The author is of the opinion that companies want to understand the circumstances that are causing the increase in audit fees and need assistance from audit firms and the profession in reaching conclusions as to the appropriateness and fairness of audit fees.

The increases in audit fees as a result of the recent changes are two-tiered:

- Once-off, e.g. for first-time adoption of new standards
- Annuity - where the change forces an increase in hours to perform the audit on an ongoing basis.

Contrary to popular belief, audit firms do not make these rules and guidelines, but have to comply with them. It is imperative for business to be aware of and understand the significant increase in the workload of auditors, the audit procedures performed and the impact on audit cost. It is important to note that the impact is not limited to the cost of large audit firms only, and the new requirements apply to all assurance engagements, irrespective of the size or nature of the entity being audited (O'Flaherty & Sehoole, 2005:3).

## 1.2 Problem definition

Audit pricing has long been a topic of interest for regulatory and statutory authorities, clients of audit firms, academic researchers and the public. Numerous studies of audit pricing have been conducted since the seminal work of Simunic (1980:162); other studies include Palmrose (1986:108), Gerrard et al (1994:3), Jubb et al (1996:25), Chou and Lee (2005:424), most of them triggered by concerns about the existence of competition among auditors, accusations of monopolizing the market for audits by big firms, predatory pricing techniques and the appropriateness and fairness of audit fees.

Assurance services provided by audit firms were viewed as a commodity item by audit clients and increased pricing techniques such as "low-balling", cross-subsidising of audit work from non-audit / consulting fees, and created an even more distorted picture of fair fees. "Low-balling" according to Diacon et al (2002:1) is the practice whereby auditors charge initial engagement fees below cost in order to obtain business.

This picture has changed dramatically with the introduction of the new pronouncements, with more external and internal factors now playing a role in determining the audit cost. These changes have led to an increase in quality and risk management in audit firms and additional scope in audit engagements has focussed the world's attention on accounting standards and the role of the auditors (Association of British Insurers, 2005:2). The diminishing opportunity to cross-subsidise audit work from non-audit fees may mean that audit fees would have to rise. However, this would be a price worth paying to prevent a repetition of a collapse as damaging and expensive to so many people as that of Enron (Association of British Insurers, 2005:6). Audit clients want to understand the forces that are driving audit hours, the need to staff gearing and the increased cost of doing business.

If institutional shareholders want to ensure that company accounts are properly audited, they must be prepared to sanction appropriate fees (Association of British Insurers, 2005:5). It may well be that audit fees should increase as standards are tightened. Shareholders should support this if it leads to higher quality audits and

reduces the temptation for audit firms to raise additional revenue through non-audit services.

Although the focus is on regulatory and statutory requirements the research topic will also allow for a more in-depth analysis of secondary factors like corporate governance, globalisation, the economic and political environment, black empowerment and transformation initiatives, and skills shortage in the global and local market.

Researching the impact of recent statutory and regulatory pronouncements on audit fees cannot be done properly if the influence of changes in various financial variables of the audited company and the auditor are not taken into account. For this reason the following financial variables will be used in a statistical model to ascertain their influence on audit fees (Simunic 1980:187):

- Audited company size
- Complexity of the audited company
- Audit risk
- Size of the audit firm

Successful application of such a model may also help to clarify uncertainty for both clients and auditors regarding audit costs.

### **1.3 Objectives of the study**

The purpose of the research is (a) to identify and quantify the impact of recent changes in regulatory and statutory requirements on audit fees of JSE listed companies, and (b) to determine whether a correlation exists between audit costs and company specific financial variables. The intention is to understand the impact the above has on audit fees, if any, and to apply this understanding in fee discussions in future.

#### **1.3.1 Research questions to be addressed**

Do regulatory and statutory requirements have an impact on the audit fees of JSE-listed companies?

Do statistically significant trends and / or correlations exist between audit fees of JSE-listed companies and company financial variables?

### **1.3.2 Hypothesis**

Statistically significant trends and / or correlations exist between audit costs and financial variables of JSE-listed companies and regulatory and statutory requirements have an increasing impact on audit fees.

## **1.4 Research methodology**

Research will consist of both literature and empirical work. The literature study will research the work of earlier studies in this field to ascertain the progress and success of similar attempts. The literature study will not only focus on historical events and research models, but will also research the impact of recent changes in the auditing and accounting environment. The empirical study will focus on the South African environment and will attempt to build a multiple regression model to determine the audit fees of JSE listed companies. The empirical study will also attempt to explain the research questions mentioned above.

### **1.4.1 Literature study**

There are several areas which need to be researched to determine the impact of recent changes on audit costs. These areas include but are not limited to:

- Earlier research studies in the modelling of audit fees
- Regulatory requirements
- Statutory requirements
- Corporate governance
- Competitive nature of the profession
- Complexity of the business environment
- Availability of skilled resources
- Globalisation
- Black Economic Empowerment (BEE)
- Political environment

- Skills shortage

### **1.4.2 Empirical study**

The research population will consist of a sample cross-section of JSE-listed companies. Standardised annual financial statements will be used to compare the audit fees of listed companies and to identify significant trends between audit fees and company specific financial variables.

Audit fees will be compared to key financial variables of JSE listed companies and used in a regression model to determine if a trend / correlation exists. Data for the period 2004 and 2005 will be considered for this exercise. The classification of companies into different financial markets and industry focus groups will assist with the comparison of data.

The proposed method of statistical inference may include statistical modelling, variance analysis (constant or non-constant) and simulation models.

### **1.4.3 Scope and progress of the study**

#### **Chapter 1: Introduction**

- The first chapter aims to present problem regarding audit pricing and the impact of regulatory and statutory requirements on listed companies.
- The purpose, scope and method of research are clarified.

#### **Chapter 2: Literature study: Modelling of audit fees and the international market**

- In this chapter the earlier research on audit fee modelling will be considered to identify the scope of the topic research.
- The common variables used in earlier research will be examined and compared across different studies.
- The new pronouncements and the impact thereof on the global market will be considered.

### **Chapter 3: Literature study: South African specific requirements and factors**

- This chapter will comprise of a study, discussion and impact assessment of the local requirements.
- The requirements of new accounting and auditing standards will be considered.
- The prerequisites of the Companies Act (61/1973) will be discussed.
- The impact of other statutory and regulatory requirements will be assessed to determine the impact it has on audit fees in the local market.
- Consideration will be given to the South African environment and the unique challenges it faces with regards to skills, transformation and economic activities.

### **Chapter 4: Empirical study: Research methodology and results**

- This chapter provides a description of the research methodology, the objectives of the empirical investigation, and the method of investigation.
- The results obtained from the empirical study will be discussed in this chapter.

### **Chapter 5: Conclusion and recommendations**

- Conclusions
- Recommendations regarding the impact of regulatory and statutory requirements on audit fees are made based on the results of the empirical investigation.

#### **1.4.4 Conclusion**

The auditing and accounting professions worldwide have definitely moved on from the Enron and WorldCom debacles in the United States a few years ago (Hourquebie, 2004:57). This study will research the modelling of audit fees and the impact new pronouncements have on audit fees.

## **2 CHAPTER 2: Literature Study**

### **2.1 Introduction**

The most significant impact on the auditing profession in recent years has been the introduction of more robust professional standards and new statutory and regulatory requirements which were introduced in the wake of corporate and audit failures. This has created a negative perception surrounding auditors, the reputation of accounting firms and the fees they charge for their services (O'Flaherty & Sehoole, 2005:1).

The literature study will focus on research and publications before and since the introduction of regulatory and statutory changes to identify the impact of the new requirements since the introduction of these pronouncements. The new regulatory and statutory requirements came into effect as early as 2003 in the global environment, with transition dates and compliance deadlines for countries such as South Africa for financial years starting on or after 1 January 2005 (Anon, 2006b:1).

Research and other studies done by academics have resulted in a large amount of published material, and have shown that there are numerous factors impacting on audit fees. Several studies by academic researchers and others have accumulated a large amount of research material. From this material one can reach several conclusions: it is thus inevitable for different schools of thought to exist, as will be seen from the discussions below.

### **2.2 Modelling of audit fees**

There have been numerous attempts at modelling audit pricing over the years; these included Simunic (1980:163), Palmrose (1986:108), Gerrard et al (1994:3), Jubb et al (1996:25), Chou and Lee (2005:424) and many others. These models provided explanations for the level and variability of audit fees. Most of them used cross-section data to estimate their research, but despite variation in the measure used, all the models have included as explanatory variables four measures. They were:

- Size of the audited company
- Complexity of the audited company

- Risk of doing the audit
- Size of the auditing firm

However, all of these variables change through time and cross-section models do not allow the time necessary for changes in the time-dependant explanatory variables to have an impact on the dependent variable. This suggests adjustments take place immediately so that the relation specified by the cross-section models is always in equilibrium; this is clearly not true in reality. To allow for time lag in the adjustment of the dependant variable, a better alternative is to pool the cross-section data with time-series data and specify the audit pricing model in a dynamic form, which contains a lag structure (Chou & Lee, 2005:424).

The research methods in most of the abovementioned studies focussed on the modelling of audit fees while trying to establish the reason for variances in audit fees by identifying the determinant factors.

The literature is widely seen as both rigorous and having some policy implications for audit practice (Gerrard et al, 1994:3). Some of these are:

- The understanding of explanatory variables of audit fees;
- Assistance in explaining and understanding the market for audit services;
- Explaining the behaviour which occurs with audit tendering, and the behaviour of and operation of competitors within an audit market; and
- Explaining the role of particular variables in the setting of audit fees.

### **2.3 Seminal work by Dan Simunic**

The work of Dan Simunic (1980:161) is referred to and studied as it is generally held as the original academic research in the area of audit pricing models.

The general form of the audit fee model developed by Simunic (1980:187), with some modifications, is as follows:

Audit Fee = f (audited company's size, complexity of audited company, audit risk, size of the audit firm).

### **2.3.1 The four common variables**

The four variables, most commonly used in audit fee modelling, have to be fully understood and defined as it is the foundation of regression models used to explain the variation in audit fees.

#### **2.3.1.1 Audited company's size**

Many still believe that size matters in evaluating a listed company, and this is normally done by comparing market capitalisation of different companies. The market capitalisation is based on the market value of all fully paid and issued ordinary shares. However, in most studies it was found that the most significant variable in determining audit fees is the total assets of a company (Simunic, 1980:172). The auditee size is commonly measured by total assets, which have been found to be the most explanatory variable in determining audit fees in all previous studies (Chou & Lee, 2005:425). The variable is usually expressed in logarithmic form. In this dissertation I will also use total assets to measure the size of the auditee; the transformation to logarithmic form will be explained in the empirical study in Chapter 4.

#### **2.3.1.2 Complexity of the audited company**

It is generally very difficult to measure the complexity of the audited company, or even to assign a value to it for comparison purposes. The measures used in previous studies were the number of subsidiaries, the proportion of subsidiaries that are foreign, the number of industries in which the company operates, and the asset composition. (Chou & Lee, 2005:425) The number of industries in which a company operates has been found to be insignificant in most of the previous studies, while asset composition, specifically inventories and receivables, might involve more work than others. Simunic (1980:172) measured decentralisation by the number of consolidated subsidiaries which are included in the auditee's financial statements. Although the number of subsidiaries has been found to have low explanatory value it will be tested in this dissertation. I will use the number of subsidiaries as indicated in the annual financial statements of the audited company.

### **2.3.1.3 Audit risk**

Audit firms have a higher risk of liability for losses attributable to misrepresentation of financials for clients with higher financial risk. In these high risk environments, audit firms are generally required to do more extensive testing. It is therefore expected that audit fees will be higher where high risk companies are involved. According to Chou & Lee (2005:425) such measures were tested in only a few previous studies, and were found to be insignificant - they did not test for it in their research. The measure used in previous studies included profitability, the existence of accounting losses in previous years and audit qualification. Simunic (1980:173) included receivables and inventories in his research as they were both deemed as "risky" balance sheet components, which could potentially involve greater loss exposure. In this research study the same ratio variables as Simunic (1980:173) will be tested: receivables to total assets, and inventories to total assets, to test their explanatory value in determining audit fees. It is important to note that the research conducted by Jubb et al (1996:25) qualified the "plural" nature of risk where they focussed on audit risk and business risk. This will be discussed in more detail in paragraph 2.6 of this chapter.

### **2.3.1.4 Size of the audit firm**

Not all fee variability is related to differences in client characteristics. Studies have consistently shown that the big audit firms charge higher fees (Turpen, 1995). Previous researchers have speculated that this could be attributable to higher quality audit service, or the perception thereof. The measure for auditor size in previous studies were done through a dummy variable (0, 1), where the variable is coded 1 if the audit firm is a member of the first tier of audit firms (Big 8 or Big 6), otherwise coded 0. Chou & Lee (2005:425) did not test for auditor size as almost all companies included in their study used a then Big 5 auditor. Their reasoning was that the lack of variation in this variable would result in an insignificant finding.

The size of the audit firm in this dissertation will be tested and measured by a (0, 1) variable, where the variable is coded 1 if the audit firm is one of the Big 4 audit firms; if not, it will be coded 0.

The four variables of the general audit pricing model have been used with much success in modelling of audit fees over the last 25 years. Researchers used the model to focus on specific areas such as:

- The competitiveness of the market for audit services;
- The impact of audit risk and business risk on audit fees;
- The impact of industry and auditor differences on audit fees

The research studies by Simunic (1980:163), Turpen (1995:1), Gerrard et al (1994:3) and Jubb et al (1996:25) are considered as a particularly valuable introduction to the study of audit fees and the next few pages are used to explain their methods and findings. This will create a foundation for this research on the topic of audit fees.

### **2.3.2 Simunic and the competitiveness of the market**

The question of the existence of competition among auditors has been the subject of considerable discussion, as far back as 1980. This is evident from the research by Dan Simunic (1980:161)

Simunic provided evidence from a test of the hypothesis that price competition prevails throughout the market for audits of publicly held companies, irrespective of the share of the market segment which was serviced by the then Big 8 firms. His evidence was based on an examination of a sample cross-section of audit fees (Simunic, 1980:161). He describes audit fees as a product of unit price and the quantity of audit services demanded by the company. For this reason cross-sectional differences in fees can represent either the effect of quantity or price differences. He had to build a positive model by which audit fees could be determined to test the competitiveness of the audit industry.

Simunic further considered the external audit as a subsystem of a company's overall financial reporting system. This follows from the work of Demski and Swieringa cited by Simunic (1980:162) Audit services were viewed as an economic good to the company, which had substitutes and complements in consumption. Thus the quantity of auditing demanded by a company will result from a conventional equalization of marginal private benefits and costs. Simunic hypothesised that the potential legal liability of a company and auditor to financial statement users drives the design of external financial reporting systems. Thus, the benefits are in the nature of liability

avoidance. Logically this holds substance as it would be natural for both auditor and auditee to avoid risk, even today.

The identification of a competitive benchmark was a second requirement to test the competition in the audit market. From Weiss, cited by Simunic (1980:162), the typical approach was to make cross-sectional industry comparisons of the market structure with performance. In such studies, industries with low supplier concentration served as a benchmark. In Simunic's research the test for competition is an intra-industry comparison of prices, where the competitive benchmark is the market segment for small audits. In his research an intra-industry comparison was possible because the market dominance of Big 8 firms increased significantly with the size of audited companies. He assumed that price competition prevailed in the sub market for the audits of small companies and tested for the effect of increased Big 8 concentration on prices paid by large audited companies (Simunic, 1980:162). This is an alternative approach to Chou and Lee (2005:425); their study had very little variation in auditor size.

Simunic discussed sources of variation in liability loss exposure across audit engagements with a number of Big 8 representatives and with representatives writing professional liability insurance coverage for accountants (Simunic, 1980:171). From the discussion held, the following general factors were identified as determinants of loss exposure:

- The size of the audited company;
- The complexity of the audit company's operations;
- Auditing problems associated with certain financial statement components, especially inventories and receivables;
- The industry of the audited company; and
- Whether the audited company is a publicly or closely held company.

### **2.3.3 Results and interpretation of Simunic's research study**

The selection of specific aspects of the environment as control variables follows from the hypothesis that avoidance of third-party liability losses motivates the design of the audited companies' control systems. The variables are amongst others, total year

end assets (ASSETS), decentralisation and diversification of the reporting entity (SUBS), receivables (RECV) and inventories (INV). This will be discussed in more detail during the empirical study in chapter 4. Based on the fact that all variables in this group are statistically significant determinants of audit fees, it supports the descriptive validity of this hypothesis with respect to the external audit component of the system. The same variables were far less successful in explaining cross-sectional variation in internal audit costs. The latter result may indicate either that liability avoidance is not a primary motivator in the design of internal control systems, or the presence of significant measurement problems. Although further research in this problem was considered necessary, the overall results reported in the research did not support a rejection of the hypothesis that liability avoidance drives the design of financial reporting systems (Simunic, 1980:187).

Control variables for differences in the assessed loss-sharing ratio represented alternative measures of an audited company's financial distress. Simunic used three variables to control for cross sectional differences arising from an audited company's financial distress. He used the accounting rate of return of the company in the current year. This is the ratio of net income to total assets at year-end. Simunic also noted that rate of return measures have been found useful in bankruptcy studies for discriminating between "failed" and "non-failed" firms, quoted from independent studies by Beaver (1968:179) and Altman (1968:589) as quoted by Simunic (1980:189). Simunic further used a control (0, 1) variable if an audited company had incurred a net loss during any one of the current or two prior fiscal years, where 1 represented a loss. Lastly, he used another (0, 1) control variable to identify those companies that received a qualified audit opinion in the current year (Simunic, 1980:187).

Simunic (1980:174) noted that there has been, essentially, no previous research in the area of auditor production functions and sources of production economies. This refers to the learning curve of the incumbent auditors and potential of scale of economies over a period of time, which is expected to generate savings for both parties; auditor and audited company. The control variable (TIME) was included to measure the number of years a company has used its current auditor. The fact that audit fees were not found to vary systematically with TIME could indicate either that learning effects were "swamped" by the interference in a cross-section, or that auditors pursue multi-period pricing policies, in that they average the expected cost

reduction of learning over time. With such policies, learning effects could not be observed in fee data.

The test of competition for both large and small audited companies and the observations in total, coefficients were not significantly different from zero. Thus the hypothesis that price competition prevailed throughout the market for audits of publicly held companies could not be rejected (Simunic, 1980:189). The results suggested that Big 8 firms enjoyed scale economies which are passed on as lower prices to audited companies. This was obviously an important issue which deserved further research. It will not be researched in this study.

The significantly positive coefficient of one auditor relative to another, in his research sample, may represent a price difference paid by audited companies for a differentiated service. A specific auditor may possess some utility-bearing characteristics to audited companies which command a positive implicit price in the market (Simunic, 1980:188).

Simunic found that the ambiguity of the relationship between auditors, audited companies and external financial statement users impeded the ability to understand audit services. This follows from the fact that auditors are exhorted in their codes of ethics to be independent and objective, yet they are hired and compensated by their clients, the audited company (Simunic, 1980:188). The independence aspect will be discussed in more detail later in this chapter, as part of the new regulatory and statutory requirements. It is, however, an interesting concept which should be explored in future; an independent body that is responsible for payment of audit fees to auditors could be interesting.

Finally, the failure to reject the hypothesis that price competition prevailed throughout the market for audits of publicly held companies, suggests that observed differences in Big 8 concentration across the market may be essentially irrelevant. Concentration statistics by themselves cannot support the allegation that Big 8 firms were monopolizing the market for audit services (Simunic, 1980:189).

It is thus evident from the research of Simunic that a positive correlation exists between the size of the audited company, the risk associated with the audit of such a company, the complexity of the environment and the size of the audit firm. The competitiveness of the market and concentration of big audit firms in the market

could not be proved to be monopolised by them. Statistically significant trends were observed between key financial variables such as total assets, and ratios such as receivables to total assets and inventory to total assets. These correlations will be tested in the South African environment in Chapter 4.

## **2.4 What research reveals about audit fees**

The research by Turpen (1990:60) identified several broad and generalised conclusions, for which contradictory results exist. The variables used by Turpen to study the varying nature of audit fees are consistent with those used by Simunic (1980:163), but with a slightly different approach. Turpen began with the end result, and worked it back to the root cause.

### **2.4.1 Audit fees vary**

This is explained by client attributes associated with audit effort and risk. Variables such as client size, complexity and industry were consistently reported as having explanatory power. Large diversified companies with extensive receivables and inventories, for example, pay higher fees, while companies in heavily regulated industries like financial institutions; incur lower audit costs on the other hand. Some believe that the presence of strong regulatory requirements in these industries increased the internal control, which in turn reduced the relative audit effort that is required, leading to lower audit service fees. These variables have been incorporated into audit fee models with varying degrees of success. Significant factors reported in regression analysis were exposure to auditor risk and companies experiencing financial difficulties (Turpen, 1995:1).

### **2.4.2 Big 6 “premiums”**

Studies showed that Big 6 audit firms consistently charged higher fees. Some researchers have speculated that larger firms may be able to provide a higher quality audit, or at least the perception of a higher quality audit. Despite many attempts, researchers have generally been unable to demonstrate with consistency any differences in quality between Big 6 audits and those performed by other auditing firms (Turpen, 1995:1). In Chapter 4 of this dissertation the explanatory value of Big 4 auditors versus non-Big 4 auditors will be measured.

### **2.4.3 “Abnormal” audit profits**

Regression results across numerous studies would be expected to show a fairly consistent relationship between audit fees and the factors influencing the cost of performing the audit, if audit prices were truly competitive. Research would likely be reporting large percentages of unexplained variability in audit fee regressions if auditors were earning abnormally high profits, but this has generally not been the case. Researchers have been relatively successful in using regression analysis to model audit fees, leading them to conclude that audits are very competitively priced. Fees may in fact be too low, as suggested by research using various measures of client risk (Turpen, 1995:2).

### **2.4.4 Client risk considerations**

There is still considerable debate whether a general association of audit fees with client-related risk factors are as strong as they should be. Researchers have often been unable to obtain statistically significant results for measures they believe are indicative of high-risk clients. In some areas consistent research results seem to be exactly the opposite (Turpen, 1995:2). According to Turpen (1995:2), the relatively lower fees paid by financial institutions is a good illustration of this phenomenon. Turpen (1995:2) also suggests that from the explosive increase in litigation and audit failures arising from bank and thrift audits in recent years it is thought that auditors would charge companies higher fees to compensate for the greater risk inherent in financial institutions.

### **2.4.5 Initial fee discounts**

Pricing techniques in the new client market have been an area of concern for some time. Researchers have found evidence of decreasing audit fees of companies that switch auditors. Audit firms seem to engage in price-cutting behaviour in an attempt to increase their market share; this phenomenon is known as “low-balling”. The tendering firm in such a scenario will price its audit much lower than the incumbent to secure the new work. The discount offered to the client only appears to persist for the first two years, after which prices return to their normal levels, or, in some cases,

higher levels to recover the initial fee discount (Turpen, 1995:2). There are allegations that firms sometimes offer relatively low fees for the first year of an audit, with the expectation of recovering the initial loss in subsequent years (Simon & Francis, 1988:255). Based on the research it appears that price cutting systematically occurs and is economically significant. The results are consistent with "low-balling" predictions from De Angelo (1981:113). Price cutting behaviour between audit firms was pervasive in the 1990s. This period was renowned for the increase in consultative and non-audit work which subsidised the discounted audit work. It is the opinion of the author that it is the last the market will see of this behaviour for a while. Audit firms are likely to go to market and attempt to recover as much of their cost on any work they perform. This can be done on the back of recent changes to compliance requirements and the intense focus on audit quality.

#### **2.4.6 Non-audit services fee effects**

Providing non-audit services to audit clients has largely been eliminated by new regulation, but it is still important to take note of the impact this phenomenon had had in the past. According to Turpen (1995:2), a number of researchers reported that audit clients who also received non-audit services from their auditors paid relatively higher audit fees. This obviously raised a number of intriguing questions as some non-audit services have audit implications, such as systems design or modification, which could create the need for additional audit effort, while on the other hand, it is expected to create economies of scale or cost savings by performing joint services. The impact of non-audit services could also be linked to the recurrence of such services. Analysis in this area indicated that competition for recurring engagements helped to keep service fees low, while the lack of comparable competition for non-recurring services allowed auditors to charge higher prices (Turpen, 1995:2).

With the introduction of new statutory and regulatory requirements, audit firms are not allowed to provide non-audit services to existing audit clients. Title II of SOA concerns auditor independence. Section 201 specifies a list of services that registered auditors are prohibited from providing to audit clients (Baker, 2005:6). The market has been divided into two segments from the auditing firm's point of view. The market has essentially been divided into a split between Channel 1 and Channel 2 clients and services. (Where Channel 1 represents audit services to audit clients and Channel 2 represents non-audit services to non-audit clients.)

### **2.4.7 Independence concerns**

Turpen (1995:3) found that from the available studies conducted at that stage, little evidence of any widespread independence problems existed where audit firms provided audit clients with non-audit services. Studies of the disclosures formerly required by the Securities and Exchange Commission (SEC) under ASR250 suggest that while auditor-provided non-audit services may not pose any actual independence problems, they may nevertheless create the perception of problems.

As with Simunic's (1980:162) research, Turpen (1995:1) found that there were inherent problems in performing research on this topic, and that all findings were best regarded as tentative. In the case of fee studies he found that the difficulties involved three main issues. They were:

- A lack of comparability across the body of research;
- The use of questionable theories and methodologies;
- An absence of data about auditors' cost.

According to Turpen (1990:3), these limitations prevented researchers from drawing definitive conclusions.

### **2.4.8 Comparability**

According to Turpen (1995:3) no two pricing studies used the same companies or even the same populations, making comparisons of results difficult. While regression analysis provided some control over differences in corporate characteristics, researchers rarely defined the underlying variables in the same way. Thus, the value of the results reported were very much dependant upon the judgement of the person who performed the research. Turpen (1995:3) suggested that this seems to be the situation in most research studies on audit fees; they are done at different times on different sets.

## **2.4.9 Theory and methodology**

Most fee research relied on traditional economic theories that focused on selling of products rather than selling of services. The literature in selling of services was much less developed than that of products. These theories typically adopt the perspective of the buyer (audited company), while the market for public accounting services is a combination of both demand and supply (buyer and seller). Turpen (1995:3) referred to the phenomenon where clients choose auditors, but it must be kept in mind that auditors also selectively target clients to improve market share or strengthen their credentials. He suggested that even with the right theory, truly random samples of fee data were rarely available, and underlying statistical assumptions were often unavoidably violated.

### **2.4.10 Data**

Perhaps the most serious problem with studies of accounting fees was the data itself. Turpen (1995:3) suggests that across auditors, and even in the same audit firm, billing practices may differ; as a result, the interpretation of fee analysis is open to debate. Without access to data on auditors' costs and realization rates, the researcher's ability to provide insights into these concerns may indeed be limited. Real concerns about the controversies surrounding auditor competition focus on the tension between performance and profitability, and thus many question whether any inferences should be drawn from fee research at all.

### **2.4.11 Implications and directions**

Practitioners could provide invaluable assistance to researchers by allowing them access to internal client data on billing rates, staff hours, and realized fees. However, most accountants are reluctant to divulge this kind of proprietary information, even on a limited basis (Turpen, 1995:3).

With the profession now being asked to take on even more responsibility for detecting errors, finding fraud and assessing internal control, an obvious question arises: Can audit firms afford to assume the increased risk associated with these expanded duties and are clients willing to pay for them? The expanded duties are not

self-imposed by auditing firms, it is governed by independent bodies such as IFAC, IASB and IAASB; auditors have to comply with the standards these bodies set.

Major research findings by Richard Turpen (1995:4) were:

- The size of the audit fee is largely explained by client characteristics associated with audit effort and audit risk.
- Companies appear to be willing to pay a premium for audits performed by Big Six firms, while there is no distinguishable difference in quality.
- Auditors do not appear to earn "abnormally" high or "excess" profits on audit engagements.
- Auditors may not fully adjust audit fees to reflect underlying client risk.
- Auditors discount the fees they charge new audit clients.
- Clients who receive non-audit services from their auditors seem to pay higher audit fees.
- Auditor-provided non-audit services appear to have generated no independence problems, but the perception of problems may still linger.

The research findings from Turpen (1995:4) are closely linked to that of Simunic (1980:189). In both studies they have found that audit risk and effort are determinants of the audit fee. Simunic (1980:189) could not reject the hypothesis that price competition prevailed throughout the market, while Turpen (1995:4) suggests that audit firms do not appear to earn excess profits on audit engagements, which is indicative of a competitive market. The empirical study in chapter 4 of this mini-dissertation will analyse the impact on JSE listed companies.

## **2.5 Auditor and industry differences**

Australian based research by Gerrard et al (1994:4) examined and explained the variability of the external audit fee, the impact of the internal audit function on audit fees, the role of industry differences and the impact of different suppliers of audit services, in other words, audit firms. As expected, their research was based on similar variables and functions to Simunic (1980:163) and Turpen (1995:1), and attempted to model audit fee variability.

To explain the variability in the level of audit fees charged by auditors, it is necessary to determine the factors causing this. Theory indicates that there are a number of factors which can influence this level, and they are both basic, obvious and well understood, while some are more intangible or subtle (Gerrard et al, 1994:4). Some factors are not related to the audited company, but rather the auditor providing the service. According to Gerrard et al (1994:4), the conventional theory is that the two primary variables which influence the audit fee are those which relate to the audited company's size and the complexity of the audit.

The principle variables used in their research will be briefly explained below.

### **2.5.1 Size**

Findings from previous studies conducted in this area show that the size of the client is expected to influence audit fees. It was found that as client size increased, the audit fees increased. The rationale for this being: as the size of the company increases, then, all other things being equal, the auditor will perform more work to ensure adequate compliance and substantive testing. It is important to note that this is not a linear relationship, thus the audit fee will increase at a decreasing rate as a result of economies of scale on the auditors' part (Gerrard et al, 1994:4). They also suggest that providing the market for audit services is at least partially competitive; these economies of scale will be passed back to the audited company as a non-linear increase in audit fees.

### **2.5.2 Complexity**

As with size, the expectation is that, as complexity increases, so does the audit fee (Gerrard et al, 1994:4). The rationale for this being that as the company becomes more complex, more time and effort must be spent by the auditor in planning, coordinating and executing the audit function. It is expected that economies of scale will also prevail in this instance. Audit fees are affected by the coordination and complexity of the engagement. One aspect of this coordination, according to Palmrose (1986:100) is the number of different client locations requiring on-site visits by the auditors.

Measuring the complexity of the company has proved to be extraordinarily difficult, and in most cases the measures are unobservable. In the research by Gerrard et al (1994:4) they used the legal and organisational structure of the company. The measure was based on the number of companies operating within the group, defined as subsidiaries. This is consistent with the method used in previous studies, such as Simunic, (1980) and Palmrose (1986).

Other variables with explanatory value, similar to those in earlier research conducted by Simunic and Turpen were also researched by Gerrard et al. They are briefly explained below.

### **2.5.3 Industry differences**

According to Gerrard et al (1994:7) the differences in auditing firms in different industries have, by and large been ignored as a possible explanation for variability in most previous literature and modelling of fees. The exact nature and direction of these differences have not been developed theoretically, although it is acknowledge that there are differences in the auditing of particular industries. According to Palmrose (1986:101) the effects may be attributed, at least in part, to differences in risk from an audit standpoint as well as differences in audit requirements among industries. This requires further research, but will not be empirically tested or addressed in this dissertation.

### **2.5.4 Auditor differences as an explanation for variability in audit fees**

The variability in audit fees as a result of using different auditors has been investigated in previous studies, and has suggested that there is a systematic difference between the fees charged by first and second tier audit firms. Some argued this is a quality premium paid to be audited by a first tier firm; this is similar to findings or perceptions raised by Turpen (1990). Gerrard et al (1994:7) found that this was not significant in their study of the group of companies, and that it was inconsistent with the study of Francis & Stokes (1986:383), which was also based on Australian data. The two obvious explanations for the difference were; the company sample selection and the period and nature of the data (Gerrard et al, 1994:8). It is

important to note the impact that time and sample size can have on such research; it has been raised as a limitation before.

### **2.5.5 Summary**

Gerrard et al (1994:9) found that the two principal variables were size and complexity. They have also found marked differences between industries and particular audit firms. The role of internal audit was not seen as a significant determining factor for audit fees in their study.

In their study, regression modelling was found to be sensitive to the presence of multi-co-linearity between variables, and therefore they used the principal component analysis to minimise the association between variables (Gerrard et al, 1994:10).

It was also found that the market for audit services may reflect differences in geographic regions and over time. The market for audit services may also differ between the sample of large listed companies and other segments of the audit market, with different levels of concentration of first and second tier auditors (Gerrard et al, 1994:10).

Their study suggested that there is a need for future research in the work of understanding the presence of the internal audit function and its relationship to external audit fees, as well as the industry differences existing in the market for audit services. Neither the internal audit function nor industry differences will be tested in this dissertation, but it is recommended for future research as it is expected to have a significant impact on determining audit fees.

## **2.6 The plural nature of risk**

The relevance of risk as an audit fee determinant has been acknowledged in research conducted by Simunic (1980:173) and Turpen (1995:2). Most models in earlier studies have posited theoretically and supported empirically the view that there is a positive relationship between some concept of risk and audit fees (Jubb et al, 1996:25). That is, as audit risk increases so too does the fee for audit services charged by auditors. Jubb et al (1996:25) felt that the risk concept has been ill-

defined in earlier studies, and as a result, major differences have existed between researchers as to the perceptions of risk and the way in which it has been measured. This made it difficult to compare the various models in the different studies.

The theoretical justification for a plural approach to deal with risk in audit fee models was conducted in Australia by Jubb et al (1996:25). The purpose of their study was to categorise the most commonly used risk measures in auditing as to “business risk” or “auditor risk” and then propose and test a fee model, which includes variables appropriate to each risk aspect.

## **2.6.1 Risk defined**

According to Jubb et al (1996:25), risk is composed of two distinct but related concepts: “audit risk” and “business risk”. As with the earlier models and theories, the use of multiple variables in modelling of audit fees is increasing. These studies include measure for size, complexity and risk.

Jubb et al (1996:25) defined the two different types of risk, as explained briefly below.

### **2.6.1.1 Business risk**

This is the risk related to the business of managing the audit firm and is defined as “the probability that an auditor will suffer loss or injury in his professional practice”. This could be through sanctions by external regulators, lawsuits, reputation damage and possible loss of clients or not realizing the audit fee (Jubb et al, 1996:26).

### **2.6.1.2 Audit risk**

This is the likelihood that an auditor will render an inappropriate opinion on a company’s financial statements (Jubb et al, 1996:25). A major component of business risk for audit firms is client-specific “audit risk” itself and so, as audit risk increases so too does business risk increase. This is because the auditor’s business risk is closely related to one of the components in the audit risk model, the audited company’s inherent risk (Jubb et al, 1996:25).

According to Jubb et al (1996:26), auditor business risk and the audited company's audit risk is difficult to measure. This is because data in relation to the audit firm is difficult to gather since financial statements are not publicly available for partnership structures, such as audit firms. No audit fee study has thus attempted to achieve a direct measure of auditor "business risk" Jubb et al (1996:26). In their study, "business risk" relates to the audited company's business risk.

## **2.6.2 Conclusions from this study**

Most previous audit fee studies have adequately captured the plural nature of risk. Jubb et al (1996:36) were concerned about recent trends towards more simplistic models. They warned researchers to take care from eliminating variables to the extent that one or the other of the risk dimensions is also eliminated from audit fee models.

They have also found the financial distress variable used in their study, proved to be only weakly significant as a determinant of audit fees. The exact nature of this, developed by Houghton & Smith (quoted by Jubb et al, 1996:36), cannot be disclosed because of the proprietary rights held by the Western Australia Corporate Affairs Commission. According to Jubb et al (1996:36), a possible explanation lies in the possibility that audit firms may charge lower fees to distressed clients.

Several studies have found associations between audit fees and industry types. These include Simunic (1980:173), Palmrose (1986:101) and others. Jubb et al (1996:37) reasons that this might arise as a result of a differing nature of regulation in different industries, or because of different risk levels associated with particular industries. Despite acknowledgement in the literature that industry plays a role in audit fee determinants, the limited evidence available regarding the significance of industry is mixed and inconclusive. Examination of industry differences and the impact of audit fees, especially of the value of using a multivariate model developed distress score as a measure of risk, awaits further research using data more representative of various industry groupings.

## 2.7 Summary of audit fee modelling theory

From the literature research it is apparent that there are statistically significant trends between audit fees and financial variables of audited companies. The literature review of Simunic (1980:161), Turpen (1995:1), Gerrard et al (1994:3) and Jubb et al (1996:26) to model audit fees through variance analysis and linear regression confirms this.

The most common variable used in all previous research to explain the variation in audit fees (FEES) is 'audited company size', normally measured as total assets (ASSETS). The correlation between ASSETS and FEES in all earlier attempts has been proved to be positive and strong. In other words, the audit fee is expected to increase, as the total assets of the audit company increases. It is important to note that this is not a linear relationship, and therefore it is expected to increase at a decreasing rate. If linear regression is used to model this relationship, transformation of the data is required; for this, the logarithmic method is typically used. This will be explained in more detail during the empirical study in Chapter 4.

Other variables used in earlier studies have been found to have explanatory value, but not nearly as strong as that of ASSETS. It is the opinion of the author that two variables worth mentioning are complexity and audit risk. Complexity (SUBS), measured as the number of subsidiaries of the audited company has proved to be positively correlated to audit fees, with various degrees of strength, refer to the discussion in paragraphs 2.3.1.2 and 2.5.2 Audit risk, measured as a ratio of inventory to total assets (INV), and receivables to total assets (RECV) also proved to be positively correlated to audit fees, with various degrees of strength, refer to the discussion in paragraphs 2.3.1.3; 2.4.4 and 2.6.1.

The explanatory value of the audit firms' size (AUDSIZE), measured by using a dummy variable (0, 1) in most previous studies, has not proved to be significant in most cases. Thus the conclusion by Simunic (1980:189) and Turpen (1995:5) that competition prevails in the market for audit services, and that audit firms do not earn abnormally high fees for their services.

The literature research provides evidence from real life examples that statistical significant correlations exist between audit fees and financial variables. This will be tested in the South African environment for JSE listed companies in Chapter 4.

## **2.8 New pronouncements**

### **2.8.1 Introduction**

As the world continues to globalise, the discussion of convergence of national and international standards has increased significantly. Forces of globalisation prompt more and more countries to open their doors to foreign investment and as businesses themselves expand across borders, both the public and private sectors are increasingly recognising benefits of having a commonly understood financial reporting framework supported by strong globally accepted standards (Wong, 2004:1). These new pronouncements have increased the level and cost of compliance across the board. The same rules now apply to small, medium and large companies, irrespective of the nature of their business (O'Flaherty & Sehoole, 2005:3)

According to Wong (2004:1), there are numerous benefits of a global financial reporting framework. They include the following:

- Greater comparability of financial information for investors;
- Greater willingness on the part of investors to invest across borders;
- Lower cost of capital;
- More efficient allocation of resources; and
- Higher economic growth.

Globally accepted international standards which are consistent and uniform, provides cost-efficiencies to businesses and greater safeguards to the public; this is required in the wake of recent corporate scandals and audit failures. The public is entitled to have confidence that, regardless of where a business activity occurs, the same high quality standards were applied (Wong, 2004:4). New regulatory requirements are driven by two forces in the opinion of the researcher; they are: rebuilding the trust of the public and the continuous move to globalisation.

The International Assurance and Advisory Standards Board (IAASB) released a new series of standards over the last two years to bridge the gap between the expectations of business, the public and the responsibility of auditors. These changes mean that audit firms have to respond to the wave of new and updated standards, legislation and increased regulation in the private and public sectors, to

ensure that they can continue to provide high quality service (O'Flaherty & Sehoole, 2005:1).

In most countries, many or even all entities are required by national law or regulation to prepare financial statements that conform to a required set of generally accepted accounting principles, and for these financial statements to be audited in accordance with a required set of generally accepted auditing standards (Wong, 2004:16).

According to Wong (2004:15), key concerns with regard to the relevancy of the international standards to small and medium sized companies and accounting firms are:

- Length and complexity of international reporting standards;
- Cost of compliance with IFRS versus benefits obtained;
- Inconsistent application of the international standards;
- Perceived focus on large-entity issues and;
- Lack of sufficient small and medium sized entity and accounting firm representation on the international standard-setting boards.

The changes in regulatory and statutory requirements are expected to have a significant impact on audit fees and the cost of doing business for both clients and auditors. The impact of these changes is discussed in more detail below.

An early look at 2004 audit fees indicated that 23 of the 30 companies used to calculate the Dow Jones Industrial Average saw their auditing bills rise about 40 percent, to a total of \$533 million. The increase over 2003 is nearly twice as much as the percentage change in audit fees paid by the same companies in 2003 when compared with 2002 (Taub, 2005).

In addition, the average statutory audit fees for the FTSE100 rose by an underlying 15% to £3.26m, the highest level in almost 10 years, while the average audit sign-off time rose by one day to 60 days from year-end. The rise follows a 12% jump from the previous year. In 1997, the average FTSE-100 audit fee was £1.95m. The rise in audit fees does not only indicate that audit is a lucrative business but reveals more. It tells us that business, in spending more money, are placing more importance on their audits. This comes with good reason in the wake of the avalanche of new regulations

following corporate failures; there is more interest than ever in giving the accounts a clean bill of health (Hinks, 2006).

Commentators have suggested that the boom enjoyed by the accounting firms in 2005 signalled a peak in the audit market, but senior figures in the Big Four were confident that audit revenues would not fall. PWC chairman Kieran Poynter said the audit fee windfall of 2005 would become a stable source of income over the coming years. He said that Sarbanes-Oxley is an annual cycle of what companies are going to have to go through and there will be recurring work from revised IFRS implementation (Neveling, 2006).

It is obvious that the changes have had a significant impact on audit fees when one considers the reports above. The major contributing factors will now be identified and discussed in more detail.

## **2.8.2 The impact of the Sarbanes-Oxley Act**

The series of business failures that began with Enron in late 2001 exposed serious flaws in the public company financial reporting. The Congress of the United States of America responded to these failures and perceived weaknesses by adopting the Sarbanes-Oxley Act.

The Sarbanes-Oxley Act of 2002 (SOA), officially titled the Public Company Accounting Reform and Investor Protection Act of 2002, is an act passed by the Congress of the United States to protect investors from the possibility of fraudulent accounting activities by corporations. This act is commonly called SOX or Sarbox, and is considered to be the most significant change to federal security laws in the United States since the New Deal. The New Deal is the programs and policies introduced in the 1930s, during the depression, by President Franklin D. Roosevelt to promote economic recovery and social reform in the United States. The Sarbox Act was designed to review dated legislative audit requirements, with the goal to protect investors by improving the accuracy and reliability of corporate disclosures. The Act covers issues such as establishing a Public Company Accounting Oversight Board (PCAOB), auditor independence, corporate responsibility and enhanced financial disclosure (Womble Carlyle, 2004).

The Sarbanes-Oxley Act imposed new duties on corporate officials and subjected auditors to discipline from an independent panel. Analysts say the law has induced executives to pay more attention to financial data and promoted board members and accounting firms to take their work more seriously. Three years after Congress passed a strict corporate-accountability measure, designed to make it harder to defraud investors about corporate financial health, companies are experiencing higher audit fees and increased turnover amongst financial executives (Johnson, 2005a). Sarbox compliance appears to increase the test of controls and management systems at every level. It can be concluded that this will increase reliance on internal processes once they have been tested and approved; the question is how much it will cost to comply and maintain this.

Many believe there is an inverse relationship between the benefits of Sarbanes-Oxley mandated requirements and their costs. It is believed that there are benefits for investors in such relatively low-cost requirements as CEO and CFO certifications, but the benefits of such high-cost requirements as Section 404 compliance are minor (Accountancy Age, 2005b). The reasoning for this is that compliance with Sarbanes-Oxley basically documents existing procedures. Sarbanes-Oxley deserves some of the credit for restoring investor confidence in audit financial statements, which was sorely weakened by financial reporting scandals such as Enron and WorldCom (Accountancy Age, 2005b).

The actual cost of Sarbanes-Oxley compliance, which largely reflects Section 404 implementation, and the resulting increase in audit and other costs are huge. Foley & Lardner LLP recently calculated average audit fees for S&P Small-Cap, and Mid-Cap and S&P500 companies in the fiscal years 2001 through 2004, refer to table 2.1. The average audit fees of public companies between 2003 and 2004 increased dramatically (Hartman, 2006). Market capitalisation is a measurement of corporate size that refers to the current stock price times the number of outstanding shares. While there are no strong definitions for market cap categorizations, a few terms are frequently used to group companies by capitalization. In the U.S., companies and stocks are often categorized by the following approximate market capitalization values:

- Small-cap: market cap below US\$1 billion;
- Mid-cap: market cap between US\$1 billion and US\$5 billion; and
- Large-cap: market cap exceeds US\$5 billion.

**Table 2.1 Increase in audit costs per market capitalisation 2002 – 2004**

	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>
<b>Market Cap</b>	(% increase)	(% increase)	(% increase)
<b>S&amp;P Small Cap</b>	33%	22%	98%
<b>S&amp;P Mid-Cap</b>	39%	21%	92%
<b>S&amp;P 500</b>	35%	21%	56%
<b>All</b>	36%	21%	63%

(Source: Adopted from Hartman, 2006)

It is obvious from the data in table 2.1 that the impact of Sarbanes-Oxley on the average audit fees of Standard & Poor's index companies has been substantial.

Implementation of, and compliance with the Sarbanes-Oxley Act has been the centre of numerous debates and is still a very controversial topic. This is evident from the extracts below.

- Sarbanes-Oxley Act (SOA) mandated work has resulted in the big four accounting partnerships doubling their audit fees. The Corporate Executive Board (CEB), found that in their survey of 43 companies, the fees of PWC rose by 134%, KPMG by 109%, Ernst & Young by 96% and Deloitte by 78% (Accountancy Age, 2005a)
- Audit fees were originally forecast to rise between 20 to 30 percent in early 2004, though that forecast had risen to 50 percent by the middle of the year (Business Continuity Online, 2005).
- The SEC has come under immense pressure on the Section 404 piece of Sarbanes-Oxley regulation simply because it increases the cost of regulation by unthinkable sums. According to William Donaldson, Chief of the Securities and Exchange Commission, that now notorious piece of regulation, section 404, would see a further delay in implementation while UK and European companies work out just how to handle it (Accountancy Age, 2005c)
- A PWC spokesperson told the Financial Times that they believe the overall audit fee increase is in the 80% to 100% range, with significant variation

depending on the specific client and the complexity of the work. (Accountancy Age, 2005a).

- Lastminute.com withdrew its listing in the United States because it was costing more than £1m a year, while AstraZeneca's CFO, Jon Symonds, has let Accountancy Age know that regulation is costing his company tens of millions. BT Group chairman, Sir Christopher Bland, rather grumpily revealed that listing in the United States was costing £10m a year. He added, they've gone too far and it is money not well spent (Accountancy Age, 2005c).

Over the past year, major gaming companies silently paid out millions of dollars to auditors and other consulting companies, thanks to new corporate accounting rules imposed by the Sarbanes-Oxley Act of 2002 (Benston, 2005). Riviera is in a unique situation: the company's market capitalisation soared to US\$280 million at June 30, 2005 from about US\$33 million a year ago. This was triggered in part by land price speculation among condominium developers along the "Strip" in Las Vegas. The basic threshold for compliance is for companies with a market capitalisation of US\$75 million or more, based on their "public float", or shares available on the open market. Riviera paid about US\$270,000 in auditing fees related to SOA in the second quarter. The CFO of Riviera, Duane Krohn estimates the company may end up paying close to US\$900,000 in auditing costs, compared to the regular fees of less than US\$300,000 in 2004. According to Krohn, the SOA is widely misunderstood by the accounting firms and creates an added layer of bureaucracy that is reaping millions for consultants who are essentially performing duplicate tasks.

Neal Wolkoff, the chief executive of the American Stock Exchange, which caters to smaller companies, had a similar argument in a letter to the Wall Street Journal recently. He criticised the "one size fits all" approach of the regulation and said it is not suited for small companies, which generally have less complicated financial statements and large insider ownership (Benston, 2005).

Investor advocates believe that this is not necessarily a bad thing as prices of audits declined precipitously in the 1990's as accounting firms slashed audit fees to compete for more lucrative consulting business. Higher fees also mean auditors are better vetting financial statements (Johnson, 2005a).

To many, it seemed that the cure offered by SOA would be more deadly than the disease (Simonson, 2005). In many instances it appears that management is spending more time to make sure their business is SOX compliant, and are not focussing on making profits for the owners or shareholders. It could be argued that compliance will set the scene for more profitable companies, but this is yet to be proven, in my opinion. Costs associated with Sarbanes-Oxley compliance is perceived to be higher than initially anticipated. The high cost of compliance throughout implementation year could be attributed to the sharp increase in hours charged per audit engagement. Auditors may have been overly harsh in applying auditing guidelines; however, non-compliance comes with an even higher cost in terms of stiffer penalties and jail sentences.

A Boston Business Journal analysis of 27 public companies in Massachusetts shows their auditing costs spiked 26% in 2005, bringing their total increase to 103% since SOX became effective in 2004. In total, the group spent \$56.6 million on SOX and related auditing costs in 2005, or around 2% of their 2005 operating income. (Douglas, 2006)

To conclude on the expected impact of the Sarbanes-Oxley Act on audit fees it is evident from the extracts above that this is real and significant. In many cases it is perceived to be too stringent and has turned into a "cash cow" for audit firms. Some believe that it has achieved its goal of returning trust to the work done by audit firms. It can be concluded that it is extremely important for audit firms to regain the trust of the investor and the user of financial statements, as the foundations has been "rocked" in recent years. It is also important to note that the new regulatory requirements are not set by the audit firms. It is governed by independent regulatory bodies like the PCAOB. Audit firms must, however, comply with these requirements if they plan to stay in the profession.

It might be a high price to pay now to regain the trust of the market, but it seems like it could turn out to be much more critical and expensive if another major audit firm cease to exist, or have to go through more corporate failures as a result of no control testing.

### **2.8.3 The skills shortage in the global market**

The skills shortage in the global market is not a new experience. Blue collar trades have already been gripped by the skills shortage; now the demand for accountants is outstripping supply at local and global level (Donaldson, 2005).

The shortage of skills in the global and local markets has a direct impact on the cost of auditing; it is an issue of supply and demand. The sudden increase in demand as a result of new regulatory and statutory requirements have resulted in more top-level accountants logging long, billable hours. This dynamic is also being compounded by an overall shortage of talent across the accounting sector, as the pipeline for top-level and experienced talent was broken in the late 1990's when college graduates opted for more lucrative dot-com economy careers. Accounting firms are responding by beefing up their on-campus recruiting and internal training. (Douglas, 2006)

Business growth and compliance-related issues are fuelling demand for individuals with expertise in areas such as compliance, financial analysis and general accounting. Because of the limited supply of skilled accounting and finance professionals, employers today are offering premium compensation to attract and retain top talent (Robert Half Finance, 2006). Businesses, public companies in particular, are looking for professionals with knowledge of Securities and Exchange Commission reporting requirements to help maintain compliance with the Sarbanes-Oxley Act (SOA) and other regulatory requirements.

An increasingly competitive hiring environment is prompting public accounting firms of all sizes to make recruiting a year-round priority in areas such as audit, corporate governance, tax and risk management. To attract top performers, firms have raised salaries and are signing bonuses for new recruits and existing staff, and options such as flexible scheduling, part-time work and telecommuting have become increasingly common. (Robert Half Finance, 2006)

The shortage of skills is a worldwide phenomenon and is not limited to the U.S.A., U.K. and Europe. China is also suffering from a short supply of accountants; they have been aware of the need to train more accountants for almost a decade. A strategy was put in place by former president Jiang Zemin with the baton taken up by his former premier Zhu Rongji, who opened the China National Accounting Institute

in 2001. At the time almost every corruption case exposed involved fake accounts which had become a tumour threatening the country's economic order. The trouble is the premier identified a need for 300 000 accountants then. It still needs 300 000 accountants today. If every qualified accountant in the UK and Ireland were to move to Beijing it wouldn't plug the hole (Wild, 2005).

The severe shortage of skills in the global and local markets has a significant impact on the growth of companies and economies in both markets. The war for talent, or lately for qualified accountants, has reached new heights and it has almost become a situation where the player with the most pawns will be the winner at the end of the day. The demand for qualified accountants has reached such extreme levels that a white paper was released to identify solutions to the current skills shortage within the finance and accounting industry in Australia (Donaldson, 2005).

The skills shortage in the global market has a significant impact on the availability of qualified chartered accountants in South Africa CA (SA), which will be researched in more detail in Chapter 3.

#### **2.8.4 Changes to accounting standards**

The changes to the accounting standards came in the wake of recent corporate and audit failures. These changes aim to create one global set of accounting standards which could be interpreted and understood in the same way anywhere in the world.

The goal of IFRS is to create one single set of accounting standards that can be applied anywhere in the world, saving millions for firms with more than one listing and allowing investors to compare the performance of businesses across geographic boundaries for the first time. The standards will apply to a company's consolidated financial statements and they cover everything from mergers to leasing, revenue and accounting for employee benefits. It is also about far more disclosure than ever before (Tweedie, 2004b).

Adopting a common financial reporting language is a big step towards improving the efficiency of international capital markets. The adoption of IFRS will reduce barriers to both trade and the flow of capital. Investors will have access to more reliable

financial data to compare and analyse corporate performance in multiple jurisdictions. As issuers of securities, companies will be able to access investors more easily, potentially reduce their cost of capital, and save the costs of conforming to different requirements in different jurisdictions. Audit firms will be better able to assure quality of audits among national partner firms. Regulators will benefit from the greater consistency and quality of information. The move towards a single set of high-quality global accounting standards is not simply an arcane question of changing accounting methods. It is a change that has important practical implications. It is about building confidence; it is about lowering the cost of capital, and thus about increasing the opportunity for investment, employment and world growth (Tweedie, 2004a).

As many companies are forced or choose to move onto IFRS they are faced with issues that they are not always able to handle themselves, which may include a shortage of experienced or qualified staff to do the work involved, and a lack of technical expertise which will allow them to make the transition correctly and on time. As a result of the nature of these changes many companies are defaulting to their auditors for assistance, but one needs to consider if your auditor will be precluded from assisting because of independence issues. If independence is ignored it could result in a conflict that is costly in terms of both reputation issues and the expense of redoing the audit. The auditor cannot prepare the work which they are asked to audit and express an opinion on. Independence will be discussed in more detail later in this chapter.

The standards will apply to a company's consolidated financial statements and they cover everything from mergers to leasing, revenue and accounting for employee benefits; it is more than a tinkering around the edges. Ian Dilks, who is the PricewaterhouseCoopers partner responsible for IFRS conversion services in Britain, says: "Some companies are approaching it in the same way you approach a conversion to US GAAP to support an American listing. IFRS is seen as something extra but it isn't, it is a fundamental change to the reporting standards for UK companies, and for listed companies the change takes place overnight" (Tweedie, 2004b). If this is anything to go by, the impact of IFRS is enormous.

Scott Parker, head of financial management solutions at the consultants Atos Origin, has calculated that 3.5 million people could be affected across Europe as the

tentacles of IFRS spread out to cover all those individuals who contribute to company accounts or rely on the accounts to make decisions (Tweedie, 2004b).

The transition to IFRS will have an impact on several areas of most businesses. Ernst & Young recently circulated a document identifying some areas IFRS is likely to have an impact on (Ernst & Young, 2005b). Among them were:

- Financial accounting and reporting;
- Corporate finance and structured financial products;
- Tax planning;
- Performance indicators;
- Management reporting systems;
- Investor relations; and
- Employee and executive compensation.

The 'new' work for the auditor under the new pronouncements is still very speculative, and the impact of the additional hours on the scope of the audit is still to be experienced in South Africa, as we are now in the transition phase.

**Table 2.2 New work for the auditor**

Key Factor	Standard	Potential Cost increase (%)
Fraud and internal control	<ul style="list-style-type: none"> <li>• ISA 240 (International Standard)</li> <li>• SAS99 (US Standard)</li> <li>• SAAS240 (South African Standard)</li> </ul>	2% - 5%
Evaluating general control environment	<ul style="list-style-type: none"> <li>• ISA 315 (International Standard)</li> </ul>	2% - 4%
Significant risks	<ul style="list-style-type: none"> <li>• ISA 315 (International Standard)</li> </ul>	2% - 5%
Significant disclosures	<ul style="list-style-type: none"> <li>• ISA 500 (International Standard)</li> </ul>	1% - 2%
Limited vs. full test of controls	<ul style="list-style-type: none"> <li>• ISA 330 (International Standard)</li> </ul>	1% - 2%
Audit firm quality control	<ul style="list-style-type: none"> <li>• ISQC1 (International Standard)</li> </ul>	1% - 3%
Client continuance process		1%
Financial reporting standards	<ul style="list-style-type: none"> <li>• IFRS</li> </ul>	Varies significantly
Changes in the operating and regulatory environment	<ul style="list-style-type: none"> <li>• Regulatory requirements</li> </ul>	5% - 15%

Source: Adopted from Ernst & Young, 2005a

According to a publication released by Ernst & Young, audit costs are expected to increase by 20% – 40% in the next reporting cycle (2006/07) to comply with the new auditing and accounting standards. Table 2.2 above identifies some of the key factors that will have an impact on the cost of an audit (Ernst & Young, 2005a).

The key factors referred to in table 2.2 are indicative of the forecasted impact the new pronouncements, and more specifically governance in this instance, will have on audit costs.

An analysis conducted by both PWC and Atos does not bode well. While PWC's assessment of the readiness of companies in 16 countries found that 90% had set up an IFRS project and had begun to process the change, only 29% were fully set up and running. More worryingly, a survey of 200 EU-listed companies sponsored by Atos found that more than 25% of UK companies did not expect to be ready by early 2005, making British firms the least prepared among the respondents. The period over which this analysis was run was not available in the source document, it is expected to be 2003/04 (Tweedie, 2004b).

In my opinion the significance of changes to accounting standards, and more specifically the conversion to IFRS, is again two-tiered. We are likely to experience a huge impact on costs and demand for specific skills during the transition to report according to the new standards, and then we will have to absorb the annuity component in both costs and skills to continue compliance with these standards. Changes to the new statements and additional requirements are inevitable and are likely to sustain the costs and skills impact.

It is difficult to quantify the impact of IFRS on audit fees of companies, listed or unlisted, as the information disclosed in their annual financial statements are vague in the sense that they do not distinguish between various categories of audit fees, be it internal, external or to comply with new pronouncements.

### **2.8.5 Evaluating your auditors**

The process of evaluating auditors is primarily to improve quality and to ensure that the audit committee maintains an appropriate relationship with the company's auditors. This is significant as the appraisal of the auditor's effectiveness is not a new

phenomenon for listed companies, but the new process will change it to such an extent that it will be overtly the responsibility of the audit committee (ICAEW, 2003:2). It will be carried out annually and will probably be a more formal process than in the past.

In practice, most appointments are re-appointments and the process of putting an audit out to tender is time-consuming and costly in terms of management time. The purpose of the annual review is as much about improving audit quality, audit effectiveness and the relationship between the company and the external auditors as about the basis of the recommendation to the board. It should not be seen as a review that will only benefit the company, but should rather be an exercise that both parties could learn from.

The evaluation of auditors in future will be guided by a standard set of principles which will most probably grow as new regulatory and statutory requirements appear on the scene. The Institute of Chartered Accountants in England and Wales (ICAEW) prepared a publication to assist audit committees to gain an understanding of the provisions of the Combined Code on Corporate Governance (ICAEW, 2003:4). The Smith framework for appraisal identifies four criteria; they are:

- Qualification;
- Expertise and resources;
- Effectiveness; and
- Independence.

There are already many requirements and pronouncements applicable to auditors that cover these criteria, of which the Combined Code on Corporate Governance is an example. The requirements are drawn from a mixture of primary and secondary legislation, from the requirements of regulatory bodies and from standard setters (ICAEW, 2003:5).

Maintaining competence of expertise and resources are related to the individual and the firm as a whole. Audit firms have to assess the competence of an individual during the recruitment and annually thereafter through various interventions like technical and training updates. Institutions also require continuing professional education which may include structured course attendance and unstructured training. Training and updates need to be appropriate to the area in which these individuals

operate. If it is a highly regulated financial services environment, the training will have to be relevant to the industry (ICAEW, 2003:6). Continuing professional education (CPE) is not new and has been tried and tested in many professions. The increased focus on CPE hours per individual and the fact that this will be monitored closely in future will have a direct impact on the cost of doing business for audit firms. The author is of the opinion that this cost will ultimately be passed on to the client in the form of rate increases and justified by an increase in internal inflation of the audit firm. Since this cannot be researched yet it will receive no further attention in this study.

Audit firms need to ensure that they have both procedure and resources to maintain continuity and consistency throughout. Continuity from year to year on engagement teams is important but it is not desirable to have the same team every year from an objectivity point of view. Continuity on audit engagements are critical for both auditor and auditee, as the audit team acquire knowledge of the client which will ultimately have some bearing on the quality of their work and the cost of delivering the audit. In most cases the team does not remain static as the core team will grow in qualification and experience and invariably move to more senior levels, which will require replacement at the more junior levels. However, the most permanent member of any audit team is likely to be the partner and/or manager, as they typically are responsible for a portfolio of clients over several years.

This is probably the reason for the new requirements with regard to partner rotation on clients. Partner rotations on audits are also a new requirement. They may only serve a limited period of time as the lead audit partner on a specific engagement, followed by a quarantine period (ICAEW, 2003:6).

Effectiveness can be regarded as a composite of competence, procedural arrangements, quality control and quality assurance. A firm's procedures are contained in manuals and programmes setting out the firm's approach to audits, i.e. the methodology. The methodology has to be flexible so that it can take account of the needs of different sizes and types of companies.

The new requirement with regard to evaluation of auditors has now pushed the competitiveness in the market to a new level, as the incumbent cannot only rely on the relationship between the audit partner and the executive of the client. Partner

rotation will also have a significant impact on the retention of the client and the cost of delivering audits. It requires better succession planning on the side of the audit firm and could lead to a need for more audit partners in the short to medium term. The need for more partners will be compounded by the requirement for independent audit partners on listed entities, which will be touched on in the next topic, i.e. independence in paragraph 2.8.6.

## **2.8.6 Independence**

Auditor independence is closely linked to the Sarbanes-Oxley Act in the United States of America (U.S.A.). The Act created the PCAOB as the regulator of all accounting firms that perform audits of SEC registrants, whether U.S.A.-based or foreign. Auditors of SEC registrants must register with the PCAOB and agree to have their audit practices inspected on a regular basis by PCAOB inspectors. While the PCAOB is not a U.S.A. government agency, it operates under the SEC's oversight. In addition to registering and inspecting auditing firms, the PCAOB has also taken over responsibility for establishing auditing standards, ethical standards and independence standards.

Auditor independence has received a lot of attention in the global market in recent years. In the United States the SEC adopted a new rule prohibiting audit firms from providing non-audit services to their audit clients. The rule adopted an appearance-based standard to determine whether the auditor is independent. The rule gives four principles for determining whether an auditor is independent (Palmrose and Saul, 2001:20):

- An accountant cannot have a mutual or conflicting interest with the audit client.
- The accountant cannot audit his or her own work.
- The accountant cannot form part of management at the client or be employed by the client.
- The accountant cannot act as an advocate for the audit client.

In Britain, a comprehensive survey by the Edinburgh-based consultancy Company Reporting indicated that companies are doing a dismal job of explaining to investors how they maintain auditor independence and objectivity (Rogerson, 2005). Corporate

reporting analysis shows it is common practice for companies to make general statements to address audit independence; 72% of the companies they have analysed, did so. It appears to be little more than a box-ticking exercise to meet the code's requirements and the result is that analysts are not able to form a view as to the suitability of the policy or compare it to other companies (Rogerson, 2005).

The amounts paid to auditors for supplementary work done for their audit clients have been gently declining in the wake of the objectivity concerns raised by financial reporting scandals and corporate failures. A survey conducted by Company Reporting of 626 listed companies indicates that they are still paying far more for non-audit services such as tax and corporate finance advice than they do for audit services. The average ratio of non-audit fees to audit fees is 1.25:1 (Rogerson, 2005)

Auditing by new rules could cost up to 40% more this year due to legislative changes and changes to auditing standards. An important contributor to the increases was the onerous requirements the changes in auditing standards would place on auditors (Temkin, 2005). Some of the proposed legislative changes and new independence requirements for auditors further contributed to the expected increase in audit fees. These included requirements for engagement-partner rotation.

A seven-year rotation period is required by the code of ethics of the International Federation of Accountants (IFAC), while the proposed amendments to the Companies Act (61/1973) in SA suggest a four-year cycle. Although these requirements are specifically aimed at listed companies, some of the legislative changes could affect smaller companies to a greater extent (Temkin, 2005).

A new concept of auditor independence is required that specifically incorporates the propositions that auditors should not be advocates for their clients and management should not be able to influence the audit fee and the scope of the audit (Baker, 2005). Although this is what the public would like and what true independence is all about, it is highly unlikely that this will be achieved in reality. The interaction required between auditor and client is of such a nature, especially at a large corporate client, that the engagement team is almost considered employees at the client. In many instances the auditor, be it the manager or partner, know more about the financial state of the client than the client itself.

Independence of auditors has long been a topic of discussion, as can be seen when one researches the origins of the independence theory. Mautz and Sharaf (1961:6) referred to it in 1961, that the significance of independence in the work of the independent auditor is so well established that little justification is needed to establish this concept as one of the cornerstones in any structure of auditing theory. However, it is an ambiguous concept which has been re-interpreted many times, and there is much debate as to the appropriate level of auditor independence and how this should be achieved.

Auditor independence has not seen its last review and it is likely to become more specific in future. The list of prohibited services for auditors is likely to grow to ensure true independence. The decision to distinguish between assurance services on the one hand and advisory and management consulting services on the other hand will be more important in future.

It is less complicated to identify the various factors that have an influence on auditor independence; the complicated part is to quantify the impact. Independence will be approached from different angles, whilst it must have the same outcome it is less likely to have a one size fits all approach. Smaller firms with a lower partner count are likely to run into problems when it comes to partner rotation. The requirement for an independent partner (second reviewer) will further exacerbate this. Once this cost has been absorbed and understood by audit firms it will be included in their internal inflation calculation and passed onto clients in the form of charge-out rate increase or as part of a re-pricing strategy to bring audit fees on par with the actual cost of delivering the audit.

### **2.8.7 Big four versus second tier firms**

The Big Four firms have long enjoyed the pickings of the top listed companies on the exchanges of the world. This is clear from their dominance on the NYSE, FTSE and other European bourses. The debate over competition and choice in the audit market has been on the cards for years. Since the collapse of Arthur Andersen, one of the then big five firms, regulators have been faced with mounting concerns about reduced choices in the audit market (Perry, 2005:19).

Simmering concern shifted up a notch to heightened panic when the US Justice Department said it was considering criminal charges against KPMG, one of the world's Big Four firms, after discovering that a number of its now former US partners illegally sold abusive tax schemes to wealthy clients in the 1990s (Perry, 2005:19).

The presence of competition in the auditing and accounting environment, and the nature thereof, has been researched to the n<sup>th</sup> degree in recent years. Without failure it could not be proved that it doesn't exist, but the mere threat that the choice of audit could be further reduced to three firms auditing the world's largest companies is of great concern. Such is the worry that the UK's Department of Trade and Industry and the Financial Reporting Council, the UK accountancy industry's watchdog, spurred on by the financial community, has embarked on research aimed at understanding the reasons behind the high degree of concentration in the audit market and what can be done to move it on (Perry, 2005:19).

To further fuel this concern, Paul George, director of the new Professional Oversight Board for Accountancy under the aegis of the FRC, said that there are concerns that with the strengthening of ethical standards it makes it harder for large companies to have a choice between audit firms (Perry, 2005:19).

Interest in the matter of competition in the audit market has been heightened since the Oxera report on competition and choice in the UK audit market. The report was prepared for the Department of Trade and Industry and the Financial Reporting Council and noted that the Big Four firms account for 99% of audit fees in the FTSE-350 and audit 99 of the FTSE-100 (Perrin, 2006). Research might indicate that this is statistically true and that the Big 4 has a monopoly or stronghold on the larger listed entities, but this has to be in context. The Big 4 are the auditors for the largest entities and they compete for market share in this arena on a daily basis as would any other business, but they are backed by their size, skills, competencies and willingness to service the largest listed entities.

The very largest companies are generally seen as best suited to the Big 4. "The top 150 companies, like the largest banks and insurance companies and natural resources companies like BP, where there is such a scale required to audit them, or such specialisation in the peculiarities of that industry, are best suited to being audited by the Big 4," says Steve Maslin, head of assurance services at Grant Thornton, currently the fifth largest UK firm. However, companies above the 150

mark on the FTSE, with a market capitalisation of approximately £1bn and audit fees around £1m are regarded as the heartland for second tier firms like Grant Thornton (Perrin, 2006).

BDO recently became the only mid-tier UK firm to audit a FTSE-100 company. PartyGaming, the world's leading on-line casino, took their auditors, BDO, with them when they moved into the world of the FTSE. This did not only shake up the FTSE-100 but also the perception that only the Big Four have the resources and skills to audit the world's largest listed companies. (Perry, 2005:20). Nevertheless, there are still only seven companies with auditors other than the Big Four (Anon, 2006:32).

With the current levels of uncertainty over audit liability, the question remains whether mid-tier firms want to risk their livelihood for the sake of the acclaim that goes with a FTSE-100 audit. Phil Crooks, audit partner and assistant head of assurance at Grant Thornton, says that with the current ambiguity over auditor liability, risk is very much a concern for his firm. (Perry, 2005:20). One also needs to consider size; the difference in resources and skills between Big Four and the Group A (second tier) firms is no small matter and this is often a problem for large listed companies. The impact of a global economy and the increase in multi-national companies demands audit firms that are able to work with them across borders and in any area which they operate in. This need has been enhanced by the heightened focus on internal controls. The author is of the opinion that a global world with global companies spanning across borders will increase the requirement for auditors to deliver the same consistent high quality service in different countries.

In a study by General Accounting Office of the United States (GAO), mandated by the Sarbanes-Oxley Act of 2002, they've found that the largest audit firms have the potential for significant market power following mergers among the largest firms and the dissolution of Arthur Andersen (Anon, 2003:2). The common concentration measure used in antitrust analysis, the Hirschman-Herfindahl Index (HHI) was used in their study. The GAO found no evidence of impaired competition to date, but indicated that the significant changes that have occurred in the profession may have implications for competition and public company choice, especially in certain industries in the future. In their study the GAO observed that past behaviour may not be indicative of future behaviour as a result of the unprecedented changes occurring in the audit market. Smaller accounting firms faced significant barriers to entry such

as lack of staff, industry and technical expertise, capital formation, global reach and reputation (Anon, 2003:2)

The market for audit services in the authors' opinion has just been expanded with the new pronouncements. To be competitive in the market for audit services is a different challenge altogether as the criteria to be an auditor has just been stepped up another level. There is no healthy competition to curb/balance audit costs.

### **2.8.8 Conclusion**

The findings from earlier research on the topic of modelling of audit fees indicated that there are common variables which have significant explanatory value in determining audit fees, which was primarily tested on American and Australian companies. The common variables identified in earlier studies, with abbreviated names in this research study are:

Audited company size	: Variable (ASSETS)
Complexity	: Variable (SUBS)
Financial distress	: Variables (FINDIS & PRF)
Audit risk	: Variables (INV & RECV)
Size of audit firm	: Variables (AUD)

These variables will be tested in the South African environment in the empirical study in Chapter 4.

The literature study also identified key elements under the new pronouncements which have had an impact on the global market and are likely to have an impact on the local market. It is important to differentiate between the international and local markets, and to understand the lagging effect we experience in South Africa due to adoption dates of the new pronouncements. The changes in the international environment, and more specifically the U.S.A., should be seen as leading indicators which cannot be ignored. The bearing it will have in South Africa cannot be easily deduced from the literature study, but correlation will be observed. Chapter 3 will focus on the South African environment.

## **3 Chapter 3: Literature study of South African circumstances**

### **3.1 Introduction**

This chapter will focus on the changes to regulatory and statutory requirements in the South African context, as well as other factors impacting on the way South Africa Incorporated conducts business. The new accounting and auditing standards are both international standards. South Africa adopted the entire suite of auditing and accounting pronouncements on 1 January 2005.

There are a number of primary sources which need to be researched to determine the impact of regulatory and statutory requirements on JSE listed companies. These sources, among others, include the Companies Act (61/1973) which is currently under review, the JSE listing requirements, and naturally the accounting and auditing standards as released by the International Assurance and Advisory Standards Board (IAASB).

South Africa has to make provision for its own unique challenges that also have an influence on audit costs, such as the requirements of Corporate Governance under King II, Black Economic Empowerment (BEE), and the skills shortage in the market. All these provisions need to be considered holistically.

The following requirements and factors will be discussed in this chapter.

- Accounting & auditing standards
- Companies Act
- JSE listing requirements
- Corporate governance
- The political and economic environment
- Broad based black economic empowerment
- The skills shortage

## **3.2 Factors and requirements unique to the RSA circumstances**

The following factors and requirements each has an influence on the audit costs in South Africa. Each factor's effect will be discussed in detail below with specific consideration to audit costs.

### **3.2.1 Accounting and auditing standards**

On 1 January 2005, the Auditing and Assurance Board (AASB) of the Public Accountants' and Auditors' Board (PAAB), adopted the entire suite of auditing pronouncement issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) for use in South Africa (IRBA, 2005:1).

The pronouncements adopted replaced the existing South African Auditing Standards (SAAS). The international pronouncements, which include practice statements, are:

- International Standards on Auditing (ISA)
- International Standards on Review Engagements (ISREs)
- International Standards on Assurance Engagements (ISAEs)
- International Standards on Related Services (ISRSs)
- International Standards on Quality Control (ISQC)
- International Framework for Assurance Engagements

It is the opinion of the author that the changes to the accounting and auditing standards will undoubtedly have an impact on the audit fees of JSE listed companies as it has increased the cost of compliance. We have seen this in the U.S.A. and elsewhere: the question is just how big the impact will be.

The transition from SA GAAP to IFRS creates various issues for companies which they are not equipped to handle; it includes a shortage of experiences or qualified people to do the work and the lack of technical experience which will allow them to make the transition correctly and on time (Ernst & Young, 2005b:1)

The estimated impact of regulatory requirements on audit fees were recently summarised by one the Big 4 audit firms. Ernst & Young (2005a:3) summarised the impact of the new requirements as follows:

The new accounting and auditing standard changes are going to impact a company's budget and forecasts for audit fees going forward. The impact on audit cost is estimated to be three tiered. They are:

- 80 – 85% of the impact is as a result of the changes to accounting and auditing standards that companies must comply with;
- 10% of the impact will be from prior under-recoveries on the engagement;
- 10 – 15% of the impact in the South African environment will be due to inflationary increases; this will be a combination of consumer inflation and professional inflation.

The impact of consumer price index inflation on audit fees is likely to be capped at 5%, while professional inflation on the other hand could be as much as 10% (Ernst & Young, 2005a:1)

Professional inflation is a factor of:

- Scarcity of skills in the accounting profession;
- High barrier to entry to the profession as a result of onerous qualification requirements;
- The inherent high risk in the profession;
- Low retention of qualified professionals post-qualification;
- Increase in remuneration of professionals to persuade them to stay in the profession.

The above summary from Ernst & Young (2005a:2) made provision for under-recoveries from prior years to the value of 10%. This is an indication of potential “low-balling” in the past by firms to grow their share of the market, after which they now plan to improve the recovery.

The impact of the new pronouncements on audit fees in the South African environment is anticipated to resemble the same characteristics as that of the United Kingdom, Europe and to a lesser extent the United States. The regulatory and statutory requirements in South Africa are modelled on best practices and global

standards, with provisions for our own unique situations such as industry charters and Black Economic Empowerment (BEE).

The full impact of the new requirements will only be quantifiable in the next reporting cycle, which is 2006, as we are now in the implementation and conversion phase.

### **3.2.2 The Companies Act, 61 of 1973**

All South African companies are governed by the Companies Act (61/1973). The Act prescribes the procedures to be followed to form a private or public company. In South Africa the only real legislation is contained in the Companies Act. However, this act is quite old and has been revised and incorporates the Financial Reporting requirements. Certain amendments were made to the Companies Act in order to achieve the objectives of the Auditing Professions Act (26/2005).

The South African Companies Amendment Bill was released in July 2005 for public comment. Under the proposals in the new Bill, there would be a basic legal requirement for companies to appoint audit committees which are comprised of at least three non-executive directors who each satisfy the test of independence set out in the Bill (Christopher, 2005:47). Given the extensive responsibilities of audit committee members, and the strict test of eligibility, it will not prove easy, even for the largest companies, to find suitable individuals to take on these roles. But for smaller companies in particular, the requirement as drafted is likely to prove onerous and even impractical. The Bill would also require public interest companies – which will include organisations such as charities – to appoint audit committees. This means that companies which do not have the same level of complexity and the same heightened need for transparency as listed companies would be regulated by the same strict standards (Christopher, 2005:47). This could lead to an environment where auditors cannot be found to audit companies for which audit committee members cannot be found to appoint auditors; it is a vicious circle of increased compliance to reassure the investing public that they can rely on financial statements.

The new criminal penalties facing directors and auditors of companies, if they allow themselves to be party to the publication of false or misleading accounts, means that they face increased legal responsibilities and must demonstrate high levels of skill

and care to stakeholders. Although this is welcomed by the profession and other role players, the added responsibility and increased risk, which directors and auditors feel they may face for making honest mistakes, is unduly harsh (Bourne, 2005:4)

The proposed amendments to the Companies Act (61/1973) relate primarily to section 1 (Interpretation) and Chapter X (Auditors) are summarised below to indicate the impact this will have on the auditing profession.

- Only registered auditors are to be appointed, no person may henceforth be appointed auditor of a company unless that person is a registered auditor in terms of the Bill. The impact on the profession is that all audits of company accounts will in future be subject to the controls and safeguards of the Bill.
- Audit Committees have the obligation to appoint not less than three independent non-executive directors for each financial year of every public interest company.
- Duties of audit committees are to:
  - Nominate an independent auditor for appointment;
  - Determine the fees to be paid to the auditor and the terms of engagement;
  - Ensure that the appointment complies with the provisions of the act and the Bill; and
  - Determine the nature and extent of any non-audit services which the auditor may provide for the company.
- Rotation of auditors: The same individual may not serve as the nominated auditor of a public interest company for more than four consecutive financial years.
- Non-audit services are not open to the current auditor of a public interest company.
- An individual that is the nominated auditor of a public interest company may not perform any book-keeping, accounting (as distinct from auditing) or internal audit services for that company.

The author surmises that the amendments to the Companies Act necessitate the involvement of more role players to complete the same amount, or potentially more, work as before which will lead to higher cost of compliance. This cannot be proved yet and may require further research in future.

### **3.2.3 Johannesburg (Stock Exchange) Securities Exchange (of South Africa)**

South African companies have three main readily tradable options available if they want to tap the R1.8bn in institutional funds managed by this country's asset management industry. They are the JSE Securities Exchange and its AltX offshoot, the Corporate Bond market and securitisations. These three capital markets aren't mutually exclusive, but the most appropriate form of capital raising will depend on a company's aims and requirements. The JSE is the largest and most tradable market. Noah Greenhill, JSE and AltX's business development officer, says that there are three key reasons that companies choose the JSE over other capital raising avenues (Anon, 2005a:12).

First, it opens the door for raising equity capital from institutional fund managers and the public. Second, it gives a company a credible corporate profile. Third, it provides a way for private shareowners and entrepreneurs to realize at least some of the value of their businesses (Anon, 2005a:12).

The JSE listing requirements are rigorous, some of the main aspects include pre-tax profit in excess of R8m, a three-year profit history, compliance with the second King Report on Corporate Governance (King II) and, from the 2005 financial year, financial reporting under International Financial Reporting Standards (IFRS) (Anon, 2005a:12).

AltX listing requirements are less onerous and reflect its role as a capital-raising conduit for small businesses and entrepreneurs. The main difference between the JSE main board and the AltX requirements is that the latter doesn't require a profit history or minimum operating profit. (Anon, 2005a:12).

The JSE is bound by the provisions of the Stock Exchange Control Act (1/1985) ("SECA"), and all actions taken and requirements issued must be in terms of this Act. It is the duty of the JSE to prescribe the rules and regulations, in the form of the Listing Requirements, with which all member companies and their directors must comply.

The JSE is required by SECA to look after the interests of both the investing public and its members. The overriding mandate that the JSE has, however, is to act in the public interest, thereby inspiring confidence in South Africa's equity market.

JSE Securities Exchange South Africa ("JSE") released its final amendments to the listing requirements on 15 May 2003.

Some of the major impacts include:

- The requirement on companies to adopt International Financial Reporting Standards in financial years commencing on or after 1 January 2005;
- Additional requirements relating to the publication of financial information;
- New requirements on auditors and changes in the roles of auditors;
- Specific conditions requiring Trading Statements by companies, including the contents thereof;
- Specific requirements regarding governance, including changes in the composition of the board of directors and the separation of the role of the Chief Executive Officer and Chairperson;
- The introduction of personal responsibility by individual directors for compliance with the listing requirements;
- Specific controls on the trading equities, or derivatives, by directors and a broad base of defined associates;
- Inclusion of the GAAP Monitoring Panel, which acts to enforce compliance with Generally Accepted Accounting Practice;
- Additional requirements on companies implementing medium and large transactions, including and onerous working capital pack requirement; new alternatives exchanges; and
- The widening of the definition of related parties and related party transactions requiring specific procedures and approvals.

The review of the JSE's listing requirements has placed particular emphasis on addressing corporate governance issues, disclosure requirements and the quality of companies to be listed on the main board, the new requirements are now on a par with leading international bourses (Mumphanshya, 2000:1).

According to Wessels van der Merwe, executive director at Corporate Solutions and Exchange Sponsors, the cost of listing should be considered but should not be a

deterrent. He adds that though corporate governance is more of a consideration today than it was historically, a private equity partner would generally enforce good governance. (Vercellotti, 2005)

The cost of listing a company depends on a number of factors and will be influenced by the objectives (JSE, 2005:6). Typical costs to consider would be:

- Designated Advisor
- Attorneys
- Auditors
- Transfer secretary
- Printing of prospectus and/or other documentation
- Marketing and advertising
- JSE listing fee
- Sundries

Some tenets of the King II code of corporate governance are now compulsory and companies must report compliance with King II in the annual statements. Each company director must certify that he or she is satisfied that the company has complied with the listing requirements (Meyer, 2003).

The new amendments came into effect on 1 September 2003, with some transitional arrangements. Improved regulation of the JSE has had a significant impact on the number of listings. The regulatory environment is significantly different from the market in the 1990s. The number of listed companies in 1998 was more than 800, today it is 386 (Vercellotti, 2005). This does not suggest that the market capitalisation has decreased by the same proportion; it has in fact grown by R2.8 trillion.

The low barriers to entry that existed in the 1990s and the low level of regulation on the JSE are in the past. The literature study has indicated that the current state on the JSE is on par with world class exchanges and effectively regulated. The days of questionable listings on the JSE are over and the new regulatory requirements have increased the barriers of entry to ensure quality listings that are sustainable. In the opinion of the author, this will not come cheap as reporting requirements include IFRS and King II compliance which requires additional auditor time, typically at a

more senior level than in the past due to the skill and experience required. A more in-depth look into governance is done in the next paragraph 3.2.4.

### **3.2.4 Corporate governance**

“Corporate governance is concerned with holding the balance between economic and social goals, and between individual and common goals... the aim is to align as nearly as possible the interests of individuals, corporations and society.” Sir Adrian Cadbury, Corporate Governance Overview 1999, World Bank Report.

#### **3.2.4.1 The King code**

Accountability, transparency and openness have always been demanded of South African company directors. However, the First King Report on Corporate Governance was published by the Institute of Directors (IOD, 1994) in response to the increasing concern over corporate failures and the need for better control over corporate entities. It is a code of good practice that has emphasised the responsibilities of company directors with regard to corporate governance. The Second King Report was finalised in March 2002, and both reviews and expands on the First Report (IOD, 1994).

Corporate Governance is the system by which companies are directed and controlled and is relevant where there is a division between the owners of the equity and the directors of the company. The division between ownership and management and the lack of control by share owners over corporate entities is widely perceived to contribute to a large number of corporate failures. Essentially, the King Code provides a system of corporate governance to bridge this division (Werksmans, 2003).

Compliance with the King Code of good corporate governance is not prescribed by law, but it has become widely accepted as a code of conduct for South African business. The JSE Securities Exchange requires listed companies to disclose the extent of their compliance with the code.

The requirements have a direct impact on the cost of doing business which will in all likelihood require more auditor involvement, especially once it gets to test the

controls put in place to adhere to best practices. The additional auditor involvement recommended will come at a price.

### **3.2.4.2 King II**

King II is the abbreviated name for the King Report on Corporate Governance for South Africa published 2002 in South Africa. It followed a 1994 report commonly known as King I. Companies listed on South Africa's JSE Securities Exchange have to comply with King II which itself requires compliance with Global Reporting Initiative guidelines.

The Second King Report also recommends that the following amendments be made to the Companies Act:

- It should provide legal backing for accounting standards approved by the proposed Financial Reporting Standards Council;
- It should prescribe a minimum threshold for the passing of ordinary resolutions of at least 25% of the total issued shares with voting rights, to encourage shareowner attendance at shareowner meetings;
- Certain categories of private companies should be required to file their annual financial statements with the Registrar of Companies for public inspection;
- The Companies Act should require a reference to corporate governance in prospectuses;
- The Companies Act should be reviewed to identify areas where electronic communication would improve governance and communication between companies and their shareowners;
- The Companies Act should provide for summarised or abbreviated annual financial statements to be issued to shareowners on the basis that a full set may be obtained if required;
- The Registrar of Companies should be encouraged to establish a list of delinquent directors;
- Consideration should be given to extending existing income tax incentives granted to mining operations and relating to environmental corporate governance, to other businesses;
- Because of the onerous duties placed on directors, the question of director's liability insurance should be revisited.

The underlying principle of the King Code is that directors should act not just in accordance with the letter of the law, but also in the spirit of their fiduciary duties.

King II acknowledges that there is a move away from the single bottom line (profit for shareholder) to a triple bottom line, which embraces the economic, environmental and social aspects of a company's activities (Cliffe Dekker, 2002:5). It provides a more holistic approach to governance, where it is in the interest of the shareholder, the public and environment. One should expect that triple bottom line reporting as per King II will require more resources and attention, which will ultimately result in higher costs to comply. An annual audit is an essential part of the checks and balance required and is one of the cornerstones of corporate governance (Cliffe Dekker, 2002:19).

The enhancement of corporate governance is increasingly seen as a means to build shareholder confidence, add value to the company and attract foreign investment to South Africa. The Second King Report provides a world class and comprehensive code of conduct for South African business and is likely to become the uniform standard for assessing South African business.

Compliance with King II has a direct impact on the time the auditor dedicates to his report and opinion. This will have an increasing effect on audit costs. In an interview with Dawie Venter CA(SA), partner at Ernst & Young, and Vince Paino CA(SA), technical partner at Ernst & Young, they emphasised that auditors will not express an opinion on corporate governance as such, but will work through the report to identify any obvious untruths based on their understanding and knowledge of the business. In some cases a corporate governance specialist will be asked to review the report to make sure it complies with the King code.

### **3.2.5 The Audit Professions Act, 26 of 2005**

On Friday 31 March 2006, the South African Minister of Finance gazetted the effective date of the Audit Professions Act (26/2005) as being Saturday 1 April 2006. The Audit Professions Act (26/2005) is South Africa's major upgrade in promoting its rising standards of corporate governance, and companies are gearing up to spend up to 50% more on audit fees (Sergeant, 2005). As with Sarbanes-Oxley the Act is

aimed at taking all known steps to restore public confidence in the capital market system, and in the accounting and auditing profession.

The goal of the Act is to provide for the establishment of the Independent Regulatory Board for Auditors (IRBA), to provide for the education, training and professional development of registered auditors, to provide for the accreditation of professional bodies, to provide for the registration of auditors, to regulate the conduct of registered auditors, to repeal an Act, and to provide for matters connected therewith. The Auditing Profession Act (26/2005), which has replaced the Public Accountants' and Auditors' Board (PAAB) with a regulator (IRBA) with powers and jurisdiction that would enable it to rein in errant auditors, has been welcomed, but there are questions about the additional costs involved (Mafu, 2006).

A significant change under the Act was the broadening of the jurisdiction of the regulator from individual auditors to include auditing firms. This would allow the regulator to review the standards and behaviour of firms and not just of the registered auditors, who worked for them. The costs of the reviews of the 'Big Four' are expected to be about R1m per firm and R50 000-R60 000 for smaller firms (Temkin, 2006). The push for more stringency is expected to cost auditors a lot and they would have to increase the fees they charged their clients. Auditors would also be monitored to ensure they have kept up to date with changes in the profession (Mafu, 2006).

The Audit Professions Act in South Africa is more narrowly focused than the infamous Sarbanes-Oxley Act for listed companies in America. The Act recognizes the independence of auditors as a critical cornerstone of effective corporate governance. South Africa's new laws for auditors contain elements of Sarbanes-Oxley (Sergeant, 2005).

It is expected that this Act (26/2005) will lead to similar increases in audit costs as what was experienced in the U.S.A. with the implementation of the Sarbanes-Oxley Act. This research study has not had enough time to study the impact of the new Act in detail. It has been identified as a shortcoming and should be researched in more detail in future studies in the area.

### **3.2.6 Political and economic environment**

The current political and economic environment in South Africa in the opinion of the author can be described as stable, healthy and growing. Remarkable progress has been made by the post-apartheid governments to ensure a peaceful transition to democracy. Various programs and initiatives were launched and are still underway to provide essential social services to the majority of the population and to provide access to education.

The opportunity to do business, specifically for individuals from previously disadvantaged communities, is increasing. The number of transactions and business deals known as "black economic empowerment" has increased significantly since 1995, but this concept will be discussed in more detail later in paragraph 3.2.6.1.

The exclusionary nature of apartheid and distortions caused by sanctions and isolation left major weaknesses which will take many years to address. The government seeks to address these inequities, stimulate growth and create jobs. The increasing economic activity in the Sub-Sahara region is creating many business opportunities and is integrating the economy into the international system (US Department of State, 2006).

The South African economy has many characteristics associated with that of a developing country, while on the other hand also displaying characteristics of a first world country, but only in isolated pockets.

The president of South Africa, Thabo Mbeki (2005), at the 25<sup>th</sup> Anniversary Dinner of the South African Institute of Chartered Accountants, said that the challenges facing all South Africans include:

- Eradication of poverty and underdevelopment;
- Economic growth and development and further strengthening of the First Economy;
- Development, modernisation and integration of the Second Economy in the First and ending the marginalisation of those who subsist within this First Economy;
- Ensuring an integrated approach by all social partners to deal with the challenge of skills development, concentrating on critical fields such as the accounting profession; and,

- Enhancing the process of social cohesion and harmonizing various processes at the public, private and community levels to accelerate the building of a non-racial and non-sexist society.

The country's wealth remains unequally distributed along racial lines despite the efforts of black empowerment and signs of a fledging black middle class. The statistics are sobering; the official unemployment rate stands at 26.5%, whilst the expanded version, which includes disillusioned jobseekers, is closer to 40% (Kingdon & Knight, 2005). Apart from the staggering statistics with regard to unemployment and distribution of wealth we are also faced with more specific issues. The normal route taken at this stage is to focus on what we have done in the categories of transformation and black economic empowerment. In this study I will rather focus on the impact these initiatives had and will have in future on the accounting and audit business. This is not only from a transformation point of view, but even from an accounting point of view and the profession, specifically how South Africa plan to put this to book.

### **3.2.6.1 Transformation and broad-based Black Economic Empowerment**

The last decade has seen a process unprecedented in South Africa's history to empower previously disadvantaged persons. The view of some, however, is that the process has achieved limited success and has been characterised by fundamental flaws. Their criticism include the absence of a co-ordinated Black Economic Empowerment (BEE) process, the lack of an accepted definition of BEE, the shortage of funding, the creation of a black elite rather than widespread empowerment and the failings of BEE funding structures such as special purpose vehicles (Hamilton, 2003).

There is absolutely no question that black economic empowerment has changed the way South Africa Incorporated does business. But there are still a number of issues with which empowerment groups, corporate, governments and individuals are grappling with (Anon, 2005:3).

BEE is defined as an integrated and coherent socio economic process that directly contributes to the economic transformation of South Africa and brings about

significant increases in the number of black people that manage, own and control the country's economy, as well as significant decreases in income inequalities (South African Government Information, 2003).

Initially, the Government used moral persuasion to encourage Black Economic Empowerment (BEE). In its simplest form, BEE initially described the sale of equity to black entrepreneurs, usually at a discount to market price (Laschinger, 2005:26).

The early days of Black Economic Empowerment saw a number of pioneer BEE deals which ended badly, as a result of limited access to capital and little security for the banks. This situation still prevails today. A number of these unwound after-share prices failed to reach the levels needed for the BEE group to settle its debt (Laschinger, 2005:26).

In 2002, the Government forced the mining sector, through a "carrot and stick" approach involving the future retention of mineral rights, to negotiate a sector empowerment charter, which was gazetted as law. It mandates a minimum level of 26% historically disadvantaged shareholding in all South African mining operations within 10 years and a number of interventions in staff and enterprise development. Other sectors, including the financial services, construction and information communication and technology (ICT) industries, have either negotiated charters or are in the process of doing so (Laschinger, 2005:26).

The Government has criticised transformation of being slow and has since passed the Broad Based Black Economic Empowerment Act (53/2003) to speed up the process. South Africa Incorporated could no longer view BEE as an optional extra, it truly became a case of "adapt or die" (Laschinger, 2005:26).

The South African government has issued various Black Economic Empowerment (BEE) documents, including section 9(1): Codes of Good Practice of the Broad-Based Black Economic Empowerment Act (53/2003). This Act empowers the Minister of Trade and Industry to issue codes of good practice, which currently are not legally binding, with the purpose of achieving meaningful participation by black people in the South African economy. These codes will be applied in determining both foreign and local entities' BEE credentials that are necessary for the granting of tenders, licenses and other concessions by government in South Africa (South Africa, 2003).

BEE credentials may be obtained in various ways (South Africa, 2003), such as:

- Equity ownership;
- Management and control;
- Contribution to skills development;
- Compliance with the Employment Equity Act;
- Enterprise development; and
- Procurement.

The cost of empowerment to transforming companies has moved out of the realm of theoretical debate and has become an accounting reality (Anon, 2005b:7). In transactions other than BEE transactions, equity instruments, including shares and share options, are commonly issued for cash or other financial assets or in business combinations. The development of BEE has been dogged by a number of issues including, naturally, accounting complexities. Accounting professionals have grappled with how to recognise equity deals that were often concluded at values unrelated to market prices. This, against the backdrop of a world that is moving towards harmonisation of accounting standards and, particularly, scrutinising share-based transactions in the wake of global corporate excesses in the late 1990s (Laschinger, 2005:27). The known issues in this regard are as follows:

In many BEE equity transactions, no cash is received, or the amount of cash received is less than the fair value of the equity instruments issued. This raises the question as to whether this difference is indicative that the entity issuing the equity instruments has received goods and services that should be accounted for under IFRS 2(AC 139) – share-based payment.

There has been no standardised accounting treatment for BEE deals and therefore each deal had varying treatment. There are two contentious issues concerning the exposure draft (ED 199); firstly, the question was whether BEE credentials are a recognisable asset or have to be expensed. The second issue related to how the restrictions on the tradability of the shares issued to BEE partners should be interpreted (Laschinger, 2005:28). These questions remain to be answered.

In practice, South African accountants and auditors have found that each deal is unique with its own complexities, particularly in their legal structures. Overall the implementation of a BEE accounting standard is consuming a significant amount of

time from all the big auditing firms. And the change-over has not been made easier by the fact that IFRS 2 is a new global standard (Laschinger, 2005:28).

In the next 12 months three issues are likely to remain the short-term focus: regulatory uncertainty, the funding debate and finalisation of industry charters. But the noise regarding these factors disguises a more important evolution currently underway. A new empowerment model is about to be born – and its final formulation could make at least some of these debates irrelevant in the long term (Anon, 2005b:3).

The next 12 months will see more charters finalised in key sectors such as construction and healthcare. The promulgation of the Department of Trade and Industry's draft Codes of Good Practice under the Broad Based Black Economic Empowerment Act will arguably be the most important development. Government's action to address the concerns of multinationals and especially the equity ownership element of the scorecard will be worthy of note (Anon, 2005b:3).

It is important to ensure that even accounting for a unique South African situation such as empowerment remains within the IASB guidelines, especially given that all JSE Securities Exchange-listed companies have to comply with International Financial Reporting Standards (Anon, 2005b:7). Ismail Mamoojee, a partner at Ernst & Young, sees the new accounting standards as an internal debate within the financial services industry. It has challenges in requiring a certain level of disclosure from its clients regarding their empowerment initiatives, given the limited regulatory requirements in that regard. The accounting debate centres on the value of share options now and not only as a future uncertainty. It will serve the purpose to make shareholders aware of the cost and impact of structures used in empowerment deals (Anon, 2005b:7).

The black economic empowerment train continued to thunder over South Africa's corporate finance landscape, and it shows no sign of losing momentum. Ernst & Young (2005c:11) reported that the number of empowerment transactions in 2004 increased by 29% and the value of the deals reached R52.9bn (from R42.2bn in 2003), refer to table 3.1 below. On Ernst & Young's figures, empowerment transactions now account for 30% of South Africa's merger and acquisition activity by value as per table 3.1 below (Ernst & Young, 2005c:11).

The trend has peaked and that the past two years there has been an acceleration, which saw empowerment deals accounting for 50% to 60% of corporate finance mandates (Anon, 2005b:10). That is currently around 40%. There are two reasons for that: the general M&A pie has grown as activity has picked up and regulatory uncertainty ahead of the finalisation of the Department of Trade and Industry's (DTI's) Codes of Good Practice. In addition the headline-grabbing negotiations have been done and is estimated that about 65% of the All-share 40 companies have conducted empowerment deals (Anon, 2005b:10).

**Table 3.1 BEE value and volumes (1995 - 2004)**

<b>BEE value and volumes (1995 – 2004)</b>		
<b>Year</b>	<b>Number of Transactions</b>	<b>Value (Rbn)</b>
1995	23	12.4
1996	45	7.0
1997	52	8.3
1998	111	21.2
1999	132	23.1
2000	126	28.0
2001	101	25.1
2002	104	12.4
2003	189	42.2
2004	244	52.9

Source: Adopted from Ernst & Young (2005c:11)

The value of empowerment deals may begin to show a declining trend, though their number is likely to continue to accelerate as small and medium-sized enterprises (SMEs) undertake transformation to ensure their financial survival in a business environment dominated by empowerment charters and legislation (Anon, 2005b:10). This will also have an impact on South African subsidiaries of multinational companies. South African subsidiaries of multinationals, particularly in the industrial sectors, are building a business case for empowerment and alerting their international holding companies as to its importance. Although it is still early days, it will ultimately lead to some offshore companies looking for suitable empowerment partners for their South African businesses (Anon, 2005b:10).

The complexity and nature of transactions including Black Economic Empowerment will require more transaction specialist skills from auditing firms which will again impact on the overall audit fees, be it for non-audit or audit related services.

### 3.3 The skills shortage in the local market

The skills shortage in South Africa is well documented, with most of the attention falling on the number of qualified workers who have left the country. However, the shortage of qualified black staff is even more severe, with companies having to resort to desperate measures in order to comply with South Africa's tough employment equity legislation.

There are 23,493 Chartered Accountants (CA's) in South Africa, of whom 543 are black African and only 178 of these are black women (Bridge-David, 2005). With the known shortage of qualified accountants in the local and global market, coupled with the drive to meet transformation targets, the competitive behaviour in the market is almost self explanatory. An even bigger concern in my opinion is the insufficient pipeline we have coming through our academic institutions. The June 2005 figures from SAICA show that out of 9,332 accounting trainees, 1,491 were black and 689 of these were black women (Bridge-David, 2005).

Highest premiums are being paid to black Chartered Accountants (CA's); it can be as high as 30% or 40% for a black CA because there is such a critical shortage of such candidates, says MacIldowie (as quoted by Theunissen, 2005:20). According to Theunissen (2005:20) most remuneration experts said that an average CA with two years' experience would earn between R400k and R450k per annum, the equivalent figure for a black CA would therefore work out to more than R600k per annum. Debbie Goodman (as quoted by Theunissen, 2005:22), of Jackhammer Executive Headhunters, says companies are usually willing to pay a small premium but it's difficult to put it into rand and cents. But the standard for a candidate being headhunted is to move for between 15% and 20%. She confirms that in certain industries the picture is markedly different. She says where she is seeing a variation is in audit firms that are desperate to hang on to black staff. A black candidate with two or three years' experience may be earning up to R700k a year at an auditing firm.

MacIldowie (as quoted by Theunissen, 2005:20) is of the opinion that a salary premium may not be the best way to deal with the shortage of qualified black candidates. He says that it is the silly ones that are paying the premium while the good ones are saying: "Come and build a career with us." Many companies are now

finding that the extra money they're willing to pay black candidates doesn't always have the intended results. One of the effects of the salary premium is that it creates an incentive for young black professionals to "job-hop" in an attempt to secure a higher salary with each move.

There is a significant skills shortage in South Africa despite the level of high general unemployment. According to a report by the FW de Klerk Foundation (2005:8) there are at least 300,000 vacancies for skilled employees in the private and public sectors. The occupations where there were the greatest shortages in 2000 were technicians, craft workers, managers, service and sales staff, professionals and operators. South Africa has an over-supply of unskilled labour whilst it is experiencing a serious shortage of skilled workers. The increase in the unemployment rate for students with tertiary education indicates that the shortage is skills-specific (FW de Klerk Foundation, May 2005:8). The number of graduates in the financial sector increased from 75,178 in 1991 to 158,891 in 2001 in the accounting, business management and commerce disciplines. However, of these over 14,498 were unemployed of whom 69% were black (FW de Klerk Foundation, 2005:11).

South Africa is also experiencing a disturbing loss of skilled manpower through emigration. This brain drain has occurred since the 1990s, whilst at the same time the flow of skilled immigrants into the country has slowed down. A study done by the SANSA project at UCT in which they claim that over 233,000 South Africans emigrated permanently, which represented a rate of 30 000 emigrants per annum for the period (FW de Klerk Foundation, 2005:12).

The impact of the skills shortage in the market for qualified accountants or even graduates wanting to qualify as chartered accountants is immense. The Big 4 audit firms are competing for their unfair share of graduates to service their existing client needs in a pool of resources that cannot supply to their demand. At the same time other role players like the auditor general and second tier audit firms are also in the market for graduates looking to qualify as chartered accountants. This is only the TIPP (training in public practice) competitors', the author believes one also has to consider the TOPP (training outside public practice) market where financial institutions like corporate and merchant bank and major industrial, mining and construction players like SASOL compete.

The fierce competition for resources in the graduate market has put the normal market factors of supply and demand into motion, where a short supply is a leading indicator to higher prices to come. This is evident from the literature study above in the local market as well as the global market. The dilemma is that the short supply cannot be addressed in the short term and will require a more focussed approach by government, commerce and academics. It is the opinion of the author that the audit and accounting profession will have to increase the pipeline of future accountants through various initiatives if they plan to support the growth of our local market.

The impact on audit costs in terms of the shortage of skills is direct. The increased payroll costs for audit firms as a result of short supply in the market leads to a lower gross margin which ultimately has an impact on the profitability of firms. As is the case with most commodities, the increased cost in acquiring resources, will result in higher prices, which in the case of audit firms are charge-out rates. In the opinion of the author this cost will be passed onto clients in the medium-to-long term.

### **3.4 Conclusion**

The literature study has proved to be populated with an incalculable number of sources of information on research topics stretching from quantifiable audit fee models as far back as 1980 to intangible and complex regulatory, policy and resource topics.

The literature on the impact of new pronouncements in the local and global environment is infinite. The effect of the new pronouncements has been significant in the global market, especially where SEC listed companies are concerned. The impact of the Sarbanes-Oxley Act, and more specifically the Section 404 requirements has increased audit fees of SEC registrants beyond expectation in many cases. The same impact is expected in other areas where similar regulatory requirements have been put in place. The South African equivalent in the Audit Professions Act 26/2005, has not yet yielded the same reaction from business, but it is anticipated that it will have a similar trend. It only came into effect in April 2006 and the impact on audit fees will probably only be seen in the next reporting cycle, being 2007.

The changes to the accounting and auditing standards have unquestionably had an influence on audit fees of JSE listed companies as well as companies listed on the main bourses of the world. The literature study revealed that the transition to the new standards will have and have had a colossal impact locally and globally. An accurate assessment will be possible in the post-mortem and the financial impact should also be measurable in the 2006/07 reporting cycle.

The political environment in South Africa is conducive for new business opportunities in the region and sub-area, while this is true for business, the provisions for its own unique circumstances such as Black Economic Empowerment will have an impact on auditing and accounting and its associated costs. It is the opinion of the author that Black Economic Empowerment has a double impact, the first being the requirement to meet BEE targets within accounting firms and the broader market, and the second is how such transactions are accounted and report on.

To further exacerbate the problem with regard to transformation there is also a shortage of qualified CA's in the market, not only black, but an overall shortage. The short supply has already increased the remuneration costs of qualified accountants and will continue to spiral upwards until supply meets demand.

The South African specific circumstances are different from those in the U.S.A. and other areas where the new pronouncements have had a significant impact on audit costs. This does not necessarily translate to an even great impact on audit costs in R.S.A., but rather a different approach where other factors are expected to play a bigger role. It is evident from the literature study in Chapter 2 that the Sarbanes-Oxley legislation and more specifically section 404 of the Act had the biggest impact. The Audit Professions Act (26/2005) has the same goal as the Sarbanes-Oxley Act in mind to restore the trust of financial statement users and the public in South Africa.

In the next chapter the purpose is to identify the influence of the variables and new pronouncements discussed in this chapter on the audit fees of companies in South Africa, more specifically those of JSE listed companies.

## **4 Chapter 4: Empirical Study**

### **4.1 Introduction**

The empirical study in this chapter is dedicated to the analysis of statistical data in an attempt to address the research questions raised in Chapter 1, paragraph 1.3.1. The research objectives and questions will be briefly reviewed in this chapter. An introduction to the sample of companies will be given in paragraph 4.3 and the research methodology and regression function, with common variables, will be explained in detail in 4.4.

This chapter will also deal with the detail analysis of the data (paragraph 4.5), in which the relationship between the independent and dependent variables will be determined and discussed in detail. The format and significance of the multiple linear regression function will be examined and the impact of the new pronouncements will be explained.

The purpose of the research is to determine whether a correlation exists between audit costs and company specific financial variables of JSE listed companies and to identify and quantify the impact of recent changes in regulatory and statutory requirements on audit fees of these companies.

### **4.2 Objectives of empirical investigation**

The specific objectives that address the objectives of this research as discussed in Chapter 1 paragraph 1.3 are as follows:

- a) Identify and quantify the factors impacting on the audit fees of JSE-listed companies.
- b) Determine if audit fees have statistically significant trends and/or correlations to company specific financial variables.

### 4.3 Data

The data used in this study comes from the Bureau of Financial Analysis (BFA) of the All Share Index on the Johannesburg Securities Stock Exchange (JSE), which represents the complete population of JSE listed companies.

The companies selected for the present study were all publicly listed companies on the JSE for the period 2004 to 2005, with the exclusion of the Financial Services sector, which includes Banks, Insurance, Life Assurance, Specialist securities and Specialist & Other finance. The 'J99' sector was also excluded, this sector includes the following sub sectors, Development capital, Venture capital and AltX. All Gold mining companies were omitted due to the nature of their business and characteristics of the industry. The Financial Services sector has been omitted as it is characteristically different from other industry sectors due to the nature of asset base, while the J99 sector was omitted due the nature of the capital structure. Previous research studies on the modelling of audit fees also excluded the financial services sector for the same reasons (Jubb et al, 1996:11).

The decision to use the period 2004 to 2005 was based on the implementation date and potential impact of the new pronouncements on listed entities. Although most listed entities are only required to report in accordance with the new accounting and auditing standards with effect of 1 January 2005, it is expected to have an impact on the audit costs of the current and at least prior year. This assumption is based on the preparation required to report in accordance with the new standards.

Companies for which complete data were unavailable were omitted. Complete data for the period 2004 to 2005 could be extracted for 135 companies comprising the database being used in this analysis. The sample represents less than 50% of the total number of listed companies on the JSE. The researcher acknowledges the fact that this sample will not give explanation for all listed companies. Nevertheless, the sample allowed the researcher to test and analyse the data on both research questions in Chapter 1, paragraph 1.3.1.

Industrial Goods & Services constituted the largest Super Sector within the sample (23.7%) followed by Retail (14.8%) and Basic Resources (11.1%). The remaining 12 Super Sectors were between 0.7% and 8.9% (Table 4.1).

**Table 4.1 Distribution of companies**

	<b>Super Sector</b>	<b>Number of Companies</b>	<b>% of Sample</b>
1	Industrial Goods & Services	32	23.7%
2	Retail	20	14.8%
3	Basic Resources	15	11.1%
4	Food & Beverage	12	8.9%
5	Technology	11	8.1%
6	Travel & Leisure	10	7.4%
7	Construction & Materials	9	6.7%
8	Media	5	3.7%
9	Personal & Household Goods	5	3.7%
10	Chemicals	4	3.0%
11	Automobiles & Parts	3	2.2%
12	Development Capital	2	1.5%
13	Healthcare	3	2.2%
14	Telecommunications	3	2.2%
15	Oil & Gas	1	0.7%
	<b>Total</b>	<b>135</b>	<b>100.0%</b>

#### **4.4 Methodology**

In order to develop a model which will explain the variability in audit fees, it is important to determine which factors have an effect on audit fees, and could be the cause of variability in audit fees. Two software packages were used to extract and analyse the data. The "Station" product from McGregor BFA, a division of MWEB business, was used to extract the published financial information of the 135 listed companies on the JSE. The regression model was built by using the multiple regression analysis and forecast tool developed by Business Spreadsheets.

The explanatory model of audit fees takes the form of a multiple linear regression function as originally developed by Simunic (1980:162).

Audit Fee = f (audited company's size, complexity of audited company, financial distress of the audited company, audit risk, size of the audit firm).

The variables used by Simunic (1980:162) will be identified in the sample of companies of this study and briefly explained in 4.4.1 below.

#### **4.4.1 Variables**

The variables used in this dissertation are explained below.

##### **4.4.1.1 Audited company's size – variable (ASSETS)**

The audit company's size will be measured using the book value of the audited company's assets (ASSETS). This is consistent with previous research conducted by Simunic (1980:172), Jubb et al (1996:32) and Gerrard et al (1994:4).

##### **4.4.1.2 Complexity of audited company – variable (SUBS)**

The complexity of the audited company (client) is measured using the number of subsidiaries (SUBS). Again, this is consistent with previous research in this field.

##### **4.4.1.3 Financial distress of the audit company – variables (FINDIS & PRF)**

Financial distress, also known as business risk or company risk in this study, will be measured by two variables, i.e. financial distress extracted from the BFA database, and secondly profitability calculated from the data extracted from the BFA database. The variables are calculated as follow:

- **Financial distress** (Failure prediction model)

The best known of these models was developed by Edward Altman (1968) who applied MDA to a sample of companies and developed a discriminant function that classified companies either as failed or successful. Altman's model is as follows:

$$z = 0.012x_1 + 0.14x_2 + 0.033x_3 + 0.06x_4 + 0.0999x_5$$

where:

x1 = net working capital / total assets

x2 = retained earnings / total assets

x3 = EBIT / total assets

x4 = market value of common and preferred stock / book value of debt

x5 = sales / total assets

Altman found that the mid-point of his distribution was 2.675 and that a zone of ignorance existed from 1.81 to 2.99. This meant that if the model was applied to a company and a score of between 1.81 and 2.99 was obtained, a classification would not be made with certainty. However, if the score was below 1.81, the company was almost certain to fail, while if the score was above 2.99 the company was almost certain to succeed.

A similar model has been developed in South Africa by Dr H de la Rey at the Bureau of Financial Analysis (BFA) in Pretoria (De la Rey, 1981). The model is as follows:

$$k = 0.01662a + 0.0111b + 0.0529c + 0.086d + 0.0174e + 0.01071f - 0.0688811$$

where:

a = total profit outside financing / total assets x 100%

b = profit before interest and tax / average total assets x 100%

c = total current assets + listed investments / total current liabilities

d = profit after tax / average total assets at book value x 100%

e = cash flow profit after tax / inflation-adjusted total assets at market value

f = total stocks / inflation-adjusted total assets x 100%

This model achieved 96% success rate in classifying the companies in the sample as either financially failed or financially sound. For practical purposes the model was developed in such a way that the point of separation between financially failed and financially sound firms are zero. The further a firm moves above zero, the more financially sound the firm will be. On the other hand, if the answer to the model becomes negative, the firm is likely to fail financially. A zone of uncertainty exists from -0.2 to +0.2 which means that a result in this area is inconclusive. The answer (k) in this model will be used in this dissertation to measure financial distress (FINDIS).

While the South African model does not appear to be widely used, the American model has been extensively applied. Altman (1968) has recently updated and improved his original model to the new Zeta model. Little information is available about this model as it is used as a basis for a credit rating financial service that is offered by Zeta services. It is claimed that the newer model can predict insolvency with a greater degree of accuracy than the previous model.

- **Profitability of the audited company**

The profitability of the audited company is used as a second variable to determine business risk, and has been used with various degrees of success in earlier studies such as Simunic (1980:173). The profitability is measured as a ratio of Net Profit to Total Assets at year end (PRF).

#### **4.4.1.4 Audit risk – variables (RECV & INV)**

The following ratios will be used to measure audit risk:

Receivables to Total Assets (RECV)

Inventories to Total Assets (INV)

As with previous studies by Jubb et al (1996:28), this ratio is expected to measure 'audit risk' because of its association with accounts which require specific audit procedures and the audit effort involved in these 'risky' balance sheet accounts.

#### **4.4.1.5 Size of the audit firm – variable (AUD)**

A (0, 1) or dummy variable will be used to measure the size of the audit firm. A (1) variable will be used if the audit firm is part of the Big Four firms, else a (0) variable will be used. This is consistent with previous research in this field by Jubb et al (1996:32).

## **4.4.2 Choice of independent variables**

### **4.4.2.1 Test for multicollinearity**

The choice of explanatory variables to be used in the audit fee model was dependent on the existence of multicollinearity between independent variables (refer to 4.5.2.1). Multicollinearity refers to linear inter-correlation among variables. Simply put, if nominally "different" measures actually quantify the same phenomenon to a significant degree - i.e., wherein the variables are accorded different names and perhaps employ different numeric measurement scales but correlate highly with each other - they are redundant. A principal danger of such data redundancy is that of over fitting in regression analysis models. The best regression models are those in which the predictor variables each correlate highly with the dependent (outcome) variable but correlate at most only minimally with each other. Such a model is often called "low noise" and will be statistically robust (that is, it will predict reliably across numerous samples of variable sets drawn from the same statistical population). The test for multicollinearity was done by running an adjusted R-squared analysis against all other independent variables, of which the results are displayed in figures 4.2 to 4.8 as well as tables 4.2 and 4.3.

### **4.4.2.2 Testing for auto correlation**

This is a test for first-order autocorrelation (correlation between successive values) in the residuals of a regression analysis, refer to 4.5.2.2. The Durbin-Watson statistic is approximately equal to  $2(1 - R)$ , where R equals the correlation coefficient measuring the association between successive residuals. As the Durbin-Watson statistic approaches 2, it is more likely that the residuals are independent of each other, at least successively. With economic and financial data, it is often possible to reduce autocorrelation in the residuals by transforming the data into percentage changes. This statistic also fills an important role as a general test of model misspecification (Sacramento State, 2005).

## 4.5 Analysis of the data

The objectives of this study will now be tested at the hand of the sample selection of companies in table 4.1 above.

The first objective was to identify if statistically significant trends and / or correlations exist between audit fees of JSE-listed companies and company financial variables. It will be tested in this chapter. In order to test the correlation of the common variables identified in 4.4.1 above it is necessary to build an explanatory model. This is done through a regression analysis. In statistics, regression analysis is used to model relationships between variables and determine the magnitude of those relationships. Such models can then be used to make predictions and test the accuracy of the regression function.

Simple linear regression and multiple linear regression are related statistical methods for modelling the relationship between two or more random variables using a linear equation. Simple linear regression refers to a regression on two variables while multiple regression refers to a regression on more than two variables. Linear regression assumes the best estimate of the response is a linear function of some parameters, though not necessarily linear on the predictors (Anon, 2006c).

Consistent with previous studies by Simunic (1980:178), Gerrard et al (1994:5) and Jubb et al (1996:31) this study uses the multiple linear regression function to model audit fees. This is based on the fact that seven variables were selected for the regression analysis.

### 4.5.1 The multiple linear regression function

$$\text{FEES} = b_0 + b_1 \cdot \text{ASSETS} + b_2 \cdot \text{SUBS} + b_3 \cdot \text{RECV} + b_4 \cdot \text{INV} + b_5 \cdot \text{FINDIS} + b_6 \cdot \text{PRF} + b_7 \cdot \text{AUD}$$

Where:

- b<sub>0</sub> = constant (intercept)
- FEES = Audit fees charged to audited company (Log<sub>10</sub>)
- ASSETS = Total Assets at year end (Log<sub>10</sub>)

SUBS	= Number of subsidiaries (Log10)
RECV	= Ratio of Receivables to Total Assets (Log10)
INV	= Ratio of Inventory to Total Assets (Log10)
FINDIS	= Financial Distress of the audited company
PRF	= Profitability of the audited company (Log10)
AUD	= Size of the audit firm (Big 4, or not)

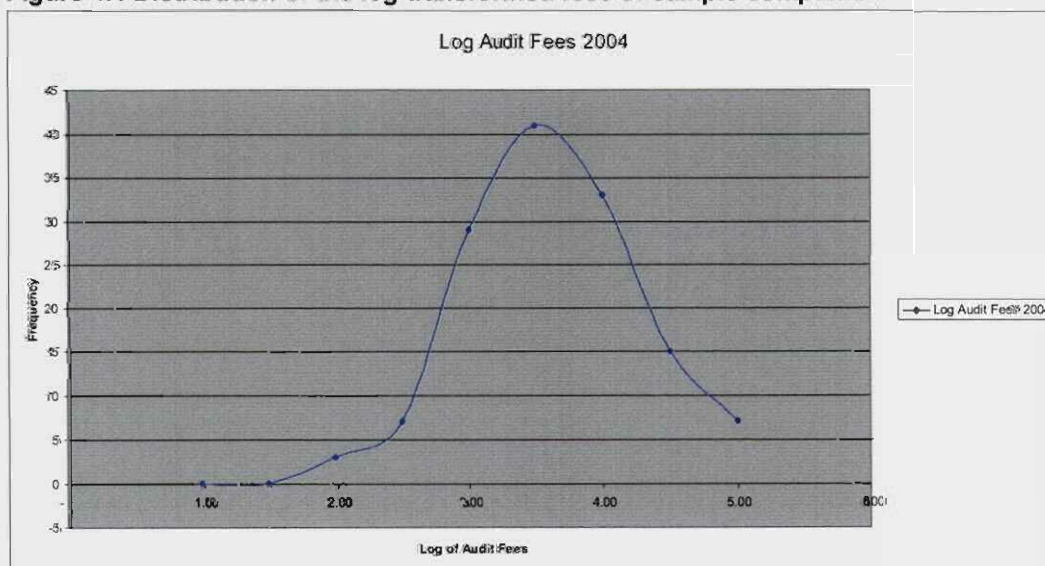
The common variables explained in paragraph 4.4.1 of the companies in table 4.1 above were transformed using the natural logarithmic method. The reason for transformation is simple and have three key components to it, they are:

- Statistical techniques work best with data that are single peaked and symmetric (*symmetry*).
- When comparing different groups of subjects, many techniques work best when the variability is roughly the same within each group (*homoscedasticity*).
- It is easier to describe the relationship between variables when it's approximately linear (*linearity*).

When these conditions are not true in the original data, they can often be achieved by applying a logarithmic transformation.

The distribution of the logarithmic transformed audit fees is displayed in figure 4.1 below.

**Figure 4.1 Distribution of the log transformed fees of sample companies**



Simply put, logarithms are just another transformation. It is used because sometimes it's easier to analyze or describe something in terms of log transformed data than in terms of the original values.

#### **4.5.2 Independent analysis of chosen variables**

An independent analysis of chosen variables was required to understand the relationship between Y (Fees, dependent variable) and each X (independent) variable. Using scattergrams to check visually whether each relationship appears linear was useful, although it was not particularly rigorous; it helped with the overall assessment of the model.

##### **4.5.2.1 Tests for multicollinearity**

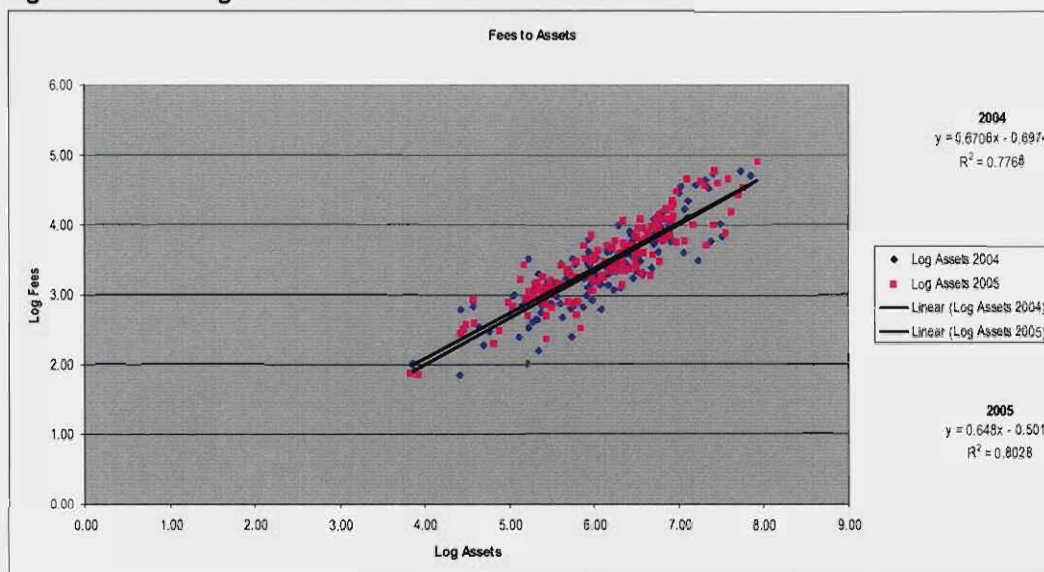
The relationship between the Fees and independent variables such as ASSETS, SUBS, FINDIS, PRF, INV, RECV & AUD in figures 4.2 to 4.8 below supports the findings from previous empirical studies. Simunic (1980:187), Gerrard et al (1994:9) and Jubb et al (1996:36) found that correlations between the dependent variable (FEES) and independent variables (ASSETS, SUBS, AUD) exist, with varying levels of strength.

- **Audited company's size** – variable (ASSETS)

Consistent with previous research findings ASSETS had a strong positive relationship to FEES. This is evident from the scattergram in figure 4.2 below which graphically displays the positive linear relationship. The R-squared value (0.7768 in 2004; and 0.8028 in 2005), which is the square of the Pearson product moment correlation coefficient, can be interpreted as the proportion of the variance in FEES attributable to the variance in ASSETS. The maximum value  $R^2$  could take would be 1, implying that all the variation was explained, or accounted for, by the regression equation. At the other extreme the minimum value would be zero. Typically we would expect the value to be between 1 and 0, preferably, closer to 1 than 0. As such the statistic will indicate the percentage of the total variation accounted for by the X variable (ASSETS in this case). In figure 4.2 below the explanatory value of ASSETS is significant as it explains more than 77% and 80% of the movement in FEES for the

2004 and 2005 years respectively. The linear function of FEES to ASSETS is also displayed in figure 4.2 for both years 2004 and 2005.

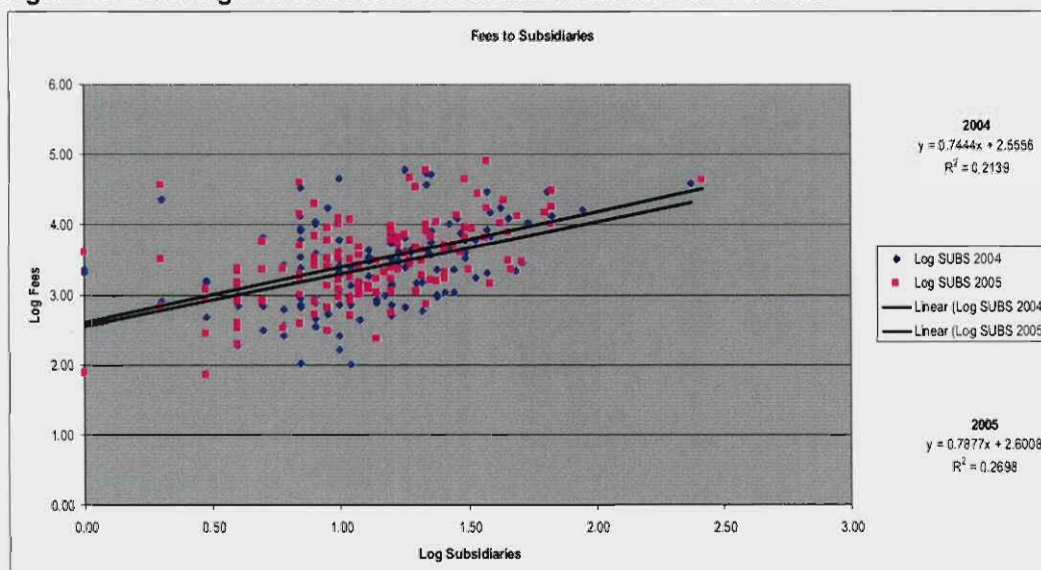
**Figure 4.2 Scattergram of audit fees vs. assets for 2004 & 2005**



- **Complexity of audited company – variable (SUBS)**

Figure 4.3 below displays the positive relationship between FEES and SUBS. The explanatory value of SUBS to the variation in movement of FEES is not strong, SUBS only explains 21% and 26% of the movement in 2004 and 2005 respectively, as seen in the value of R squared in figure 4.3 below.

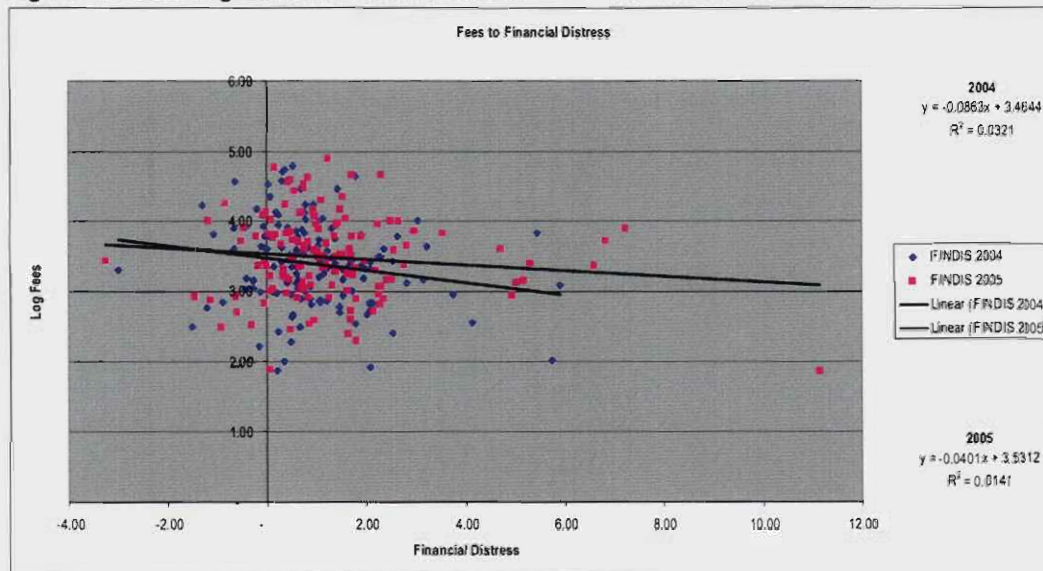
**Figure 4.3 Scattergram of audit fees vs. subsidiaries for 2004 & 2005**



- **Financial distress** – variables (FINDIS & PRF)

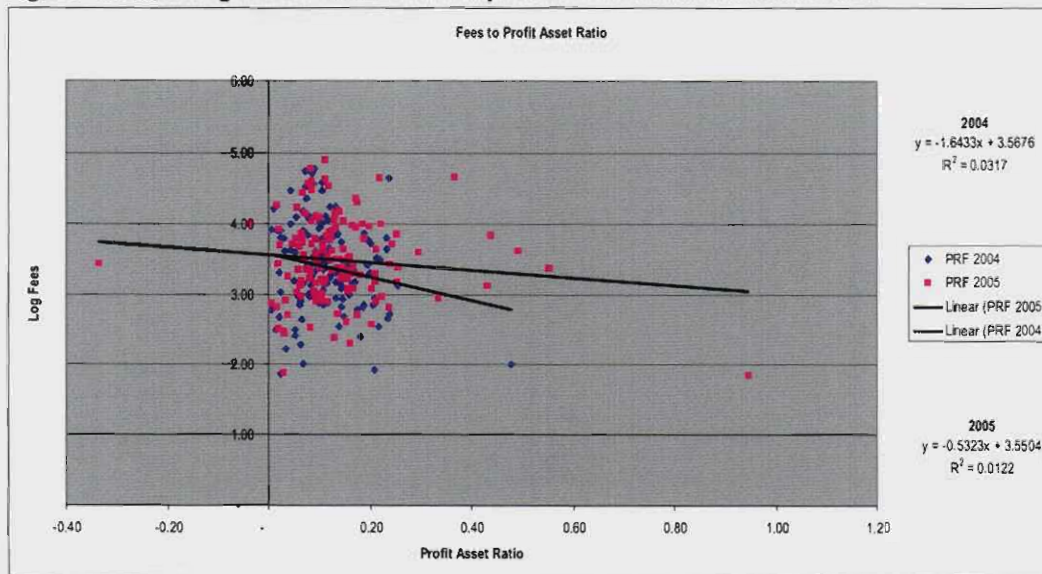
The relationship between audit fees (FEES), financial distress (FINDIS) and the profit asset ratio (PRF) was weak in both instances and had explanatory values of 3% and less in both scenarios; refer to figure 4.4 and 4.5. It does however confirm the theory that audit fees are likely to be higher in scenarios where companies are in financial distress or where the net profit to total assets is closer to 0, which will indicate financial distress.

**Figure 4.4 Scattergram of audit fees vs. financial distress for 2004 & 2005**



The authors' expectation for the scattergrams of the business risk variables measuring financial distress (FINDIS) and the profitability ratio of Net Profit to Total Assets (PRF) were both confirmed; it was in both instances a negative relationship, refer to figures 4.4 above and 4.5 below. This indicates that audit fees are likely to be higher when a company is in financial distress. The explanatory value of financial distress in terms of the variability in audit fees is very low at 2% and less.

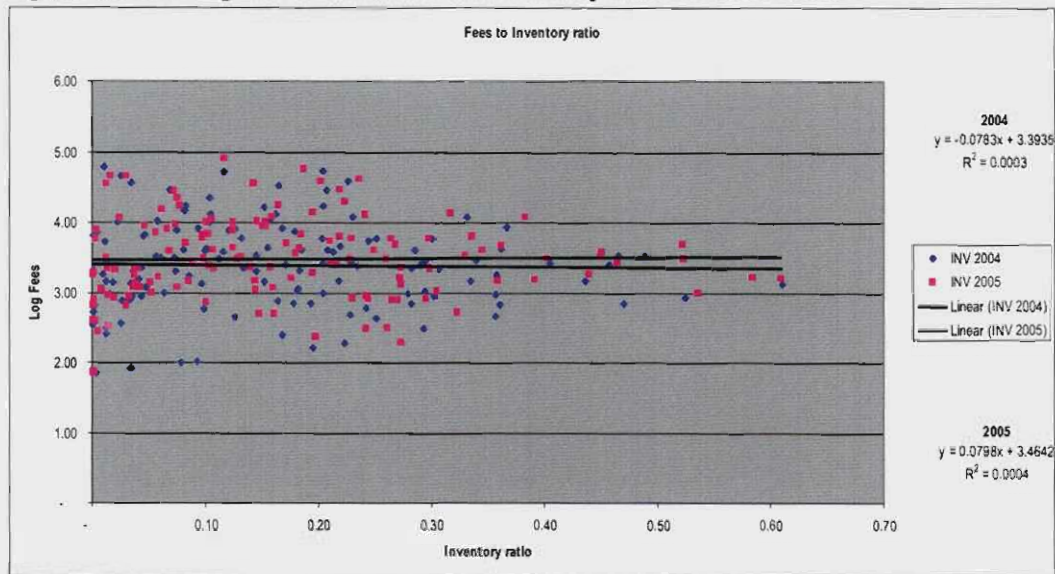
Figure 4.5 Scattergram of audit fees vs. profit asset ratio for 2004 & 2005



- **Audit risk** – variables (INV & RECV)

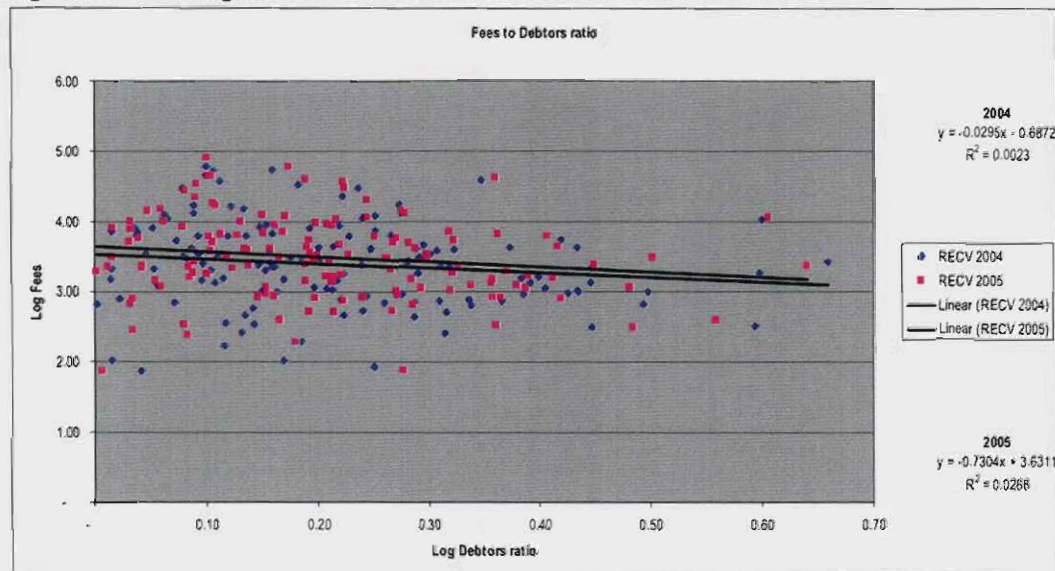
It was surprising to note that the relationship between audit fees (FEES) and the audit risk variable (INV), which is the ratio of inventories to total assets, was very weak at 0.03%, refer to figure 4.6 below. Asset composition for both inventories to total assets (INV) and receivables to total assets (RECV) were found to be very weak, it did however indicate the impact, if any, it will have on FEES. From earlier studies by Simunic (1980:162) and Jubb et al (1996:25) audit fees are expected to be lower where the ratio of inventory to assets (INV) and the ratio of receivables to assets (RECV) are closer to 0, refer to figure 4.7. The rationale is that less audit work will be required on “risky” balance sheet accounts such as inventory and debtors, where the ratio is closer to 0.

**Figure 4.6 Scattergram of audit fees vs. inventory ratio for 2004 & 2005**



The gradient/slope of the scattergram indicates whether the relationship is positive or negative. In the case of INV and RECV it was negative, which means that an increase in INV should be able to explain a decrease in FEES, however small it might be. It is visible in both table 4.6 and 4.7, probably easier to observe in table 4.7 below. The inverse relationship between INV, RECV and FEES was not expected. This is a potential topic for further research.

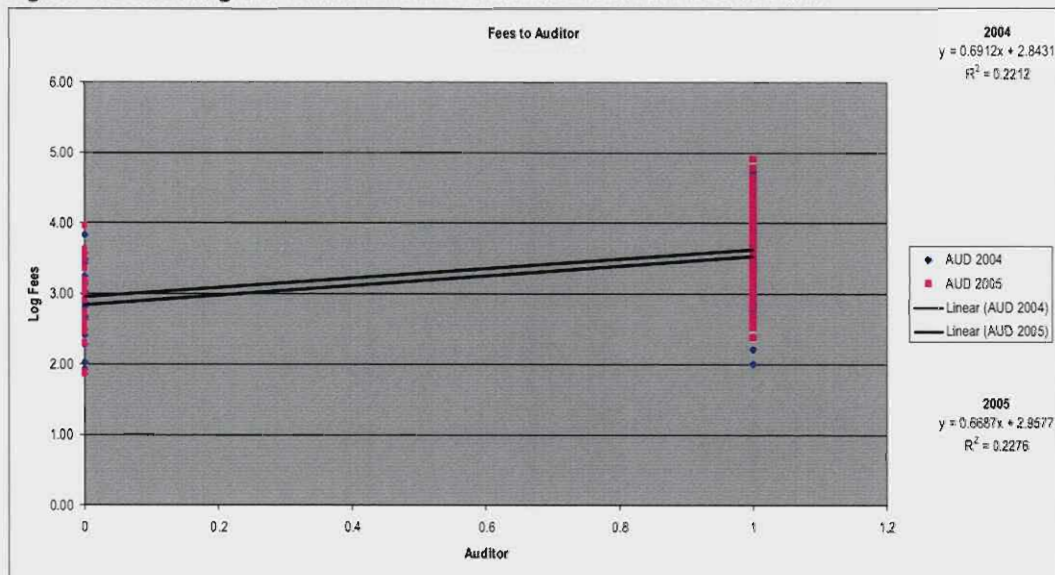
**Figure 4.7 Scattergram of audit fees vs. debtors ratio for 2004 & 2005**



- Auditor size – variable (AUD)

The relationship between audit fees (FEES) and the size of the audit firm (AUD) seen in figure 4.8 below is also a positive. The explanatory value is not strong at approximately 22% for both 2004 and 2005.

Figure 4.8 Scattergram of audit fees vs. auditor size for 2004 & 2005



- Summary of analysis

Statistical comparisons of all seven independent variables to audit fees were completed for both periods 2004 and 2005 and are listed in Tables 4.2 and 4.3 below.

Table 4.2 Analysis of independent variables to audit fees for 2004

Independent Analysis to FEES – 2004									
2004	R Squared	Gradient	Intercept	Covariance	Correlation	F-Test	Coefficients	Standard Error	DI=1.65 Du=1.6 DW-Sta
ASSETS	0.7768	0.6706	-0.6974	0.4323	0.8814	0.0017	0.6386	0.0373	1.606
SUBS	0.2139	0.7444	2.5556	0.1072	0.4625	0.0000	0.1079	0.0709	2.111
RECV	0.0227	-0.6685	3.5252	-0.0127	-0.1507	0.0000	0.3647	0.1835	1.940
INV	0.0003	-0.0783	3.3935	-0.0013	-0.0168	0.0000	-0.0550	0.1867	2.194
FINDIS	0.0321	-0.0863	3.4644	-0.1389	-0.1792	0.0000	-0.0886	0.0268	2.273
PRF	0.0317	-1.6433	3.5676	-0.0072	-0.1779	0.0000	1.0211	0.5101	2.267
AUD	0.2212	0.6912	2.8431	0.1195	0.4704	0.0000	0.1369	0.0645	2.140

Table 4.3 Analysis of independent variables to audit fees for 2005

Independent Analysis to FEES – 2005									
2005	R Squared	Gradient	Intercept	Covariance	Correlation	F-Test	Coefficients	Standard Error	DI=1.65 Du=1.6 DW-Stat
ASSETS	0.8028	0.6480	-0.5011	0.4207	0.8960	0.0002	0.6033	0.0324	1.655
SUBS	0.2698	0.7877	2.6008	0.1163	0.5194	0.0000	0.1357	0.0620	2.019
RECV	0.0268	-0.7304	3.6311	-0.0125	-0.1639	0.0000	0.1937	0.1702	1.842
INV	0.0004	0.0798	3.4642	0.0015	0.0189	0.0000	0.0175	0.1491	2.308
FINDIS	0.0141	-0.0401	3.5312	-0.1196	-0.1188	0.0000	-0.0908	0.0211	2.140
PRF	0.0122	-0.5323	3.5504	-0.0078	-0.1103	0.0000	0.8809	0.3000	2.174
AUD	0.2276	0.6687	2.9577	0.1156	0.4770	0.0001	0.1477	0.0552	2.140

### Descriptions of Statistics

**R-Squared** is the square of the Pearson product moment correlation coefficient through data points in FEES and ASSETS. The R-squared value can be interpreted as the proportion of the variance in FEES attributable to the variance in ASSETS.

**Gradient (Slope)** the linear regression line through data points in FEES and ASSETS. The slope is the vertical distance divided by the horizontal distance between any two points on the line, which is the rate of change along the regression line.

**Intercept** is the constant value, or intercept on the Y axis.

**Covariance** is the average of the products of deviations for each data point pair. Use covariance to determine the relationship between two data sets (FEES, ASSETS). For example, you can examine whether greater ASSETS accompanies greater levels of FEES.

**Correlation** (Pearsons coefficient) is the correlation coefficient between the two data sets (FEES, ASSETS) to assess the strength of the relationship between two variables.

**F-Test** is the one-tailed probability that the variances in array 1 and array 2 are not significantly different. Use this function to determine whether two samples have different variances.

**The standard error** is a measure of the amount of error in the prediction of FEES for ASSETS.

It can be concluded from the above independent analysis that the independent variable (ASSETS) displays the strongest correlation to the dependent variable (FEES). Although the variable (ASSETS) is seen as most significant in terms of explanatory value, it does not suggest that it negates the impact of the other independent variables (SUBS, FINDIS, PRF, INV, RECV & AUD).

The data from the independent analysis of FEES to ASSETS are displayed in table 4.4 below and were compared over the two years to get an indication of the movement year-on-year and whether the 2005 data was completely different from 2004. It is evident from the data in table 4.4 that a change to audit fees (FEES) has a strong correlation to a change in assets (ASSETS), thus indicating higher audit fees (FEES) where total assets (ASSETS) are higher. The change in R-squared from 2004 to 2005 did not provide any reason to believe that the relationship between audit fees and assets has changed significantly over the period.

**Table 4.4 Analysis of audit fees to assets for 2004 & 2005**

Independent Analysis Fees to Assets		
	2004	2005
R Squared	0.7768	0.8028
Gradient	0.6706	0.6480
Intercept	-0.6974	-0.5011
Covariance	0.4323	0.4207
Correlation	0.8814	0.8960
F-Test	0.0017	0.0002
Coefficients	0.6386	0.6033
Standard Error	0.0373	0.0324
DW-Stat	1.6067	1.6558

#### 4.5.2.2 Test for autocorrelation

- **Audited company's size** – variable (ASSETS)

Total assets (ASSETS) were found to have a strong positive relationship to audit fees (FEES) in both years (refer tables 4.2 and 4.3). The correlation coefficients for both years were also particularly strong. The Durbin Watson (DW) test for auto correlation, in table 4.5 below, on the 2004 data suggested that autocorrelation may be present at 95% confidence, but the DW for ASSETS was below DI and therefore no need

existed to remove this variable from the analysis. If the residuals are not correlated, the Durbin-Watson statistic should be close to 2. In this instance in table 4.5 it was 1.61. This does not necessarily explain the impact of independent variables on audit fees, but rather identify the existence of a multiplier effect of independent variables on audit fees (FEES).

**Table 4.5 Tests for autocorrelation between independent variables for 2004**

2004 data - Tests for autocorrelation between Independent Variables									
<b>Durbin-Watson Statistic</b>		<b>1.680959</b>		Critical D-W Values: Lower (Dl)=1.57; Upper (Du)=1.78					
Therefore Positive Autocorrelation maybe present at 95% Confidence									
<b>Critical F-Statistic at 95% Confidence</b>		<b>2.078588</b>		(Significance holds to 100.0% Level of Confidence)					
Auto Correlation									
DW-Stat	Adjusted R-Squared against other Indep	Independent R-Square Matrix							
1.61	35.93%	100%	18%	7%	0%	0%	3%	22%	<b>ASSETS</b>
2.11	24.29%	18%	100%	0%	1%	6%	3%	3%	<b>SUBS</b>
1.94	10.48%	7%	0%	<b>100%</b>	3%	1%	0%	8%	<b>RECV</b>
2.19	-0.60%	0%	1%	3%	<b>100%</b>	4%	4%	0%	<b>INV</b>
2.27	45.69%	0%	6%	1%	4%	<b>100%</b>	49%	0%	<b>FINDIS</b>
2.27	42.20%	3%	3%	0%	4%	49%	<b>100%</b>	0%	<b>PRF</b>
2.14	22.58%	22%	3%	8%	0%	0%	0%	<b>100%</b>	<b>AUD</b>
		<b>ASSETS</b>	<b>SUBS</b>	<b>RECV</b>	<b>INV</b>	<b>FINDIS</b>	<b>PRF</b>	<b>AUD</b>	

- **Complexity of audited company – variable (SUBS)**

Subsidiaries (SUBS) were found to have a positive, but weak, relationship with audit fees (FEES) in both years, refer to table 4.2 and 4.3. The correlation coefficients for both years were not particularly strong either, as seen in table 4.2 and 4.3. It did however help to explain the movement in audit fees, to a lesser extent than ASSETS, and had no autocorrelation qualities, refer to table 4.5 and 4.6. Subsidiaries did not display any potential of multicollinearity either. Although subsidiaries displayed some relationship to assets (18%, refer to table 4.5), as did financial distress to profitability (49%), the rule of thumb suggests that a value higher than 90% indicates high

multicollinearity and the variable should then be omitted. There was no reason to omit any of the independent variables. The magnitude of SUBS in determining audit fees will be weighted in the multiple regression function in tables 4.8 and 4.10.

- **Financial distress** – variables (FINDIS & PRF)

The variables FINDIS and PRF, measuring financial distress and profitability of the audited company, were found to have weak explanatory value to the change in FEES, refer to R-squared in table 4.2 and 4.3. Neither of these variables displayed potential for auto correlation or multicollinearity, and therefore there was no reason to exclude them from the regression analysis, refer to table 4.2 and 4.3. The magnitude of FINDIS and PRF in determining of audit fees will be weighted in the multiple regression function in tables 4.8 and 4.10.

- **Audit risk** - variables (INV) and (RECV)

The audit risk variables (INV) and (RECV) were found to have very weak explanatory power for the change in audit fees, refer to R-squared in table 4.2 and 4.3. Neither of INV or RECV displayed potential of multicollinearity, refer to table 4.2 and 4.3. Nevertheless, both variables were included in the regression analysis to keep the model consistent with earlier research studies. The magnitude of INV and RECV in determining of audit fees will be weighted in the multiple regression function in tables 4.8 and 4.10 below.

**Table 4.6 Tests for autocorrelation between independent variables for 2005**

2005 data - Tests for autocorrelation between Independent Variables									
<b>Durbin-Watson Statistic</b>		<b>2.076868</b>		Critical D-W Values: Lower (Dl)=1.57; Upper (Du)=1.78					
Therefore no Autocorrelation detected at 95% Confidence									
<b>Critical F-Statistic at 95% Confidence</b>		<b>2.078588</b>		(Significance holds to 100.0% Level of Confidence)					
Auto Correlation									
<b>Adjusted R-Squared against other Indep</b>									
<b>Independent R-Square Matrix</b>									
<b>Dl=1.65</b>	<b>Du=1.69</b>								
<b>DW-Stat</b>									
1.66	40.98%	100%	23%	7%	0%	0%	0%	20%	<b>ASSETS</b>
2.02	32.67%	23%	100%	0%	1%	3%	4%	3%	<b>SUBS</b>
1.84	16.99%	7%	0%	<b>100%</b>	3%	3%	0%	8%	<b>RECV</b>
2.31	-0.75%	0%	1%	3%	<b>100%</b>	2%	2%	0%	<b>INV</b>
2.14	64.74%	0%	3%	3%	2%	<b>100%</b>	68%	0%	<b>FINDIS</b>
2.17	64.71%	0%	4%	0%	2%	68%	<b>100%</b>	0%	<b>PRF</b>
2.14	21.92%	20%	3%	8%	0%	0%	0%	<b>100%</b>	<b>AUD</b>
		<b>ASSETS</b>	<b>SUBS</b>	<b>RECV</b>	<b>INV</b>	<b>FINDIS</b>	<b>PRF</b>	<b>AUD</b>	

- **Auditor size – variable (AUD)**

The variable (AUD) was found to be positively correlated to audit fees in the sample data used in this study (refer tables 4.2 and 4.3). Although not 'strong' positively correlated, it was found, on independent analysis, to be more than 22% correlated to audit fees, and overall, including the six variables previously used, it was given a 0.108 weighting in the regression model, refer to table 4.7

Audit firm size (AUD) was found to be more significant than SUBS, FINDIS, PRF, INV and RECV, and second to ASSETS in 2004, which had the most powerful explanatory value of the 7 variables used in the regression analysis (refer table 4.2). In 2005 audit firm size (AUD) moved down to third most important (refer table 4.3). The magnitude of AUD in determining of audit fees will be weighted in the multiple regression function in tables 4.8 and 4.10 below. It does appear that ASSETS, AUD and SUBS have the biggest impact on audit fees, where higher volume of ASSETS

and SUBS will lead to higher FEES and the presence of a Big four audit (AUD) will lead to higher FEES.

### 4.5.3 Multiple linear regression analysis

The proportion of variability in audit fees for the period 2004 to 2005 which can be explained by the independent variables is better than 80% for both years. This indicates that more than 80% of the variability (change) in audit fees can be explained by the variables used (ASSETS, SUBS, FINDIS, RECV, INV, PRF and AUD).

The regression analysis for the 2004 year in table 4.7 below indicates that 81.56% of the change in audit fees can be explained by the change in the 7 independent variables used in the analysis. The analysis is regarded as significant.

**Table 4.7 Multiple linear regression analysis for 2004**

Multiple Regression Analysis – 2004					
Equation Parameters					
R Square	0.8156	81.56% of the change in FEES can be explained by the change in the 7 Independent Variables Adjusted for Sample Size bias to +/- on result of Regression Equation Therefore analysis IS Significant			
Adjusted R Square	0.8054				
Standard Error	0.2705				
F – Statistic	80.2324				
Multiple Regression Equation			Independent Analysis		
	Coefficients	Standard Error	R Squared	Gradient	Intercept
Intercept	-0.829	0.219			
ASSETS	0.639	0.037	77.68%	0.67	-0.70
SUBS	0.108	0.071	21.39%	0.74	2.56
RECV	0.365	0.183	2.27%	-0.67	3.53
INV	-0.055	0.187	0.03%	-0.08	3.39
FINDIS	-0.089	0.027	3.21%	-0.09	3.46
PRF	1.021	0.510	3.17%	-1.64	3.57
AUD	0.137	0.065	22.12%	0.69	2.84

The multiple linear regression function based on the data for the 2004 year is displayed in table 4.8 below. This function can be used to forecast audit fees.

**Table 4.8 Multiple regression function for 2004**

$$FEES = 0.64*ASSETS + 0.11*SUBS + 0.36*RECV + -0.05*INV + -0.09*FINDIS + 1.02*PRF + 0.14*AUD + -0.83 (+/- 0.27)$$

The regression analysis for the 2005 year in table 4.9 below indicates that 84.90% of the change in audit fees can be explained by the change in the 7 independent variables used in the analysis. The analysis is regarded as significant.

**Table 4.9 Multiple linear regression analysis for 2005**

Multiple Regression Analysis – 2005					
Equation Parameters					
R Square	0.8490	84.90% of the change in FEES can be explained by the change in the 7 Independent Variables Adjusted for Sample Size bias to +/- on result of Regression Equation Therefore analysis IS Significant			
Adjusted R Square	0.8406				
Standard Error	0.2335				
F – Statistic	101.9783				
Multiple Regression Equation			Independent Analysis		
	Coefficients	Standard Error	R Squared	Gradient	Intercept
Intercept	-0.535	0.181			
ASSETS	0.603	0.032	80.28%	0.65	-0.50
SUBS	0.136	0.062	26.98%	0.79	2.60
RECV	0.194	0.170	2.68%	-0.73	3.63
INV	0.018	0.149	0.04%	0.08	3.46
FINDIS	-0.091	0.021	1.41%	-0.04	3.53
PRF	0.881	0.300	1.22%	-0.53	3.55
AUD	0.148	0.055	22.76%	0.67	2.96

The multiple linear regression function based on the data for the 2005 year is displayed in table 4.10.

**Table 4.10 Multiple regression function for 2005**

$$FEES = 0.60*ASSETS + 0.14*SUBS + 0.19*RECV + 0.02*INV + -0.09*FINDIS + 0.88*PRF + 0.15*AUD + -0.54 (+/- 0.23)$$

The regression model based on the variable (ASSETS, SUBS, FINDIS, RECV, INV, PRF and AUD), indicated that the analysis is significant. Significance holds to 100% level of confidence. This implies that audit fees can be determined through multiple regression analysis and have significant explanatory value. In both instances

displayed in table 4.7 and 4.9 more than 80% of the change in audit fees could be explained by the independent variables selected for the regression analysis.

The first objective of the research study as indicated in chapter 1, paragraph 1.3.2 was to determine if audit fees have statistically significant trends and/or correlations to company specific financial variables. The empirical study has proved that statistically significant trends do exist and hold to very high confidence levels in the South African environment. This supports earlier research by Simunic (1980:187), Jubb et al (1996:31) and Gerrard et al (1994:9).

#### **4.6 Factors impacting on the audit fees of JSE listed companies**

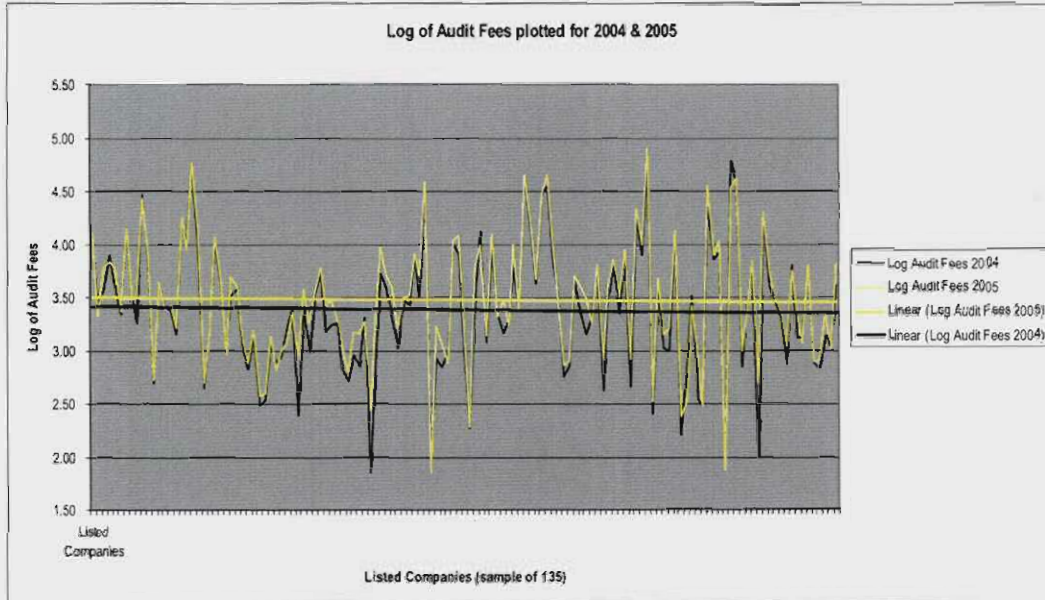
The literature study in Chapter 2 dealt with the global environment and the factors that had an impact on audit fees of listed companies on international exchanges, this was done to create context for the local environment and identify some leading indicators. Chapter 3 dealt with circumstances specific to the South African market and identified seven key items which could have an impact of audit fees in the local market. They are:

- Accounting and Auditing standards (international standards)
- The Companies Act (61/1973) specific to South African companies
- JSE listing requirements
- Corporate Governance (specific focus on the King code)
- Political and economic environment
- Transformation and black economic empowerment
- The skills shortage in the local market

The literature study provided many examples where audit fees have and will increase as seen in paragraphs 3.2.4.2, 3.2.5 and 3.3. The literature study has undoubtedly provided practical examples in some instances (refer to paragraph 3.2.5) and theoretical forecasts in others (refer to paragraph 3.2). The empirical study revealed significant proof on an increase in audit fees for the sample group of companies. Figure 4.9 displays the audit fees of the sample of companies, transformed to its natural logarithm, for the period 2004 & 2005. The graph for the 2005 fees (in yellow) is higher than the 2004 fees (in black). The movement in audit fees is more

noticeable when a trend line for both years is added; from this it is clear that audit fees have moved as indicated in figure 4.9 below.

**Figure 4.9 Log of audit fees plotted for 2004 & 2005**



The actual audit fees for 2004 and 2005, not transformed to the natural logarithm, were also used to calculate the average and increase on the average audit fee. This was done on the same sample of 135 companies and was found to be significant. The arithmetic mean represents the average, which increased by 15% year-on-year as seen in table 4.11 below.

**Table 4.11 Increase in actual audit fees in R'000s from 2004 to 2005**

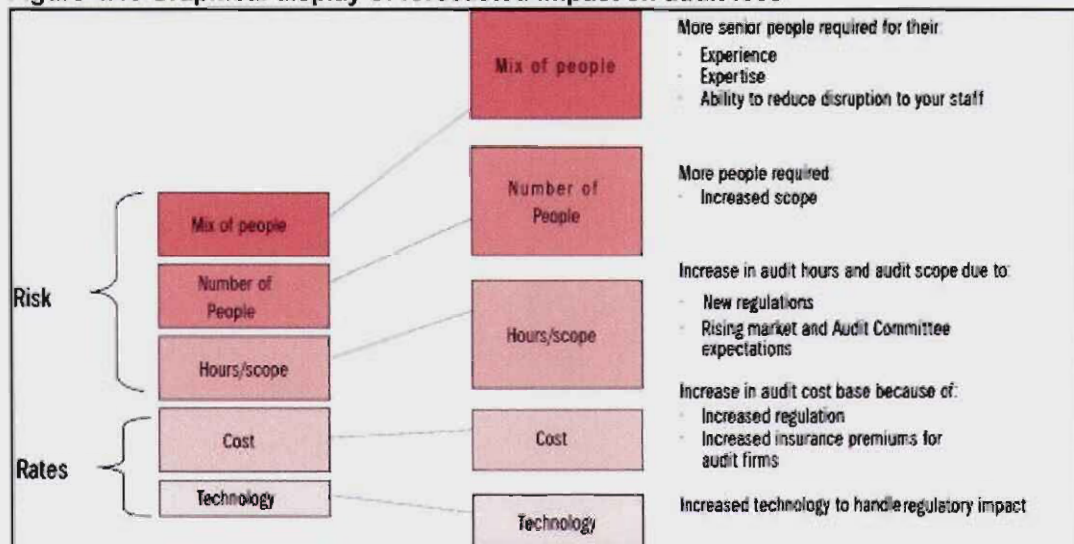
Actual Audit Fees	2004	2005	% Increase
<b>Modus</b>	6,000	10,000	67%
<b>The Median from ungrouped data</b>	2,406	3,000	25%
The median is the value of the observation which is halfway along the array of an ordered list of data, i.e. the middle observation.			
<b>The Arithmetic Mean</b>	6,223	7,175	15%
The Arithmetic Mean is calculated by summing all the individual observations and dividing by the number of those observations.			

Percentiles			
25 <sup>th</sup>	937	1,197	28%
50 <sup>th</sup>	2,406	3,000	25%
75 <sup>th</sup>	6,191	7,087	14%

#### 4.6.1.1 Impact of new regulatory and statutory requirements

From the literature study in Chapters 2 & 3 it is evident that the anticipated impact of the new pronouncements on audit fees will be significant. The transition to a single set of global accounting and auditing standards has already shown the entities operating in the United States, the United Kingdom and Europe and for that matter, the rest of the world, that the increase in audit fees is not a matter which can be neglected. The cost of doing business for the audited company will definitely increase, and at the same time, the cost of staying in the profession for the audit firm will increase. The literature study has proved that the convergence to the new standards has already increased the amount of hours audit firms have to spend (paragraph 2.8.4 of Chapter 2), while at the same time it requires more people (paragraph 3.3 of Chapter 3), and more senior resources, at a higher cost than before, coupled with an increase in cost of technology to support this. The impact is best described by figure 4.10 below.

**Figure 4.10 Graphical display of forecasted impact on audit fees**



Source: Adopted from Ernst & Young, 2005d

Figure 4.10 is a comprehensive summary of the expected and experienced increase in audit fees after the new pronouncements be it in the global or local market, used

by one of the Big 4 to explain the increase in audit costs. The major driving forces are identified as risk and rates as seen in figure 4.10.

The amendments to the South African Companies Act (61/1973) and the Auditing Professions Bill (26/2005) aim to improve the standard of governance in the South African environment, and will require an investment in time and money. The impact of the new Acts on audit fees could not yet be observed at the completion of this study.

#### **4.6.1.2 Other factors with potential impact**

South Africa has a number of unique conditions which cannot be neglected. It has to make its own provisions for transformation and Black Economic Empowerment, while at the same time have to deal with the skill shortages. All these initiatives are aimed at improving the overall economic welfare of the country and are without doubt necessary. In the short to medium term it will be a capital and time-intensive process, which will require funding from the public and private sector.

The impact of these factors is assumed to be included in the increase in audit fees observed in figure 4.9 and table 4.11. The overall increase in audit fees in table 4.11 is swamped with “noise” and cannot distinguish between individual variables such as skills shortage, Black Economic Empowerment, and transformation. It was not possible to quantify the impact of these unique conditions in this dissertation. They will however demand attention in the future and could well be an area for inventive research.

### **4.7 Conclusion**

The empirical study in this chapter has endorsed the use of a multiple regression model to analyse audit fees of companies. It has confirmed findings from earlier research such as Simunic (1980:162), Jubb et al (1996:25) and Gerrard et al (1994:9) with regard to common variables used to model audit fees; refer to paragraph 4.4.1, and proved that it can be used in different countries and on different exchanges. The variable ASSETS was identified as the strongest driver of a change in audit fees. This does not leave any of the other independent variable out of contention, they all contributed to the overall significance of the regression model.

The researcher found that the model held to a 100% significance and is of the opinion that it can be used in future to forecast and determine audit fees. It also validates that the growth in audit fees is expected and should not be surprising.

The empirical study has touched on both research questions as identified in Chapter 1, paragraph 1.3, the findings, summary, limitations and implication of this study will be discussed in more detail in Chapter 5.

## **5 Chapter 5: Summary, limitations and implications**

### **5.1 Introduction**

The research objectives (Chapter 1, paragraph 1.3) were to address the research questions with regard to variability in audit fees and the possibility of correlations to company specific financial variables. In this concluding chapter, the findings of the research, as they relate to each objective, will be discussed briefly. Furthermore, limitations are identified and recommendations will be made. Finally, further research topics will be suggested.

The researcher agrees with the findings from Simunic (1980:162), Turpen (1995:1), Gerrard et al (1994:3) and Jubb et al (1996:25) with regard to the theory of audit fee modelling. It is possible to build a positive explanatory audit fee model based on company specific variables; this was done successfully in this study.

The literature study and empirical research were based on the objectives indicated in Chapter 1, paragraph 1.3. Chapter 2 and 3 set out the literature study undertaken and the empirical research was set out in Chapter 4.

### **5.2 Summary**

The results obtained from the literature study in answering the first research question in Chapter 1, paragraph 1.3 are discussed below.

#### **5.2.1 To identify and quantify the impact of recent regulatory and statutory requirements on the audit fees of JSE-listed companies.**

The changes to regulatory and statutory requirements were researched in Chapter 2 and 3, with a specific focus on the international market in Chapter 2 and the local market in Chapter 3. It was found that various factors play a role in the international/global and local market with some overlapping in both.

The impact on audit fees in the international market was observed in the increase of audit fees of the FTSE-100 companies in the U.K., and an underlying 15% increase from 2004 to 2005. Companies listed on the Dow Jones Industrial index in the U.S.A. saw their audit fees increase by 40% from 2003 to 2004, refer to Chapter 2, paragraph 2.8.1.

The adoption of global standards in the form of International Standards of Auditing (ISA) and International Financial Reporting Standards (IFRS) undoubtedly raised the average audit fee in the international market, not even considering the impact of Sarbox, independence, skills shortages and Big 4 premiums.

The literature study also revealed that the impact of the Sarbanes-Oxley Act, specifically section 404 of this Act, on SEC listed companies was the dominating force on audit fees. Sarbanes-Oxley certainly placed an additional workload on companies and increased audit fees by double digits, but it also has significant business benefits in terms of reporting efficiencies and better controls.

The influence of independence, evaluation of the auditor and the short supply of qualified accountants in the international arena are perceived to be significant, but was not quantified.

Chapter 3 focussed on the local market and specific forces that play a role on South African, and more specifically JSE-listed companies.

The South African environment had similar trends in the form of adoption of international accounting and auditing standards and skills shortages. The author is of the opinion that South African specific requirements such as the Companies Act (61/1973), the Audit Professions Act (26/2005), corporate governance under the King code and provisions for black economic empowerment could also have a significant impact on audit fees. The actual effect could not be quantified because the time lapse since the introduction thereof is too short to present proper data for such a calculation.

The presence of a Big four auditor was tested in the empirical study and was found to have a positive relationship to audit fees, although not significantly strong.

The impact of regulatory and statutory requirements was strongly supported in the literature study. The literature study proved that the new pronouncements had a significant impact in the international environment, and leading indicators suggested that it will have a significant impact on JSE listed companies. The expectation was only to see the full scale of this impact in the next reporting cycle. The empirical study has already displayed some of this impact which will be discussed in the next paragraph 5.2.2 when reviewing the second objective of this study.

This objective was partially fulfilled in respect of the identification of those statutory and regulatory requirements that have an impact on audit fees of JSE listed companies: it was however not possible to quantify this effect.

### **5.2.2 To determine if statistically significant trends and /or correlations exist between audit fees of JSE listed companies and company specific financial variables.**

The second objective of this research study was to determine if statistically significant trends exist as per the research question in chapter 1, paragraph 1.3.1. The empirical study in Chapter 4 was modelled on earlier research conducted in the Australian and American environment.

The variables used to determine whether correlations exist have been explained in detail in Chapter 4, paragraph 4.5.2. It was found that these variables can be used to model audit fees, and that they have high levels of explanatory power when used in such models.

Specific variables with high levels of explanatory power are total assets, and to a lesser extent, the number of subsidiaries. Variables with low levels of explanatory power are the financial distress of a company and the accounting rate of return. This finding is consistent with previous studies such as Jubb et al (1996:11), where the distress variable proved to be only weakly significant as a determinant of audit fees.

The variables that dealt with auditor size (AUD) and the audit risk (INV & RECV) had weak explanatory power in this study but could require more attention in future and could potentially become more significant if the competition between audit firms in the market changes or if/when audit risk is seen in a more serious light.

The empirical investigation also revealed that the average audit fees for the sample of 135 listed companies on the JSE have increased by 15% from 2004 to 2005.

From the empirical work in Chapter 4 it is obvious that statistically significant trends do exist between the audit fees of JSE listed companies and the variables used in the study. The multiple regression function can be used to forecast audit fees in future studies.

### **5.2.3 Hypothesis**

The hypothesis: Statistically significant trends and / or correlations exist between audit costs and financial variables of JSE-listed companies and regulatory and statutory requirements have an increasing impact on audit fees, could not be rejected.

## **5.3 Limitations**

Consistent with earlier research this study also suffers several limitations. Most important is the timing of the study on JSE listed companies, as it was conducted in the early stages of the transition to the new regulatory and statutory requirements. The period during which this study was conducted can be seen as the watershed between the “traditionally low” and the “post-corporate-scandal-high” era. The identification and quantification was one the research goals of this dissertation. The identification through an extensive literature study was possible, but with very limited quantitative analysis to support the literature in the South African environment, and more specifically on JSE listed companies.

The sample of JSE listed companies was limited to 135 out of more than 300 companies. The sample only represented companies for which complete data was available and excluded specific sectors of the JSE as mentioned in Chapter 4, paragraph 4.3 due to the nature of the business and asset composition of the company. The exclusion of the Financial Services sector, the J99 sector and gold mining companies were among these. The Financial Services sector includes Banks, Insurance, Life Assurance, Specialist securities, Specialist & Other finance and the

'J99' sector includes Development capital, Venture capital and AltX. The Financial Services sector has been omitted as it is characteristically different from other industry sectors due to the nature of asset base, while the J99 sector was omitted due the nature of the capital structure. Gold mining companies were omitted from the research as their public and standardised financial statements are reported separately in the BFA database. They were omitted to ensure consistency in the data.

The sample represents less than 50% of the total number of listed companies on the JSE and the researcher acknowledges the fact that although the basis of selection/compilation of the sample may not be statistically acceptable, it included all companies listed on the JSE apart from those in the sectors mentioned above, for which complete data was available. Nevertheless, the sample allowed the researcher to test, and analyse the data and conclude on both research objectives as in Chapter 1.

The disclosure of audit fees and the differentiation between internal and external audit fees also limited the quality of the research as far as external audit fees are concerned. The data in the published financial statements of listed companies does not distinguish between internal and external audit fees, this could lead to misleading statistics if the internal audit component is significantly larger than the external audit.

## **5.4 Recommendation**

The method of multiple regression analysis to model audit fees in the South African environment can contribute a considerable amount to the overall understanding and interpretation of audit fees for both auditors and audit clients. The researcher is of the opinion that the application of such a model in practice will assist in agreeing on audit fees that are reasonable, recoverable and sustainable.

The researcher is also of the opinion that this will be an early warning system to both the client and auditor to identify tactics such as "low-balling" and "cross subsidisation".

The researcher recognised the fact that audit fees in the published financial statements of listed companies on the JSE does not distinguish between internal and

external audit fees. It is recommended that this division is made in future to further enhance the application of the multiple regression analysis and assist financial statement users to understand the impact of the internal and external audit components.

The multiple regression analysis and regression model has not convinced the author that a "one-size-fits-all" approach is the route to take. Every audit is unique and should be approached in this manner. The application of a regression model can assist in providing guidelines for audit fees.

## **5.5 Future research**

For future research it is recommended that the impact of regulatory and statutory requirements on JSE listed companies is studied at the hand of this model, or a model with similar variables which makes specific provision for:

- industry charters,
- regulatory requirements for industries such a financial services and mining and;
- industry specific risks such as the venture capital and development capital market

The impact of the amended Companies Act (61/1973) and the new Audit Professions Act (26/2005) also require a more in depth analysis in the view of the author.

## **5.6 Conclusion**

Audit fees have been a contentious issue for many years and will continue to be a debateable topic in future. The perception that audit firms are charging too high fees and are realising abnormal profits will continue to exist. The plea form audit firms to their clients to help improve the recovery on audit engagements will also be pervasive in future. The market forces at play, such as new pronouncements, skills shortages and globalisation will further exacerbate the pressures on audit fees.

The multiple regression analysis will always be a practical tool to analyse variability in audit fees. The author believes that this study will contribute to start explaining the

“gap” between audit fees and audit costs, and start explaining this to audit clients and their auditors.

## 6 REFERENCES

ACCOUNTANCY AGE, 2005a. Audit fees double in US. 9 Feb.

<http://www.accountancyage.com/accountancyage/news/2036847/audit-fees-double>

[Date of access: 1 Aug. 2005].

ACCOUNTANCY AGE, 2005b. Many controllers say there is an inverse relationship between the benefits. Controller's report 1 Sep. Available: Factiva.com.

ACCOUNTANCY AGE, 2005c. Sarbox may just have given more power to Europe's elbow. 3 Feb. Available: Factiva.com.

ALTMAN, E. 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance*. September. 589-609.

ALTMAN, E. 1983. Corporate Financial Distress.

<http://www.solvency.com/bankpred.htm> [Date of access: 23 Aug. 2005].

ANON, 2003. Mandated study on consolidation and competition. United States General Account Office. [Web:]

[http://searching.gao.gov/query.html?qt=+hhi+index&charset=iso-8859-](http://searching.gao.gov/query.html?qt=+hhi+index&charset=iso-8859-1&q=&x=12&y=13)

[1&q=&x=12&y=13](http://searching.gao.gov/query.html?qt=+hhi+index&charset=iso-8859-1&q=&x=12&y=13) [Date of access: 5 May 2005].

ANON, 2005a. Doing business in South Africa: which way to jump. *Finance Week*, (June 29): 12-14.

ANON, 2005b. The right BEE mix: The state of the empowerment nation. *Finance Week*, (May 25): 3-10.

ANON, 2006a. The annual audit fees survey FTSE-100. *Financial Director*, (January): 28-33.

ANON. 2006b. JSE plummets, massive share price drops. *Business Quake*, (Feb 10): 1.

ANON 2006c. Regression analysis. [Web:] <http://www.answers.com/topic/regression-analysis> [Date of access: 22 Nov. 2006].

ASSOCIATION OF BRITISH INSURERS. 2005. Strengthening the audit process after Enron. [Web:] <http://www.abi.org.uk/Bookshop/default.asp> [Date of access: 15 Aug. 2005].

AUSTIN, P. 2004. Why the need for new standards. *Finance Week*, (October 20) 18 – 22.

BAKER, R. C. 2005. The varying concept of auditor independence. [Web:] <http://www.nysscpa.org/cpajournal/2005/805/infocus/p22.htm> [Date of access: 27 Oct. 2006].

BEAVER, W. 1968. Market prices, financial ratios, and the prediction of failure. *The Journal of Accounting and Research* September: 179 - 192.

BENSTON, L. 2005. New accounting rules are hurting Riviera. *In Business Las Vegas* 17 Aug. Available: Factiva.com.

BOURNE, .M. F. J. 2005. Letter to the chairman and committee members of PAAB, 14 October. Johannesburg. (Original copy in the records of PAAB.)

BRIDGE-DAVID, S. 2005. Premium on black accountants. [Web:] <http://www.abasa.org.za/node.31> [Date of access: 14 Oct. 2005].

BUSINESS CONTINUITY ONLINE. 2005. Sarbanes-Oxley ratchets audit fees. [Web:] [http://www.business-continuity-online.com/Regulatory\\_Compliance/Article2312.aspx](http://www.business-continuity-online.com/Regulatory_Compliance/Article2312.aspx) [Date of access: 2 Mar. 2005].

CHOU, W.L. & LEE, D.S 2005. Panel Cointegration Analysis of Audit Pricing Model. *Review of Quantitative Finance and Accounting*, 24: 423–439.

CHRISTOPHER, I. 2005. South Africa. *Accounting & Business*. Sep. 47.

CLIFFE DEKKER ATTORNEYS, 2002. King report on corporate governance for South Africa. [Web:] <http://www.cliffedekker.co.za/literature/corpgov/index.htm> [Date of access: 17 Jun. 2006].

DE ANGELO, L. 1981. Auditor independence, lowballing and disclosure regulation, *Journal of Accounting and Economics* (3): 113-127.

DE LA REY, J.H. 1981. *Finansiële verhoudingsgetalle en die voorspelling van finansiële mislukking by nywerheidsondernemings in die Republiek van Suid-Afrika*. Pretoria: University of Pretoria. (Unpublished Doctoral Script).

DEMSKI, J., & SWIERINGA, R. 1974. A Cooperative Formulation of the Audit Choice Problem. *The Accounting Review* (July): 506-13.

DIACON, S. FENN, P. & O'SULLIVAN, N. 2002. Highballing and Low-balling in audit pricing: the impact of auditor error. The University of Nottingham (CRIS Discussion Paper series) 28p.

DONALDSON, C. 2005. Curtailing the skills shortage in accounting. [Web:] <http://www.humanresourcesmagazine.com.au/articles/2c/0c02ec2c.asp> [Date of access: 19 Jul. 2006].

DOUGLAS, C.M. 2006. Audit fees, sox still socking companies. [Web:] <http://boston.bizjournals.com/boston/stories/2006/04/03/story4.html> [Date of access: 27 Oct. 2006].

ERNST & YOUNG, 2005a. Fair fees: the regulatory impact on audit fees. [Web:] [http://www.ey.com/global/Content.nsf/South\\_Africa/Audit\\_-\\_Fast\\_Facts](http://www.ey.com/global/Content.nsf/South_Africa/Audit_-_Fast_Facts) [Date of access: 16 Jan. 2006].

ERNST & YOUNG, 2005b. International financial reporting standards – what can your auditor do for you? [Web:] [http://www.ey.com/global/Content.nsf/South\\_Africa/Audit\\_-\\_Fast\\_Facts](http://www.ey.com/global/Content.nsf/South_Africa/Audit_-_Fast_Facts) [Date of access: 16 Jan. 2006].

ERNST & YOUNG, 2005c. Mergers and acquisitions – A review of activity for the year 2004. 14<sup>th</sup> edition. Johannesburg (63p).

- ERNST & YOUNG, 2005d. Understanding your audit fees. [Web:]  
[http://www.ey.com/global/Content.nsf/South\\_Africa/Audit\\_-\\_Fast\\_Facts](http://www.ey.com/global/Content.nsf/South_Africa/Audit_-_Fast_Facts) [Date of access: 22 Jan 2006].
- FRANCIS, J. R. & SIMON, D.T. 1987. A test of audit pricing in the small-client segment of the US audit market. *Accounting Review* 62, 145–157.
- FRANCIS, J. R. 1984. The effect of audit firm size on audit prices - a study of the Australian market. *Journal of Accounting and Economics* 6 (Aug.), 133–151.
- FRANCIS, J.R. & STOKES, D.J. Audit prices, product differentiation and scale economies: further evidence from the Australian market. *Journal of Accounting Research* (24):383-393. Autumn.
- FW DE KLERK FOUNDATION, 2005. BEE in South Africa. [Web:]  
<http://www.fwdklerk.org.za/indexe.php> [Date of access: 23 Sep. 2005].
- GERRARD, I., HOUGHTON, K & WOODLIFF, D. 1994. Audit Fees: The effects of auditee, auditor and industry differences. *Managerial Auditing Journal*, 9(7):3-11.
- GREGORY, A. & COLLIER, P. 1996. Audit fees and auditor change; an investigation of the persistence of fee reduction by type of change. *Journal of Business Finance & Accounting* 23, 3–28.
- HAMILTON, R. 2003. Is black economic empowerment working? [Web:]  
<http://news.bbc.co.uk/2/hi/business/3262123.stm> [Date of access: 22 Sep. 2006].
- HARTMAN, T.E. 2006. The cost of being public in the era of Sarbanes-Oxley. [Web:]  
[http://www.foley.com/publications/pub\\_detail.aspx?pubid=3420](http://www.foley.com/publications/pub_detail.aspx?pubid=3420) [Date of access: 15 Oct. 2006].
- HINKS, G. 2006. A high price to pay for regulation? [Web:]  
<http://www.accountancyage.com/accountancyage/comment/2148067/price-pay-regulation> [Date of access: 5 May. 2006].

HOURQUEBIE, P. 2004. Life after Enron. *Finance Week*, 57, 20 October. (18 – 22).

IRBA, 2005. Adoption of IAAS standards by the auditing and assurance standards board. [Web:] [www.paab.co.za/documents/doc\\_00400.pdf](http://www.paab.co.za/documents/doc_00400.pdf) (9p). [Date of access: 15 Jul. 2006].

JOHNSON, C. 2005a. Higher audit fees, more accountability. [Web:] <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/29/AR2005072901741.html> [Date of access: 9 Aug. 2005].

JOHNSON, C. 2005b. Sarbanes-Oxley boosts audit costs, turnover at the top. The Seattle Times 5 Aug. Available: Factiva.com.

JSE, 2005. Guideline to listing on the JSE. [Web:] [http://www.jse.co.za/informational/guideline/guidelines\\_05072004.doc](http://www.jse.co.za/informational/guideline/guidelines_05072004.doc) [Date of access: 7 May. 2006].

JUBB, C.A., HOUGHTON, K.A. & BUTTERWORTH, S. 1996. Audit fee determinants: the plural nature of risk. *Managerial Auditing Journal*, 11(3): 25-40.

KINGDON, G. & KNIGHT, J. 2005. Unemployment in South Africa: a microeconomic approach. [Web:] <http://www.csae.ox.ac.uk/resprogs/usam/default.html#papers> [Date of access: 3 May. 2006].

LASCHINGER, K. 2005. Empowering the Economy. *Accounting & Business*, (September): 26-28.

LEGALBRIEF, 2006. Auditing Professions Act to 'lift public confidence. [Web:] <http://www.legalbrief.co.za/article.php?story=20060412085939773> [Date of access: 16 Jun. 2006].

MAFU, T. 2006. Auditing act creates regulator with teeth. *Business Day* (South Africa) 6 April.

- MAUTZ, R.K. & SHARAF H.A. 1961. The philosophy of auditing, Monograph no 6. (1961) 204.
- MBEKI, T. 2005. Address of the president of South Africa, at the 25th anniversary of the South African Institute of Chartered Accountants, Sandton Convention Centre, September 21, 2005. [Web:] <https://www.saica.co.za/Default.asp> [Date of access: 16 Jan. 2006].
- MEYER, W. 2003. The JSE's listing requirements help to make the shareholder king. [Web:] <http://www.persfin.co.za/index.php?fSectionId=654&fArticleId=222669> [Date of access: 27 Jul. 2005].
- MUMPHANSHYA, P. 2000. New listing rules for JSE. [Web:] [http://www.businessinafrica.net/features/market\\_intelligence/326111.htm](http://www.businessinafrica.net/features/market_intelligence/326111.htm) [Date of access: 17 Jul. 2005].
- NEVELING, N. 2006. Firms bank 15% audit fee increase. [Web:] <http://www.accountancyage.com/accountancyage/news/2148065/firms-bank-audit-fee-increase> [Date of access: 5 May. 2006].
- O'FLAHERTY, C. & SEHOOLE, I. 2005. Reforms in the auditing profession and impact on audit costs. (Original copy in records of South Institute of Chartered Accountants.)
- PAINO, V. 2006. Verbal communication with the author. Johannesburg. (Recording in possession of author.)
- PALMROSE, Z.V. 1986. Audit Fees and Auditor Size. *Journal of Accounting Research* 24 (Spring), 97–110.
- PALMROSE, Z.V. & SAUL, R.S. 2001. The push for auditor independence. (Winter), 18-23.
- PERRIN, S. 2006. Shed a tier: Competition in the big four. *Financial Director*. [Web:] <http://www.financialdirector.co.uk/financial-director/features/2163517/shed-tier> [Date of access: 24 Oct. 2006].

- PERRY, M. 2005. Muscling in on the Big Four. *Accounting & Business*: 19-20, September.
- ROBERT HALF FINANCE, 2006. Accounting salaries expected to rise in '07. [Web:] <http://www.roberthalffinance.com/FreeResources> [Date of access: 27 Oct. 2006].
- ROGERSON, P. 2005. The audit function remains mystery consultancy warns shareholders not to be fooled by 'box-ticking': The Herald 1 Aug. Available: Factiva.com.
- SACRAMENTO STATE, 2005. Durbin-Watson statistic for first order autocorrelation testing. [Web:] <http://www.csus.edu/individ/j/jensena/mgmt105/durbin.htm> [Date of access: 7 Nov. 2005].
- SERGEANT, B. 2005. Pump up the volume! Moneyweb (South Africa) 15 Feb. Available: Factiva.com.
- SIMON, D.T. & FRANCIS, J.R. 1988. The effects of auditor change on audit fees: tests of price cutting and price recovery. *The Accounting Review*. April. 255 – 269.
- SIMONSON, E. 2005. Passing and failing SOX. TheDeal.com 25 July. Available: Factiva.com.
- SIMUNIC, D.A. 1980. The Pricing of Audit Services: Theory and Evidence. *Journal of Accounting Research*, 18(1):161-190, Spring.
- SOUTH AFRICA. 1973. Companies Act 61 of 1973. Pretoria: Government Printer
- SOUTH AFRICA. 1985. Stock Exchange Control Act 1 of 1985. Pretoria: Government Printer.
- SOUTH AFRICA. 2003. Broad-Based Black Economic Empowerment Act. Pretoria: Government Printer.
- SOUTH AFRICA. 2006. Audit Professions Act 26 of 2006. Pretoria: Government Printer.

SOUTH AFRICAN GOVERNMENT INFORMATION, 2003. South Africa's economic transformation: a strategy for broad-based black economic empowerment. [Web:] <http://www.info.gov.za/otherdocs/2003/dtistrat.pdf> [Date of access: 23 Mar. 2005].

TAUB, S. 2005. Audit Fees surged in 2004. [Web:] <http://www.cfo.com/printable/article.cfm/3806675?f=options> [Date of access: 27 Oct. 2006].

TEMKIN, S. 2005. Auditing by new rules could cost up to 40% more. *Business Day* (South Africa) 4 Jul. Available: Factiva.com.

TEMKIN, S. 2006. New board, rules, higher costs for auditors. *Business Day* (South Africa) 6 Apr. Available: Factiva.com

THE INSTITUTE OF CHARTERED ACCOUNTANTS IN ENGLAND & WALES, 2003. Guidance for audit committees. [Web:] <http://www.icaew.co.uk/policy> [Date of access: 5 May. 2005].

THE INSTITUTE OF DIRECTORS, 1994. King I report. [Web:] <http://www.iodsa.co.za/king.asp> [Date of access: 19 Aug. 2005].

THEUNISSEN, G. 2005. The colour of money. *Finweek*, (September 28): 20-22.

TIMES ONLINE. 2004. Standards set to raise the global stakes. [Web:] <http://www.business.timesonline.co.uk> [Date of access: 16 Jun. 2005].

TURPEN, R. A. 1995. Audit fees – what research tells us. *The CPA Journal Online*. [Web:] <http://www.nysscpa.org/cpajournal/old/16349305.htm> [Date of access: 15 Aug. 2005].

TURPEN, R. A., 1990. "Differential Pricing on Auditors' Initial Engagements: Further Evidence." *Auditing: A Journal of Practice & Theory* 9 (Spring), 60–76.

TWEEDIE, D. 2004a. Markets will gain by way of consistency. *Times Online*, 5 Sep. [Web:] <http://business.timesonline.co.uk/article/0,,16649-1245750,00.html> [Date of access: 16 Jun. 2005].

TWEEDIE, D. 2004b. Standards set to raise the global stakes. Times Online, 5 Sep. [Web:] <http://business.timesonline.co.uk/article/0,,16649-1245742,00.html> [Date of access: 16 Jun. 2005].

US DEPARTMENT OF STATE, 2006. Republic of South Africa. [Web:] <http://www.state.gov/r/pa/ei/bgn/2898.htm> [Date of access: 18 Oct. 2006].

VENTER, D.W. 2006. Verbal communication with the author. Johannesburg. (Recording in possession of author.)

VERCELLOTTI, L. 2005. Is an IPO the right strategy? [Web:] <http://www.gibsreview.co.za/home.asp?PID=11&ToolID=2&reviewid=52&itemid=55> [Date of access: 15 Jan. 2006].

WEISS, L. 1971. Quantitative Studies in Industrial Organisation. In *Frontiers of Quantitative Economics*, Amsterdam: North-Holland Publishing Co.

WERKSMANS ATTORNEYS, 2003. Black Economic Empowerment: A commitment to change in South Africa. [Web:] <http://www.werksmans.co.za/> [Date of access: 22 Aug. 2005].

WILD, D. 2005. China facing a skills shortage. [Web:] <http://www.accountancyage.com/accountancyage/features/2139081/work-progress> [Date of access: 19 Jul. 2006].

WOMBLE CARLYLE, 2004. Audit committees beware: Auditors are required to evaluate your effectiveness under PCAOB's new internal control auditing standard. [Web:] <http://www.wcsr.com/downloads/pdfs/cscla16.pdf> [Date of access: 9 Aug. 2005].

WONG, P. 2004. Challenges and successes in implementing international standards: achieving convergence to IFRSs and ISAs. IFAC. September 2004.