

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

**Audit pricing in the pension plan audit market: An  
empirical study on the New Zealand KiwiSaver  
characteristics, audit market factors, non-audit services  
and board governance**

A 110.899 thesis presented in partial fulfilment of the requirements for the  
degree of

**Master of Business Studies**

**in**

**Accountancy**

at Massey University, Albany, New Zealand

**Saia Uai Havili Moeakiola**

**2014**



## **Abstract**

This thesis documents the influence of the New Zealand KiwiSaver characteristics, audit market factors, non-audit services and board characteristics on audit fees between 2011 and 2013 fiscal years. It documents the first audit pricing study on New Zealand's defined contribution pension plan, the 'KiwiSaver', which adds to the little literature in the pension industry. I find that the KiwiSaver characteristics, including size, risk and complexity, are associated with audit fees, consistent with prior pension plans research and other markets studied. Further, I examine whether audit market factors (measured by Big Four and first year audit) earn audit fee premiums in the industry. Consistent with prior pension plans research I find that the audit market factors have no effect on audit fees in the industry, despite the Big Four firms having a much higher share in the KiwiSaver audit market. I also investigate the impact of the auditor-client relationship on audit pricing and address the KiwiSaver regulators concern with auditor independence in the industry. I find that a non-audit services fee is not a significant factor in determination of audit fees in the industry. This suggests that auditor independence is not an issue. The KiwiSaver presents a multi-tiered agency setting in which the impact of governance practices on audit fees can be analysed. I find evidence that skilful and expert trustees demand higher audit quality services, despite KiwiSaver's smaller board size.

**Key words:** Audit pricing, pension plan, KiwiSaver, audit market factors, non-audit services and governance.

## **Acknowledgements**

I wish to acknowledge my sincere gratitude to a number of people whose generous support and kind assistance were critical in assisting me to complete this research.

First, I am enormously grateful for the wisdom, guidance and friendship of my supervisor, Professor Michael Bradbury. Without your supervision and constant help this thesis would not have been possible. I am also grateful to the departmental staff at Albany Campus, Auckland for all your kind support and assistance.

Secondly, a special thanks to the Government of Tonga, especially Ministry of Education and Training, and the Retirement Fund Board for their supports and funding of my study. Further, I would like to thanks the Retirement Fund Board staff for their continuous support and prayers during these years.

Big thanks go out to my wife and children for their patient and enormous support during the research. Their love, encouragement, and prayers helped me through to the completion of the thesis. Further, I would like to thank my parent, families and friends for their continuous support and prayers.

There are many others who contributed in some way to this work and constraints of space do not permit me to mention them by name. But I would always remember the help that I received in completion of this thesis.

Last but not the least I would like to take this opportunity to thank the Almighty God for His unconditional love, guidance, strength and wisdom during the research, for without God, the thesis would not be successful. All glory and praises be returned unto Him alone.

## Table of Contents

Abstract .....	i
Acknowledgements .....	ii
Table of Contents .....	iii
List of Tables .....	viii
List of Figure.....	ix
Abbreviations .....	x
Chapter 1 .....	1
Introduction.....	1
1.1 Overview .....	1
1.2 Motivation .....	1
1.3 Objectives and research questions .....	2
1.4 Summary of major findings and contributions .....	4
1.5 Structure of the thesis .....	5
Chapter 2 .....	7
Institutional Setting and Theory.....	7
2.1 Introduction .....	7
2.2 New Zealand retirement saving system: Hybrid Pillar 2-3 .....	7
2.2.1 <i>Pillar 1: New Zealand Superannuation</i> .....	8
2.2.2 <i>Hybrid Pillar 2-3: The KiwiSaver</i> .....	8
2.3 Types of KiwiSaver scheme .....	10
2.4 Types of investment.....	10
2.5 Major players in the KiwiSaver industry.....	11
2.5.1 <i>KiwiSaver scheme provider</i> .....	11
2.5.2 <i>Employers</i> .....	11
2.5.3 <i>New Zealand Government</i> .....	11

2.5.4	<i>Inland Revenue Department</i> .....	11
2.5.5	<i>Financial Markets Authority: The regulator</i> .....	11
2.5.6	<i>Ministry of Business, Innovation and Employment</i> .....	12
2.5.7	<i>Housing New Zealand Corporation</i> .....	12
2.5.8	<i>Commission for Financial Literacy and Retirement Income</i> .....	12
2.6	KiwiSaver governance structure.....	12
2.6.1	<i>Trust Model</i> .....	12
2.6.2	<i>KiwiSaver scheme providers as an ‘Issuers’</i> .....	13
2.7	Agency problem in the pension plans industry .....	14
2.9	Agency theory.....	16
2.10	Summary .....	16
Chapter 3.....		18
Prior research and Hypotheses development .....		18
3.1	Introduction .....	18
3.2	Audit pricing prior research.....	18
3.3	Pension plan audit pricing prior research .....	19
3.3.1	<i>Audit pricing in the pension plan audit market, Cullinan (1997)</i> .....	19
3.3.2	<i>Evidence of non-Big Six market specialisation and pricing power in a niche assurance service market, Cullinan (1999)</i> .....	23
3.3.3	<i>Understanding assurance in the Australian self-managed superannuation fund industry, Arnold et al. (2014)</i> .....	24
3.4	Hypothesis development.....	26
3.4.1	<i>Size and ‘risk and complexity’</i> .....	26
3.4.2	<i>Audit market factors</i> .....	27
3.4.3	<i>Non-audit services</i> .....	27
3.4.4	<i>Governance</i> .....	28
3.4.4.1	<i>Board independence</i> .....	29

3.4.4.2	<i>CEO duality</i> .....	30
3.4.4.3	<i>Board size</i> .....	31
3.4.4.4	<i>Professional trustee</i> .....	32
3.5	Other factors not considered in this study .....	36
3.6	Summary.....	37
Chapter 4.....		38
Research design and Methodology .....		38
4.1	Sample selection .....	38
4.2	Research design and methodology .....	39
4.2.1	<i>Basic model</i> .....	39
Dependent variable .....		39
<i>Audit fees</i> .....		39
Independent variables .....		39
<i>Size</i> .....		39
<i>Risk and complexity</i> .....		39
<i>Audit market factors</i> .....		39
<i>Audit opinion</i> .....		40
4.2.2	<i>Non-audit services</i> .....	40
<i>Non-audit services fees</i> .....		40
4.2.3	<i>Governance</i> .....	40
<i>Board independence</i> .....		40
<i>CEO duality</i> .....		41
<i>Board size</i> .....		41
<i>Professional trustee</i> .....		41
Chapter 5.....		43
Empirical results and Discussions .....		43
5.1	Introduction .....	43



5.2	Descriptive statistics .....	43
5.2.1	<i>KiwiSaver market</i> .....	43
5.2.2	<i>Audit market factors</i> .....	45
5.2.3	<i>Basic model</i> .....	46
5.2.4	<i>Non-audit services</i> .....	47
5.2.5	<i>Governance</i> .....	48
5.3	Correlations .....	50
5.4	Multivariate results .....	51
5.4.1	<i>Basic model</i> .....	51
	<i>Size</i> .....	51
	<i>Risk and complexity</i> .....	51
	<i>Audit market factors</i> .....	53
5.4.1.1	<i>Sensitivity tests</i> .....	53
	<i>Dropping insignificant results</i> .....	53
	<i>Alternative scaling</i> .....	54
5.4.1.2	<i>Additional test</i> .....	54
	<i>Total auditor worked</i> .....	54
5.4.2	<i>Non-audit services</i> .....	56
5.4.2.1	<i>Sensitivity tests</i> .....	57
5.4.3	<i>Governance</i> .....	58
5.4.3.1	<i>Sensitivity test</i> .....	59
5.5	Discussions .....	61
5.5.1	<i>KiwiSaver market</i> .....	61
5.5.2	<i>Audit market factors</i> .....	62
5.5.3	<i>Basic model</i> .....	62
5.5.4	<i>Non-audit services</i> .....	63
5.5.5	<i>Governance</i> .....	64

Chapter 6.....	66
Conclusions and Recommendations .....	66
6.1    Summary.....	66
KiwiSaver characteristics.....	67
Audit market factors .....	67
Non-audit services .....	67
Governance .....	68
6.2    Study contributions.....	68
6.3    Research limitations .....	69
6.4    Future research .....	69
6.5    Recommendations .....	69
References.....	72
Appendices.....	79
Appendix A: Key Features and Design of the KiwiSaver .....	79
Appendix B: Descriptive Statistics from 2011 to 2013 .....	82
Appendix C: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees) from 2011 to 2013 .....	84
Appendix D: Ordinary Least Squares Regression Results (Dependent Variable: Log of Audit Fees).....	85
Appendix E: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Non-Audit Services Fees) .....	86

## List of Tables

	<b>Page</b>
Table 3.1 Summaries of the Study Size, Risk and Complexity, Non-Audit Services and Governance Variables Measures Compared to Cullinan (1997) and Arnold et al. (2014) ....	35
Table 4.1 Breakdown of KiwiSaver Schemes Sample between 2011-2013 .....	38
Table 4.2 Summary of Study Variables with Expected Signs.....	41
Table 5.1 KiwiSaver Market .....	44
Table 5.2 Audit Market .....	46
Table 5.3 Audit Fee Models .....	49
Table 5.4 The Correlation Matrix for Size Variables.....	50
Table 5.5 Model 1: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees) .....	52
Table 5.6 Reduced Model 1: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees).....	53
Table 5.7 Model 1: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Total Fees) .....	55
Table 5.8 Reduced Model 1: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees).....	56
Table 5.9 Model 2: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees) .....	57
Table 5.10 Reduced Model 1: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees) .....	59
Table 5.11 Model 3: Ordinary Least Squares Regression Results (Dependent Variable: Natural Log of Audit Fees) .....	60

## **List of Figure**

	<b>Page</b>
Figure 2.1 Agency Problems in the New Zealand KiwiSaver .....	15

## **Abbreviations**

Here is an explanation of the key abbreviations used throughout the thesis:

<b>CEO</b>	Chief Executive Officer
<b>DBP</b>	Defined Benefit Pension Plan
<b>DCP</b>	Defined Contribution Pension Plan
<b>GDP</b>	Gross Domestic Product
<b>GFC</b>	Global Financial Crisis
<b>KSP</b>	KiwiSaver Scheme Provider
<b>NAS</b>	Non-Audit Services
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OLS</b>	Ordinary Least Squares
<b>PAYE</b>	Pay As You Earn
<b>SMSFs</b>	Self-Managed Superannuation Funds
<b>Std. Deviation</b>	Standard Deviation