

# Understanding assurance in the Australian SMSF industry



THINK.CHANGE.DO

Bruce Arnold (UNSW), Hazel Bateman (UNSW),  
Andrew Ferguson & Adrian Raftery (Deakin)

CIFR Financial Risk Day – 14 March 2014

# Acknowledgments

- The Superannuation business line of the Australian Taxation Office (ATO) for the provision of the fund data set
- The Institute of Chartered Accountants in Australia (ICAA) through its Academic Research Grant Scheme
- The Centre for International Finance and Regulation (CIFR) - project number E104 ([www.cifr.edu.au](http://www.cifr.edu.au)).

The views expressed herein are those of the authors and are not necessarily those of the ATO, ICAA and CIFR nor any CIFR Consortium Member



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# Objectives

1. Do industry specialist auditors pass on scale benefits in the small audit market?
2. Do industry specialist auditors strategically price the 'service bundle'?
3. Does the provision of other services impair the independence of auditors?
4. Do auditors required to comply with auditing and ethical standards receive a fee premium for perceived higher quality audits than auditors who do not enforce auditing and ethical standards?

# Motivation

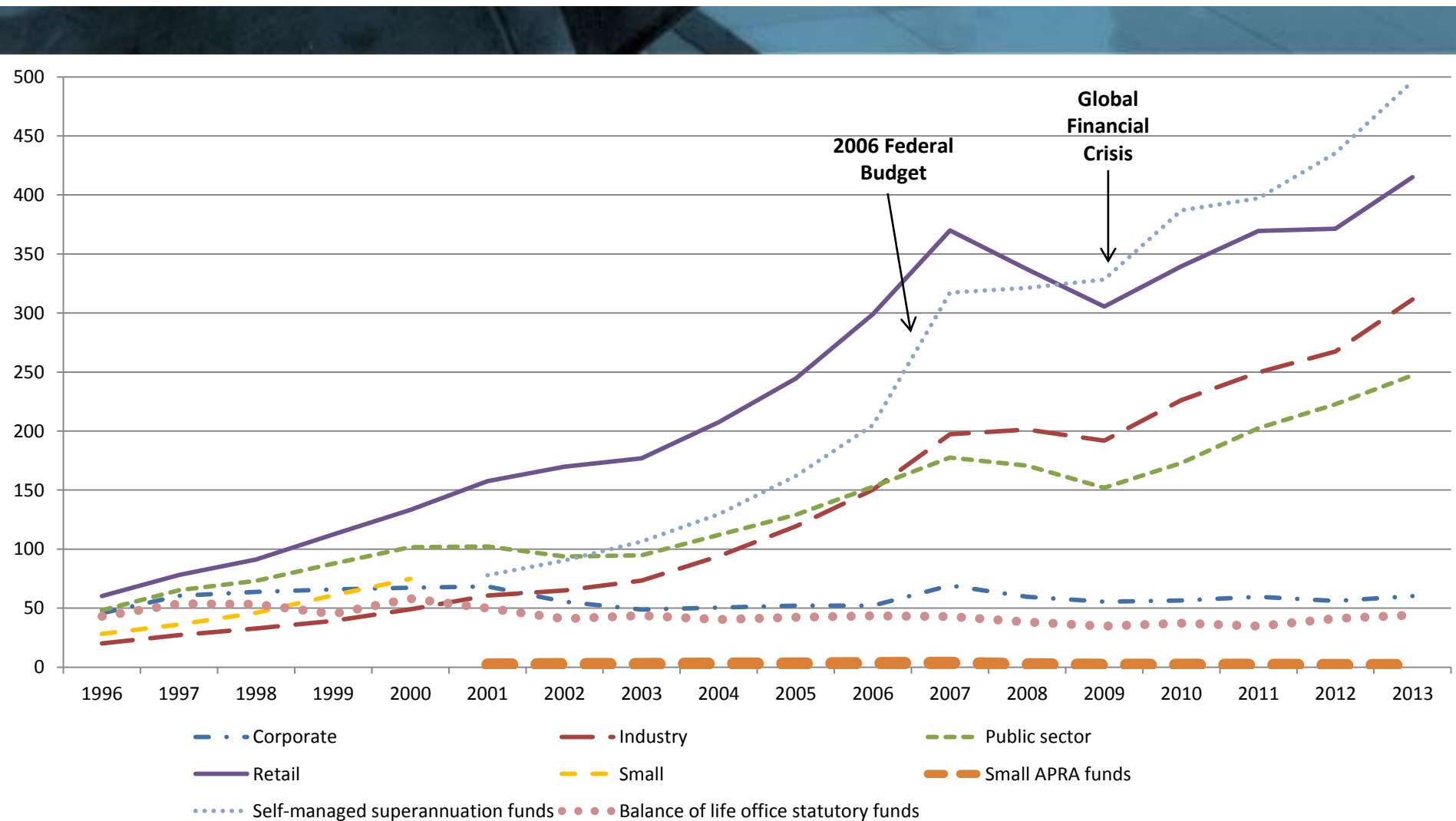
- Mixed evidence in small audit client market with respect to whether industry specialist auditors earn an audit fee premium
- Research void on audit in the retirement savings industry (Cullinan 1998b)
- Australia has the world's fourth biggest pension fund sector in the world at \$1.803 trillion, greater than the market capitalisation of the ASX (\$1.527T), the combined deposits of all Australian banks (\$1.669T) and the national GDP (\$1.556T)
- Government-commissioned Cooper Review (2010) highlighted lack of basic knowledge & understanding of the SMSF segment and its auditors



## Superannuation industry estimates as at 30 June 2013 Source: APRA (2013)

Fund type	Corporate	Industry	Public sector	Retail	Small APRA	SMSFs	Other	Total
Number of funds	108	52	38	127	2,950	<b>509,362</b>	124	512,761
Total assets (billion)	61.7	323.2	256.8	422.4	1.7	<b>505.5</b>	45.2	1,616.5

**Figure 1: Superannuation industry in Australia 1996-2013 by total assets (\$ billion)** Source: APRA (2013)





# Self-managed superannuation funds

- DIY
- Up to 4 members
- Can invest in direct property, shares & collectibles
- Can borrow (via instalment warrants)
- Audit, tax return & financials each year (AAS 25)
- Approved auditors can come from 8 professional bodies
- Auditors can provide other services
- Auditors can be easily removed
- No trustee remuneration allowed

# Contributions

- Build on prior pension plan audit pricing literature (Cullinan 1997, 1998a) with new evidence in an out of US context
- Provide empirical evidence of the existence of strategic pricing by auditors through ‘service bundling’
- Extend the audit pricing literature to a setting where auditors have eight possible professional affiliations.
- Unique proprietary data from the Australian Taxation Office





## Theory development – **Small audit market**

- Price competition expected in small audit market (Simunic 1980)
- Mixed evidence in prior literature:
  - No leadership premium in small segment (Craswell, Francis & Taylor 1995; Ferguson & Stokes 2002; Ferguson, Pundrich & Raftery 2014)
  - Leadership premium in small segment only (Casterella, Francis, Lewis & Walker 2004)
  - Leadership premium in small & large segment but discount by non-Big 6 leader in property industry (Defond, Francis & Wong 2000)
  - Leadership premium (non-Big 6 specialist) in prior pension plan literature (Cullinan 1998a)



## Theory development – **SMSF setting**

- Supply side - large numbers of clients, low financial statement complexity (cash, shares, property investments, no receivables, no payables, few provisions, no accruals). Some reputation effects from a client found to be non-compliant.
- Demand side - trustees have little incentive to invest in expensive auditing (driven by investment returns after expenses) and would presumably be attracted to scale discounts offered by a price competitive industry specialist
- Economies of scale accrue to large auditors in high regulation settings (Eichenseher & Danos 1982, Danos & Eichenseher 1986, Moroney 2007, Moroney & Carey 2009)



## Theory development – **SMSF audit**

$H_1$ : *Industry leaders will earn lower SMSF audit fees than non-industry leaders.*

## Theory development – **Service bundling**

- Businesses often sell goods/services in packages where the customer is attracted to purchase the 'bundle' (Stigler 1963; Adams & Yellen 1976; Gultinan 1987; Thaler 1985)
- Sellers may charge a bundling premium (Cready 1991; Stremersch & Tellis 2002)
- Auditing is a mature and commoditised industry (Leibman and Kelly 1992) whilst tax and management advisory services are more profitable (Gigler & Penno 1995)
- Higher prices are charged by specialist auditors when the dependent variable is redefined to total auditor work (Ferguson et al. 2014)



# Theory development

**H<sub>2</sub>:** *Industry leaders will earn higher total fees from all services bundled to SMSFs than non-industry leaders.*



## Theory development - Independence

- Common regulatory concern across the globe (Cooper Review 2010, European Commission 2002, *Sarbanes-Oxley Act 2002*, SEC 2000, 2003)
- NAS mitigates breach detection and reporting (Krishnan 1994; Reynolds & Francis 2000; DeFond, Raghunandan & Subramanyam 2002; Kinney, Palmrose & Scholz 2004; Carey & Simnett 2006; Blay & Geiger 2013)
- NAS assists the auditor in ‘knowing the client’ & encourages rather than inhibits reporting of breaches (Craswell, Stokes & Laughton 2002; Ruddock, Taylor & Taylor 2006; Francis 2006; Ruddock, Taylor & Taylor 2006; Robinson 2008)
- No association (Ashbaugh, LaFond & Mayhew 2003; Callaghan, Parkash & Singhal 2009; Li 2009; Hope & Langli 2010)



## Theory development - Independence

**H<sub>3</sub>:** *The provision of other services (such as tax, accounting, financial advice or administration) will have no impact on the independence for approved SMSF auditors.*

# Theory development – **Professional affiliations**

- Professional affiliations have differentiated the services of accountants and auditors for over 160 years with designations such as “chartered accountant” and “CPA” evolving as brand names (Parker 2005)
- Professional body affiliation may affect the quality of an audit (Dunmore & Falk 2001)





## Theory development – Professional affiliations

- SMSF “Approved auditors” come from 6 professional bodies as well as the Auditor-General & registered company auditors
- Three professionally recognised accounting bodies (ICAA, CPA & IPA) have their own set of:
  - Competency requirements
  - Code of Ethics including a standard of independence

**H<sub>4</sub>:** *Auditors who are members of a professional body which comply by auditing and ethical standards receive a fee premium for higher quality audits than auditors who are members of professional bodies who do not have auditing and ethical standards.*

# Controls

- Size/activity
  - Total assets; Members; ROA; contributions
- Risk
  - Reserve accounts; in-house assets; artwork; foreign; borrowings; losses; lag
- Complexity
  - Cash; shares; property; disposals;
- Audit market
  - Industry leader; professional affiliation
- Audit opinion

# Research design

To Test **H1**

- OLS regression

$$\begin{aligned} \text{LAF} = & + b_1 \text{LASSETS} + b_2 \text{PARTICIPANTS} + b_3 \text{ROA} + b_4 \text{LCASH} \\ & + b_5 \text{LPROPERTY} + b_6 \text{LSHARES} + b_7 \text{FOREIGN} + b_8 \text{LCONT} \\ & + b_9 \text{ARTWORK} + b_{10} \text{BORROWING} + b_{11} \text{RESERVEACCTS} \\ & + b_{12} \text{INHOUSE} + b_{13} \text{DISPOSAL} + b_{14} \text{LOSSES} + b_{15} \text{OPINION} \\ & + b_{16} \text{LAG} + b_{17} \text{LEADER\_1} + b_{18} \text{LEADER\_OTHER} + e \end{aligned}$$

( 1 )

# Research design

To Test **H2**

- OLS regression

$$\begin{aligned} \mathbf{LTF} = & + b_1 \mathbf{LASSETS} + b_2 \mathbf{PARTICIPANTS} + b_3 \mathbf{ROA} + b_4 \mathbf{LCASH} \\ & + b_5 \mathbf{LPROPERTY} + b_6 \mathbf{LSHARES} + b_7 \mathbf{FOREIGN} + b_8 \mathbf{LCONT} \\ & + b_9 \mathbf{ARTWORK} + b_{10} \mathbf{BORROWING} + b_{11} \mathbf{RESERVEACCTS} \\ & + b_{12} \mathbf{INHOUSE} + b_{13} \mathbf{DISPOSAL} + b_{14} \mathbf{LOSSES} + b_{15} \mathbf{OPINION} \\ & + b_{16} \mathbf{LAG} + b_{17} \mathbf{LEADER\_1} + b_{18} \mathbf{LEADER\_OTHER} + e \end{aligned}$$

(2)

# Research design

## To Test H3

- Logit regression

$$\begin{aligned} \mathbf{AQ} = & b_0 + b_1 \mathbf{LASSETS} + b_2 \mathbf{PARTICIPANTS} + b_3 \mathbf{ROA} + b_4 \mathbf{LCASH} \\ & + b_5 \mathbf{LPROPERTY} + b_6 \mathbf{LSHARES} + b_7 \mathbf{FOREIGN} \\ & + b_8 \mathbf{ARTWORK} + b_9 \mathbf{BORROWING} + b_{10} \mathbf{INHOUSE} \\ & + b_{11} \mathbf{DISPOSAL} + b_{12} \mathbf{LOSSES} + b_{13} \mathbf{OPINION} + b_{14} \mathbf{LAG} \\ & + b_{15} \mathbf{FEERESID} + b_{16} \mathbf{OTHERSERVICES} + b_{17} \mathbf{LEADER\_1} \\ & + b_{18} \mathbf{LEADER\_OTHER} + e \end{aligned} \quad (3)$$

# Research design

To Test **H4**

- OLS regression

$$\begin{aligned} LAF = & b_0 + b_1 LASSETS + b_2 PARTICIPANTS + b_3 ROA + b_4 LCASH \\ & + b_5 LPROPERTY + b_6 LSHARES + b_7 FOREIGN + b_8 LCONT \\ & + b_9 ARTWORK + b_{10} BORROWING + b_{11} RESERVEACCTS \\ & + b_{12} INHOUSE + b_{13} DISPOSAL + b_{14} LOSSES + b_{15} OPINION \\ & + b_{16} LAG + \mathbf{+ b_{17} AG + b_{18} RCA + b_{19} CPA\_ICAA\_IPA} + e \end{aligned} \quad (4)$$

# Sample

- 99,668 SMSF-year observations
- Funds in the accumulation phase (none in retirement phase)
- Audit fee separately recorded in annual return
- Sample Years 30 June 2008 - 2010



## Table 1 - Breakdown of Self-Managed Superannuation Funds sample by year (2008-2010)

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Total</u>	
<b><u>Panel A - SMSF-year observations in sample</u></b>					
SMSF-year observations received from ATO	73,002	73,000	73,000	219,002	
Less: Observations removed due to incomplete financial information	- 3,408	- 1,393	- 1,138	- 5,939	
Less: Observations removed due to no audit fee separately disclosed	- 42,357	- 37,643	- 32,803	- 112,803	
Less: Extreme observations removed	- 162	- 199	- 231	- 592	
Remaining SMSF-year observations with audit fee disclosed	<b>27,075</b>	<b>33,765</b>	<b>38,828</b>	<b>99,668</b>	
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Total</u>	<b><u>Australian Population</u></b>
<b><u>Panel B - % of SMSF-year observations in sample by state</u></b>					
Australian Capital Territory (ACT)	1.10%	1.15%	1.12%	1.12%	<b>1.65%</b>
New South Wales (NSW)	29.94%	29.83%	29.57%	29.76%	<b>32.10%</b>
Northern Territory (NT)	0.19%	0.17%	0.18%	0.18%	<b>1.04%</b>
Queensland (QLD)	18.05%	17.65%	17.46%	17.69%	<b>20.12%</b>
South Australia (SA)	6.42%	6.94%	7.23%	6.91%	<b>7.28%</b>
Tasmania (TAS)	1.46%	1.36%	1.54%	1.46%	<b>2.25%</b>
Victoria (VIC)	29.80%	29.08%	29.45%	29.39%	<b>24.80%</b>
Western Australia (WA)	13.05%	13.82%	13.45%	13.47%	<b>10.76%</b>
	100.00%	100.00%	100.00%	100.00%	<b>100.00%</b>





## Table 1 - Distribution of Self-Managed Superannuation Funds sample (2008-2010)

	Clients	% market	Audit fees	% market (fees)
<b><u>Panel C - individual firm leaders</u></b>				
<i>LEADER_1</i>	<b>1,369</b>	<b>1.37%</b>	<b>640,960</b>	<b>0.91%</b>
<i>LEADER_OTHER</i>	3,368	3.38%	1,664,602	2.36%
<i>LEADER_ALL</i>	4,737	4.75%	2,305,562	3.27%
<b><u>Panel D - professional body affiliation</u></b>				
<i>AG</i>	100	0.10%	77,700	0.11%
<i>ATMA</i>	2,353	2.36%	1,167,428	1.66%
<b><i>CPA</i></b>	<b>46,668</b>	<b>47.29%</b>	<b>36,374,712</b>	<b>51.63%</b>
<i>ICAA</i>	29,292	29.39%	18,745,898	26.61%
<i>IPA</i>	9,197	9.26%	5,433,501	7.71%
<i>NTAA</i>	2,824	2.33%	1,650,919	2.34%
<i>RCA</i>	9,325	9.30%	7,003,309	9.94%
<i>SPAA</i>	-	-	-	-
	99,668	100.00%	70,453,467	100.00%



**Table 2 - Descriptive statistics of SMSFs sample in accumulation phase, 2008-2010 (all years)**

	Mean	Median	Std. Dev.
Cash and term deposits	168,029.90	56,409.50	348,068.30
Shares investments	196,656.40	56,916.50	597,303.00
Property investments	107,704.50	-	361,332.50
Artwork, collectibles, or jewels	1,420.56	-	24,189.53
Overseas assets	6,912.80	-	91,537.77
<b>Total assets</b>	<b>635,960.70</b>	<b>363,100.50</b>	<b>1,015,283.00</b>
Borrowings	4,893.32	-	72,919.93
Reserve accounts	587.69	-	27,774.71
Concessional contributions	34,801.12	12,639.50	49,254.94
Assessable income	69,342.17	37,054.00	103,423.50
<b>Approved auditor fee</b>	<b>709.14</b>	<b>550.00</b>	<b>694.97</b>
Management & admin fees	2,594.58	1,650.00	5,425.85
Total deductions	7,903.90	3,883.00	48,150.03
Taxable income	61,431.81	30,510.50	91,025.53



**Table 2 (continued) - Descriptive statistics of SMSFs sample in accumulation phase, 2008-2010 (all years)**

	Mean	Median	Std. Dev.
LAF	6.34	6.31	.62
LTOTALFEES	6.47	6.31	.78
LASSETS	12.73	12.80	1.17
PARTICIPANTS	1.94	2.00	.66
ROA	.04	.03	.06
LCASH	10.59	10.94	2.28
LPROPERTY	2.71	.00	5.22
LSHARES	8.07	10.96	5.52
FOREIGN	.07		
LCONT	7.60	9.44	4.42
<b>ARTWORK</b>	<b>.02</b>		
BORROWING	.02		
<b>RESERVEACCTS</b>	<b>.01</b>		
INHOUSE	.02		
DISPOSAL	.58		
LOSSES	.16		
OPINION	.04		
BREACH	.07		
<b>LAG</b>	<b>.34</b>		
OTHERSERVICES	.13		



**Table 3 Audit fee estimation of Industry Leader premiums for SMSFs sample, 2008-10 (Dependent variable log audit fees)**

	<u>Panel A (2008 year n=27,075)</u>			<u>Panel B (2009 year n=33,765)</u>			<u>Panel C (2010 year n=38,828)</u>			<u>Panel D (All years n=99,668)</u>		
	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability
Intercept	4.482	85.426	.000	4.411	95.476	.000	4.337	99.528	.000	4.413	163.58	.000
<i>LASSETS</i>	.131	28.661	.000	.139	34.176	.000	.149	38.273	.000	.140	58.786	.000
<i>PARTICIPANTS</i>	.008	1.301	.193	.023	4.398	.000	.013	2.629	.009	.015	4.970	.000
<i>ROA</i>	-.079	-1.229	.219	-.613	-7.786	.000	-.597	-9.261	.000	-.456	-11.907	.000
<i>LCASH</i>	-.000	-.140	.889	.002	1.114	.265	-.001	-.721	.471	.000	.318	.751
<i>LPROPERTY</i>	.001	1.414	.157	.002	2.161	.031	.001	2.253	.024	.001	3.008	.003
<i>LSHARES</i>	.004	4.773	.000	.006	9.155	.000	.005	8.743	.000	.005	13.649	.000
<i>FOREIGN</i>	-.015	-.0975	.330	-.006	-.473	.636	-.020	-1.722	.085	-.013	-1.783	.075
<i>LCONT</i>	.001	1.111	.267	.001	1.012	.311	.001	1.054	.292	.001	1.501	.133
<i>ARTWORK</i>	.138	4.974	.000	.137	5.551	.000	.102	4.558	.000	.125	8.741	.000
<i>BORROWING</i>	.022	.623	.533	-.058	-2.239	.025	-.108	-6.083	.000	-.065	-4.813	.000
<i>RESERVEACCTS</i>	.154	2.569	.010	.152	2.893	.004	.004	.123	.902	.085	3.2997	.001
<i>INHOUSE</i>	.117	4.169	.000	.123	5.519	.000	.102	4.586	.000	.113	8.221	.000
<i>DISPOSAL</i>	.094	9.835	.000	.071	9.787	.000	.058	8.681	.000	.067	15.477	.000
<i>LOSSES</i>	.194	12.572	.000	.124	10.503	.000	.142	14.822	.000	.147	22.268	.000
<i>OPINION</i>	.086	4.255	.000	.112	6.390	.000	.084	5.123	.000	.093	9.012	.000
<i>LAG</i>	.057	7.370	.000	.065	9.174	.000	.070	10.459	.000	.060	14.669	.000
<b><i>LEADER_1</i></b>	<b>-.423</b>	<b>-22.819</b>	<b>.000</b>	<b>-.417</b>	<b>-19.967</b>	<b>.000</b>	<b>-.264</b>	<b>-15.811</b>	<b>.000</b>	<b>-.355</b>	<b>-31.956</b>	<b>.000</b>
<b><i>LEADER_OTHER</i></b>	<b>-.187</b>	<b>-11.010</b>	<b>.000</b>	<b>-.335</b>	<b>-21.852</b>	<b>.000</b>	<b>-.356</b>	<b>-26.495</b>	<b>.000</b>	<b>-.305</b>	<b>-34.932</b>	<b>.000</b>
F-statistic		124.32	.000		210.44	.000		249.64	.000		562.39	.000
Adjusted R <sup>2</sup>		.076			.100			.103			.092	

**Table 4 Total fee estimation of Industry Leader premiums for SMSFs sample 2008-10 (Dependent variable **total auditor work**)**

	<u>Panel A (2008 year n=33,578)</u>			<u>Panel B (2009 year n=38,238)</u>			<u>Panel C (2010 year n=42,228)</u>			<u>Panel D (All years n=114,044)</u>		
	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability
Intercept	3.459	44.244	.000	3.724	54.910	.000	3.747	60.213	.000	3.672	92.477	.000
<i>LASSETS</i>	.225	33.037	.000	.209	34.771	.000	.203	37.233	.000	.211	60.330	.000
<i>PARTICIPANTS</i>	.015	1.635	.102	.028	3.722	.000	.005	.747	.455	.016	3.577	.000
<i>ROA</i>	-.343	-3.602	.000	-1.184	-10.468	.000	-.926	-10.634	.000	-.717	-13.091	.000
<i>LCASH</i>	-.007	-2.554	.011	-.004	-1.445	.149	-.001	-.386	.700	-.004	-2.700	.007
<i>LPROPERTY</i>	.005	4.000	.000	.001	1.423	.155	.003	3.110	.002	.003	4.518	.000
<i>LSHARES</i>	.003	2.695	.007	.008	7.710	.000	.007	8.005	.000	.006	10.704	.000
<i>FOREIGN</i>	-.046	-2.137	.033	-.041	-2.217	.027	-.038	-2.348	.019	-.041	-3.785	.000
<i>LCONT</i>	-.004	-2.746	.006	-.001	-1.263	.207	-.001	-.637	.524	-.002	-2.584	.010
<i>ARTWORK</i>	.249	6.116	.000	.197	5.844	.000	.113	3.641	.000	.185	9.114	.000
<i>BORROWING</i>	-.000	-.005	.996	-.078	-2.062	.039	-.108	-4.022	.000	-.085	-4.132	.000
<i>RESERVEACCTS</i>	.121	1.655	.098	.103	1.667	.096	-.037	-.842	.400	.038	1.171	.242
<i>INHOUSE</i>	.037	.898	.369	.076	2.322	.020	.084	2.798	.005	.067	3.335	.001
<i>DISPOSAL</i>	.248	16.925	.000	.133	12.315	.000	.109	11.543	.000	.153	23.707	.000
<i>LOSSES</i>	.284	12.138	.000	.164	9.233	.000	.213	15.896	.000	.218	22.092	.000
<i>OPINION</i>	.048	1.639	.101	.132	5.036	.000	.105	4.455	.000	.095	6.180	.000
<i>LAG</i>	.038	3.243	.001	.022	2.010	.044	.055	5.861	.000	.039	6.404	.000
<b><i>LEADER_1</i></b>	<b>-.659</b>	<b>-30.129</b>	<b>.000</b>	<b>-.592</b>	<b>-26.708</b>	<b>.000</b>	<b>-.414</b>	<b>-23.393</b>	<b>.000</b>	<b>-.538</b>	<b>-44.847</b>	<b>.000</b>
<b><i>LEADER_OTHER</i></b>	<b>.265</b>	<b>6.489</b>	<b>.000</b>	<b>.112</b>	<b>3.159</b>	<b>.002</b>	<b>.064</b>	<b>2.045</b>	<b>.041</b>	<b>.132</b>	<b>6.486</b>	<b>.000</b>
F-statistic		159.205	.000		171.00	.000		199.145	.000		512.13	.000
Adjusted R <sup>2</sup>		.078			.074			.078			.075	

**Table 5 Audit quality estimation by Industry Leaders for SMSFs sample, 2008-10 (Dependent variable breaches detected)**

	<u>Panel A (2008 year n=27,075)</u>			<u>Panel B (2009 year n=33,765)</u>			<u>Panel C (2010 year n=38,828)</u>			<u>Panel D (All years n=99,668)</u>		
	Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability
Intercept	-4.623	-15.31	.000	-6.063	-18.56	.000	-6.671	-19.35	.000	-5.755	-30.62	.000
<i>LASSETS</i>	.225	8.951	.000	.345	12.661	.000	.363	12.884	.000	.305	19.621	.000
<i>PARTICIPANTS</i>	.062	1.921	.055	.101	3.113	.002	.124	3.612	.000	.092	4.834	.000
<i>ROA</i>	.720	1.849	.065	1.070	1.949	.051	1.739	3.700	.000	1.699	6.714	.000
<i>LCASH</i>	-.055	-6.162	.000	-.106	-12.39	.000	-.094	-10.44	.000	-.087	-17.06	.000
<i>LPROPERTY</i>	-.010	-2.143	.032	-.021	-4.246	.000	-.016	-3.210	.001	-.015	-5.299	.000
<i>LSHARES</i>	-.019	-4.494	.000	-.039	-8.812	.000	-.036	-8.129	.000	-.033	-12.94	.000
<i>FOREIGN</i>	-.352	-3.499	.001	-.293	-2.663	.008	-.398	-3.431	.001	-.340	-5.438	.000
<i>ARTWORK</i>	.297	2.324	.020	.146	1.067	.286	.239	1.744	.081	.228	2.964	.003
<i>BORROWING</i>	.255	1.430	.153	.333	2.267	.023	-.106	-.807	.420	.059	.700	.484
<i>INHOUSE</i>	2.136	25.222	.000	2.450	28.629	.000	2.607	32.444	.000	2.391	49.937	.000
<i>DISPOSAL</i>	-.458	-8.274	.000	-.468	-8.811	.000	-.496	-9.080	.000	-.435	-14.11	.000
<i>LOSSES</i>	.222	2.752	.006	.236	3.094	.002	.253	3.530	.000	.223	5.214	.000
<i>OPINION</i>	1.799	26.344	.000	2.107	31.087	.000	2.171	31.952	.000	2.033	52.110	.000
<i>LAG</i>	.002	.035	.972	.272	5.578	.000	.239	4.805	.000	.215	7.839	.000
<i>FEERESID</i>	.185	5.333	.000	.287	7.522	.000	.241	6.173	.000	.222	10.242	.000
<i>OTHERSERVICES</i>	<b>.331</b>	<b>5.748</b>	<b>.000</b>	<b>.329</b>	<b>5.203</b>	<b>.000</b>	<b>.236</b>	<b>3.421</b>	<b>.001</b>	<b>.343</b>	<b>9.510</b>	<b>.000</b>
<i>LEADER_1</i>	<b>-1.249</b>	<b>-3.277</b>	<b>.001</b>	<b>-1.316</b>	<b>-3.306</b>	<b>.001</b>	<b>-1.617</b>	<b>-3.652</b>	<b>.000</b>	<b>-1.386</b>	<b>-5.991</b>	<b>.000</b>
<i>LEADER_OTHER</i>	<b>-.829</b>	<b>-4.793</b>	<b>.000</b>	<b>-.918</b>	<b>-5.129</b>	<b>.000</b>	<b>-.379</b>	<b>-2.629</b>	<b>.009</b>	<b>-.700</b>	<b>-7.439</b>	<b>.000</b>
LR-statistic		1863.9	.000		2909.6	.000		2967.5	.000		7647.2	.000
McFadden R <sup>2</sup>		.112			.169			.171			.148	
Total correctly predicted		79.6%			88.0%			91.2%			88.1%	

**Table 6 Audit fee estimation of Professional Body premiums for SMSFs sample, 2008-10 (Dependent variable log audit fees)**

	<u>Panel A (2008 year n=27,075)</u>			<u>Panel B (2009 year n=33,765)</u>			<u>Panel C (2010 year n=38,828)</u>			<u>Panel D (All years n=99,668)</u>		
	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability	Co-efficient	t-stat	Probability
Intercept	4.431	80.667	.000	4.243	89.686	.000	4.130	94.176	.000	4.248	153.665	.000
<i>LASSETS</i>	.128	27.969	.000	.135	33.191	.000	.144	37.284	.000	.136	57.244	.000
<i>PARTICIPANTS</i>	.009	1.493	.136	.024	4.608	.000	.014	2.971	.003	.016	5.411	.000
<i>ROA</i>	-.059	-.909	.363	-.569	-7.257	.000	-.554	-8.671	.000	-.427	-11.176	.000
<i>LCASH</i>	-.000	-.196	.845	.001	.776	.438	-.002	-1.047	.295	-.000	-.163	.870
<i>LPROPERTY</i>	.002	2.089	.037	.002	3.015	.003	.002	2.626	.009	.002	4.150	.000
<i>LSHARES</i>	.003	4.647	.000	.006	8.920	.000	.005	8.297	.000	.005	13.221	.000
<i>FOREIGN</i>	-.022	-1.485	.138	-.014	-1.068	.286	-.022	-1.945	.052	-.020	-2.695	.008
<i>LCONT</i>	.001	1.234	.217	.001	1.415	.157	.001	1.308	.191	.001	1.938	.053
<i>ARTWORK</i>	.146	5.255	.000	.149	6.054	.000	.116	5.179	.000	.136	9.554	.000
<i>BORROWING</i>	.028	.770	.442	-.062	-2.352	.019	-.100	-5.689	.000	-.062	-4.571	.000
<i>RESERVEACCTS</i>	.158	2.609	.009	.159	3.001	.003	.008	.263	.793	.089	3.458	.001
<i>INHOUSE</i>	.122	4.338	.000	.122	5.486	.000	.107	4.861	.000	.117	8.463	.000
<i>DISPOSAL</i>	.087	9.128	.000	.060	8.307	.000	.048	7.290	.000	.058	13.363	.000
<i>LOSSES</i>	.194	12.607	.000	.124	10.482	.000	.138	14.444	.000	.146	22.043	.000
<i>OPINION</i>	.089	4.423	.000	.115	6.474	.000	.071	4.295	.000	.092	8.798	.000
<i>LAG</i>	.053	6.803	.000	.059	8.188	.000	.067	10.067	.000	.055	13.377	.000
<i>AG</i>	<b>.193</b>	<b>1.995</b>	<b>.046</b>	<b>.328</b>	<b>4.831</b>	<b>.000</b>				<b>.328</b>	<b>6.003</b>	<b>.000</b>
<i>RCA</i>	<b>.124</b>	<b>5.957</b>	<b>.000</b>	<b>.286</b>	<b>16.569</b>	<b>.000</b>	<b>.331</b>	<b>22.038</b>	<b>.000</b>	<b>.271</b>	<b>27.121</b>	<b>.000</b>
<i>CPA_ICAA_IPA</i>	<b>.080</b>	<b>4.570</b>	<b>.000</b>	<b>.215</b>	<b>15.214</b>	<b>.000</b>	<b>.275</b>	<b>22.998</b>	<b>.000</b>	<b>.213</b>	<b>26.188</b>	<b>.000</b>
F-statistic		106.62	.000		183.04	.000		249.16	.000		502.78	.000
Adjusted R <sup>2</sup>		.069			.093			.103			.087	

**Table 7 Audit quality estimation by Professional Body members for SMSFs sample 2008-10 (Dependent variable is breaches detected)**

	Panel A (2008 year n=27,075)			Panel B (2009 year n=33,765)			Panel C (2010 year n=38,828)			Panel D (All years n=99,668)		
Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability	Co-efficient	z-stat	Probability	
Intercept	-4.464	-14.786	.000	-6.107	-19.125	.000	-6.813	-20.447	.000	-5.806	-31.707	.000
<i>LASSETS</i>	.222	9.175	.000	.342	13.420	.000	.357	13.455	.000	.302	20.623	.000
<i>PARTICIPANTS</i>	.064	1.959	.050	.103	3.091	.002	.128	3.709	.000	.095	4.913	.000
<i>ROA</i>	.767	2.054	.040	1.138	2.231	.026	1.794	3.822	.000	1.757	7.146	.000
<i>LCASH</i>	-.056	-5.924	.000	-.107	-11.821	.000	-.094	-9.658	.000	-.087	-16.177	.000
<i>LPROPERTY</i>	-.009	-1.975	.048	-.020	-4.289	.000	-.015	-3.301	.001	-.014	-5.256	.000
<i>LSHARES</i>	-.019	-4.320	.000	-.040	-8.744	.000	-.036	-8.010	.000	-.033	-12.636	.000
<i>FOREIGN</i>	-.364	-3.646	.000	-.299	-2.725	.006	-.412	-3.510	.000	-.350	-5.598	.000
<i>ARTWORK</i>	.308	2.482	.013	.161	1.226	.220	.258	1.965	.049	.244	3.294	.001
<i>BORROWING</i>	.263	1.442	.149	.326	2.223	.026	-.109	-.837	.402	.056	.663	.507
<i>INHOUSE</i>	2.146	24.300	.000	2.448	28.776	.000	2.619	32.318	.000	2.400	49.212	.000
<i>DISPOSAL</i>	-.475	-8.653	.000	-.487	-9.259	.000	-.510	-9.463	.000	-.453	-14.776	.000
<i>LOSSES</i>	.224	2.789	.005	.235	3.111	.002	.249	3.456	.001	.223	5.190	.000
<i>OPINION</i>	1.805	26.001	.000	2.105	31.364	.000	2.164	31.729	.000	2.030	51.693	.000
<i>LAG</i>	-.005	-.121	.904	.262	5.415	.000	.236	4.761	.000	.208	7.613	.000
<i>FEERESID</i>	.203	5.841	.000	.311	8.269	.000	.255	6.473	.000	.242	11.283	.000
<i>OTHERSERVICES</i>	<b>.336</b>	<b>5.908</b>	<b>.000</b>	<b>.330</b>	<b>5.334</b>	<b>.000</b>	<b>.238</b>	<b>3.480</b>	<b>.001</b>	<b>.344</b>	<b>9.695</b>	<b>.000</b>
<i>AG</i>	.613	1.241	.215	<b>.984</b>	<b>2.490</b>	<b>.013</b>				<b>1.037</b>	<b>3.407</b>	<b>.001</b>
<i>RCA</i>	.017	.143	.886	.098	.742	.458	<b>.249</b>	<b>1.961</b>	<b>.050</b>	<b>.164</b>	<b>2.249</b>	<b>.025</b>
<i>CPA_ICAA_CPA</i>	-.163	-1.580	.114	.068	.611	.541	<b>.202</b>	<b>1.938</b>	<b>.053</b>	.073	1.202	.229
LR-statistic		1836.57	.000		2877.89	.000		2946.41	.000		7563.27	.000
McFadden R <sup>2</sup>		.110			.167			.170			.147	
Total correctly predicted		79.91%			88.04%			91.24%			88.13%	



# Limitations

- Limitations with data set (due to Privacy Act constraints)
  - Big-4 firms
  - Age & gender of SMSF members
  - Age of SMSF
  - Not panel data
- Funds are in accumulation phase (none in retirement phase).
- Audit fee data only available from 2008 year



## Conclusion

- Evidence of large suppliers taking advantage of scale economies and employing a service bundling pricing strategy
- Lower priced audits as a conduit to supplying higher margin non-audit services
- The supply of NAS poses no auditor independence threat in the SMSF setting
- Evidence of registered company auditors and members of professional bodies who comply with auditing & ethical standards charge higher audit fees