Longer term audit costs of IFRS and the differential impact of implied auditor cost structures

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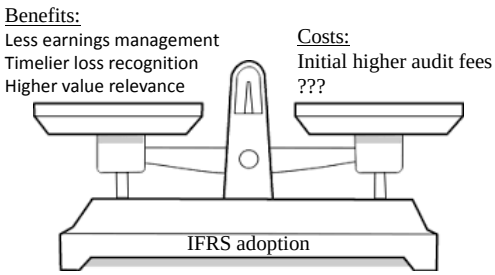
A&F/IASB Research Forum

Overview

- What impact did IFRS have on audit fees?
  - Increased post IFRS
    - Higher equilibrium.
    - Evidence that this is more than one off costs
    - Investment in higher quality?
- Is there a difference between early and other adopters?
  - Yes-important to consider the signal early adoption implies!
- Prior literature assumes a Big4 premium
  - Are Big 4's response to IFRS homogenous?
    - Implied different in fixed and variable costs
      - Technology?

IFRS

- Substantial literature on the benefits of IFRS
  - less earnings management, timelier loss recognition and have higher value relevance, and higher liquidity and a lower cost of capital post-IFRS
- Less literature on the costs
- Considering costs is important to ensure the optimal level of regulation
  - Especially for SMEs and when accounting standards are complex



IFRS and audit fees

- Post-IFRS increase in audit fees, but only a few years
  - New Zealand (Griffin *et al*., 2009), Finland (Vieru & Schadewitz, 2010), EU (Kim *et al*., 2012), Malaysia (Yaccob & Che-Ahmad, 2012) and Australia (De George *et al*., 2013)
- Persistently higher post-IFRS (and higher than the transition period) if auditing is more risky and requires more effort
  - IFRS is "complex" – effort and legal risk
  - Long term increase post-SOX (Griffin & Lont, 2007 etc) and new auditing standards in 1987 (Mennon & Williams, 2001)

IFRS and audit fees 2

- Temporarily higher from transition costs
  - Learning curve (DeAngelo, 1981)
  - Once-off costs (Loyeung et al., 2011)
- Prices could increase around IFRS adoption due to transition costs, but not further increase
  - Competition does not immediately arbitrage away abnormal fee premium
  - Sticky audit fees (De Villiers *et al*., 2012)
- *RQ1: Are audit fees persistently higher post-IFRS?*

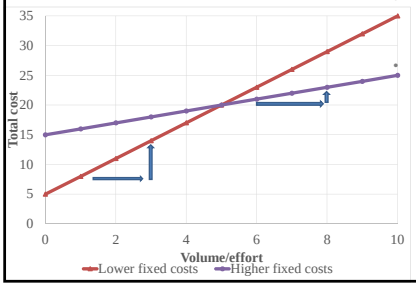
IFRS, audit fees and adoption timing

- New Zealand had voluntary adoption of IFRS from 2005, with mandatory adoption in 2008
- Relatively scant evidence on adoption timing
- Stent et al. (2015) provide survey evidence that early adopters are more positive about the benefits of IFRS, and less uncertain about effects
  - Find no difference in AF/TA for a small sample of NZ firms
- *RQ2: Do audit fees vary dependent on IFRS adoption year?*

IFRS, audit fees and audit firms

- Differences in audit firms – Big 4 premium
  - But would it differ post-IFRS?
  - Economies of scale are the cost advantages that enterprises obtain due to size, output, or scale of operation, with cost per unit of output generally decreasing with increasing scale as fixed costs are spread out over more units of output
- Do audit firms have different cost structures?
  - Audit firm mergers were partly motivated to increase customer base to apply fixed costs (Wootton et al., 2003)
  - Differences in audit testing methodology (Kinney, 1986), Investment in IT (Sirois and Simunic, 2011) and global networks (Carson, 2009)

Cost structure effects



- Fixed costs don't vary with output
- Variable costs vary with output
- Firms must make decisions about relative cost structure as different levels of operating leverage have advantages
- Drawing from economies of scale literature (Simunic, 1980), we argue that audit firm cost structure would effect audit pricing post-IFRS

Audit pricing and cost structure

- Firms with relatively higher fixed costs have a lower marginal cost (higher contribution margin) for extra work
  - So better able to handle the shock of increase in effort occurring post-IFRS
- Smaller firms have a larger increase in audit fees around IFRS adoption (De George et al., 2013)
- Post-IFRS, firms with relatively more fixed costs would have a lower marginal cost, and thus price, per unit
- *RQ3: Did audit marginal pricing vary heterogeneously post-IFRS across audit firms?*

Sample

- All companies listed on the NZX with audit fee data on Osiris (2002-2007) or on the NZX database (2008-2012)
- Require companies to active over the whole period to allow the comparison of pre- and post-IFRS results (yearend change is ok)
- Supplemented with hand collection
- Final sample of 855 firm-year observations
- Our sample is comprised of 53.0% (453) IFRS observations, and 9.1% (78) of observations are the IFRS adoption year

Research Model – RQ1

- *LAF = LTA + LAUDITLAG + ROA + CURRENT + ARINV + DA + LNAF + BIG4 + FINANCE + AUDCHG + DUAL + OPINION + YR20XX + IFRS*
- *PREADOPT* is equal to one if it is the year prior to IFRS adoption
- *IFRSADOPT* is equal to one if it is the year of IFRS adoption
- *IFRS1* is equal to one if it is the year after IFRS adoption
- *POSTIFRS* is equal to one if the company uses IFRS and it is not the year of, or year immediately following, of IFRS adoption

Research Model – RQ2 and RQ3

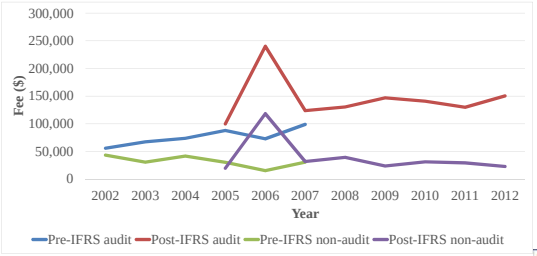
- *MIDADOPT* is equal to one if the company adopted IFRS in 2007
- *LATEADOPT* is equal to one if the company adopted IFRS in 2008

- Did IFRS vary across firms *BIG4*POSTIFRS*
- *LTA* is cost per extra marginal effort
- Did that differ post-IFRS? *LTA*POSTIFRS*
- Did it differ between audit firms *BIG4*LTA*POSTIFRS*

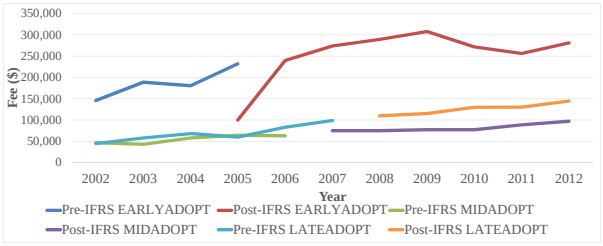
Sample descriptive statistics

- Average audit fees are $279,969 ($107,000)
- Total assets range from $66,000 to over $8 billion - mean is $733 million
- 55.2% of all companies adopted IFRS in the last possible year (2008) and *EARLYADOPT* is 30.8%
- Big 4 audit 80.1% of sample, PWC 41.4%, KPMG 22.2%, Deloitte 11.2% and EY 5.3%

Median audit fees over time

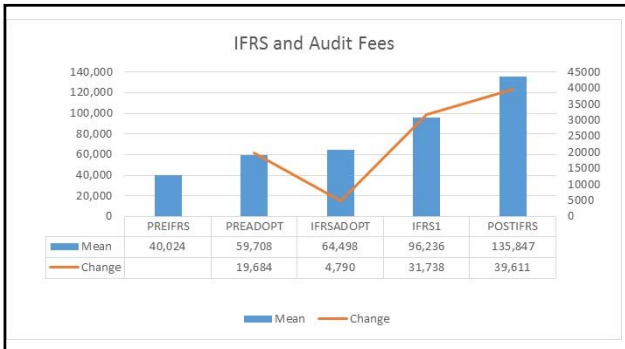


Median audit fees by year of IFRS adoption and accounting standard



Broad comments on regressions

- Table 3: Adjusted R^2's between 78.0% and 79.8%
- Highest variance inflation factor is 6.267 on *IFRS*
- Highest correlation is 0.568 between *LTA* and *Big 4*
- Most control variables are consistent with expectations, and are not the focus of this study



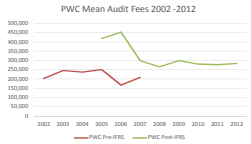
Variables	Model 1: IFRS			Model 2: IFRS and longer term effects		
	Coeff.	t-stat		Coeff.	t-stat	
IFRS	0.422	4.367	***			
PREADOPT				0.400	3.888	***
IFRSADOPT				0.477	4.054	***
IFRS1				0.877	6.444	***
POSTIFRS				1.222	8.247	***

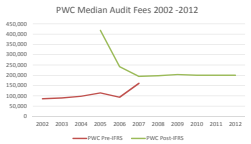
	Marginal mean		Marginal mean	Diff.	Significance	
PREADOPT	59,708	PREIFRS	40,024	19,684	0.000	***
IFRSADOPT	64,498	PREADOPT	59,708	4,791	0.491	
IFRS1	96,236	IFRSADOPT	64,498	31,738	0.000	***
POSTIFRS	135,847	IFRS1	96,236	39,611	0.001	***

Variables	Model 3: IFRS and voluntary adoption timing			Model 4: Voluntary adoption timing (2009-12)		
	Coeff.	t-stat		Coeff.	t-stat	
IFRS						
PREADOPT	0.114	1.078				
IFRSADOPT	0.032	0.249				
IFRS1	0.275	1.791				
POSTIFRS	0.338	1.829				
MIDADOPT	-0.532	-7.586	***	-0.598	-5.583	***
LATEADOPT	-0.451	-7.703	***	-0.402	-5.634	***

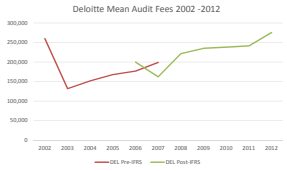
Variables	Model 8: IFRS and Big 4			Model 9: IFRS, Big 4 and cost structure		
	Coeff.	t-stat		Coeff.	t-stat	
PREADOPT	0.114	1.074		0.081	0.770	
IFRSADOPT	0.028	0.217		-0.008	-0.063	
IFRS1	0.271	1.765		0.230	1.515	
POSTIFRS	0.453	2.236	*	-0.142	-0.155	
BIG4*POSTIFRS	-0.146	-1.387		0.977	0.948	
BIG4*LTA				0.166	4.442	***
LTA*POSTIFRS				0.036	0.652	
BIG4*LTA*POSTIFRS				-0.065	-1.068	

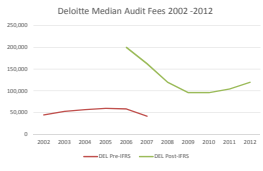
PWC audit fees



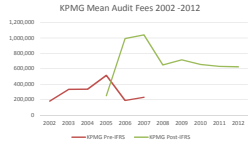


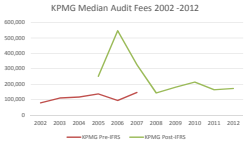
Deloitte audit fees

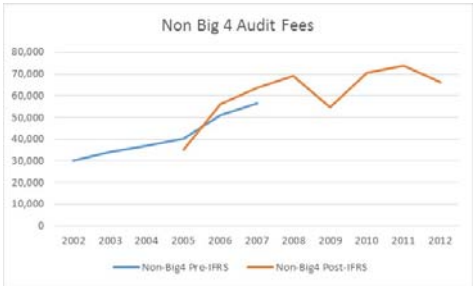


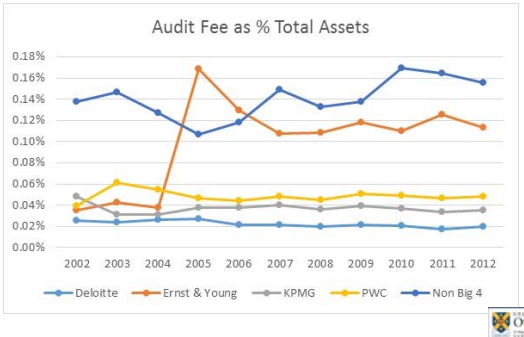


KPMG Fees









Variables	Model 10: Individual Big 4 firms			Model 11: IFRS and Big 4 firms			Model 12: IFRS, Big 4 firms and cost structure		
	Coeff.	*t-stat*		*Coeff.*	*t-stat*		*Coeff.*	*t-stat*	
LTA	0.379	24.833	***	0.379	24.791	***	0.257	7.915	***
POSTIFRS	0.325	1.795		0.458	2.320	*	-0.451	-0.525	
DEL	-0.177	-2.156	*	-0.152	-1.625		-2.102	-2.954	**
EY	0.398	3.681	***	0.556	4.449	***	-2.410	-1.467	
KPMG	0.200	2.577	*	0.186	2.102	*	-5.380	-6.519	***
PWC	0.149	2.191	*	0.234	3.022	**	-1.750	-2.698	**
*DEL*POSTIFRS*				-0.063	-0.405		2.549	1.995	*
*EY*POSTIFRS*				-0.498	-2.488	*	-17.187	-4.226	***
*KPMG*POSTIFRS*				0.023	0.185		1.978	1.528	
*PWC*POSTIFRS*				-0.236	-2.110	*	2.236	1.992	*
*DEL*LTA*							0.122	2.935	**
*EY*LTA*							0.174	2.002	*
*KPMG*LTA*							0.305	6.673	***
*PWC*LTA*							0.124	3.257	**
*LTA*POSTIFRS*							0.055	1.076	
*DEL*LTA*POSTIFRS*							-0.145	-2.009	*
*EY*LTA*POSTIFRS*							0.866	4.043	***
*KPMG*LTA*POSTIFRS*							-0.113	-1.589	
*PWC*LTA*POSTIFRS*							-0.136	-2.113	*

Practitioner views

- Informal discussions with several NZ audit partners
- Three-year view to recover all the costs of IFRS adoption and careful with audit and NAS categorisation
  - Importance of testing longer term costs of IFRS
- Audit technology varies across firms
  - Purpose built (Big 4), Off-the-shelf (second tier) and electronic version of paper based system (smaller firms)
- Fixed costs can also vary based on number of offices and premium office location, global costs and insurance
- Our results suggest differences between Big firms (Dowling and Leech 2007), thus it would be of interest to investigate audit office or partner effects

Additional tests

- Early adoption results robust to two stage approach (self-selection)
  - Early adopters have a greater proportion of subsidiaries in IFRS countries
  - Univariate evidence of larger and more NAS
- We rerun the cost structure regressions replacing LTA with an IFRS only proxy of effort (absolute difference between net profit as calculated under IFRS and pre-IFRS NZ GAAP for the year before IFRS adoption divided by total assets) - similar
- Rerun regressions with non-audit services as the dependent variable
  - Higher NAS post-IFRS and higher again in post-IFRS non-transition period
  - Early adopters have higher NAS across the whole sample and post-2009

Robustness tests

- Clustering standard errors by period, firm and both
- Natural logarithm or inverse sine of all financial ratios (adjusted to allow transformation) to control for the non-normal distribution of tails
- Interact other variables with *POSTIFRS* to examine any post-IFRS change.
- All risk or complexity related financial variables (*ROA*, *CURRENT*, *ARINV* and *DA*) are not significant at the 5% level
- *POSTIFRS*LAUDITLAG* is significantly positive
- *LNAF* effect is moderated post-IFRS
- Interactions of binary variables are insignificant

Conclusions

- Audit fees are persistently higher post-IFRS and increasing even excluding once-off adoption costs
  - Adds to the literature on costs and benefits of IFRS
    - Particularly important to global regulators in considering regulation
    - Purchasers may expect higher audit quality from increased fees
- Early adopters have higher fees outside the IFRS transition period
  - Window for changing standards does not impose costs on first movers
- Lower (higher) marginal pricing post-IFRS for PwC and Deloitte (EY), suggesting relatively higher (lower) fixed costs and lower (higher) variable costs
  - Audit firms cost structure and impact on pricing
  - Future regulation will impact firms differently dependent on cost structure