

Conservative reporting and the incremental effect of mandatory audit firm rotation policy: a comparative analysis of audit partner rotation vs audit firm rotation in South Korea

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<Table 1> Sample

Panel A: Mandatory Audit Firm Rotation Sample from 2006 - 2009

Non-financial companies	664
Firms with no data available	(154)
Mandatory rotation in 2010 & Overseas listing	(32)
Firms not subject to mandatory rotation	(144)
Total samples (2006~2009)	334

Panel B: Number of Mandatory rotation firms by year

Number of samples by year		
<i>Year</i>	<i>No. Firm</i>	<i>Ratio (%)</i>
2006	71	21.26%
2007	58	17.37%
2008	100	29.94%
2009	105	31.44%
<i>Total</i>	334	100.00%

Panel C: Industry Classification

<i>Industry</i>	<i>No. Sample</i>	<i>Percentage (%)</i>	<i>Industry</i>	<i>No. Sample</i>	<i>Percentage (%)</i>
<i>Fishing</i>	5	1.50%	<i>Medicine and medical</i>	25	7.49%
<i>Food and beverages</i>	24	7.19%	<i>Electrical machinery</i>	36	10.78%
<i>Non-metallic minerals</i>	4	1.20%	<i>Construction</i>	23	6.89%
<i>Textiles</i>	18	5.39%	<i>Metal working</i>	12	3.59%
<i>Pulp and paper</i>	11	3.29%	<i>Distribution</i>	20	5.99%
<i>Metal</i>	43	12.87%	<i>Transport and storage</i>	11	3.29%
<i>Service</i>	27	8.08%	<i>Others</i>	13	3.89%
<i>Computer</i>	30	8.98%			
<i>Chemistry</i>	32	9.58%	<i>Total</i>	334	100.00%

<Table 2> Univariate Analysis

Panel A: Descriptive Statistics and Difference Test

	Full sample				MAFR				MAPR				Diff	MAFR-MAPR
	Obs.	Mean (Med)	Max (Min)	SD	Obs.	Mean (Med)	Max (Min)	SD	Obs.	Mean (Med)	Max (Min)	SD	t (z)	
<i>C_Score</i>	2767	0.51 (0.20)	14.86 (-18.95)	7.09	763	-2.02 (-1.11)	5.39 (-16.78)	8.49	2004	1.47 (1.05)	18.08 (-19.00)	6.37	-6.79*** (-2.24**)	
<i>G_Score</i>	2767	1.14 (0.02)	75.11 (-38.32)	16.49	763	0.32 (-0.12)	41.43 (-38.31)	12.08	2004	1.46 (0.04)	79.33 (40.42)	17.88	-1.39 (-0.88)	
<i>EAR</i>	2767	0.03 (0.03)	0.19 (-0.48)	0.12	763	0.02 (0.02)	0.17 (-0.56)	0.13	2004	0.03 (0.03)	0.19 (-0.39)	0.12	-1.68* (-3.07***)	
<i>Return</i>	2767	0.25 (0.18)	2.13 (-1.05)	0.63	763	0.17 (0.17)	1.86 (-1.08)	0.63	2004	0.28 (0.17)	2.26 (-0.92)	0.62	-3.97*** (-2.83***)	
<i>D_RET</i>	2767	0.34 (0)	1 (0)	0.47	763	0.37 (0)	1 (0)	0.48	2004	0.33 (0)	1 (0)	0.47	2.23** (2.23**)	
<i>Basu_CC</i>	2767	-0.11 (0)	0 (-1.05)	0.23	763	-0.16 (0)	0 (-1.08)	0.29	2004	-0.09 (0)	0 (-0.92)	0.20	-7.14*** (-4.03***)	
<i>TACC</i>	2767	-0.02 (-0.02)	0.25 (-0.45)	0.12	763	-0.04 (-0.03)	0.21 (-0.54)	0.14	2004	-0.02 (-0.02)	0.25 (-0.36)	0.11	-2.33** (-2.60**)	
<i>CFO</i>	2767	0.05 (0.05)	0.26 (-0.19)	0.09	763	0.06 (0.06)	0.27 (-0.18)	0.08	2004	0.05 (0.05)	0.25 (-0.19)	0.09	2.28** (2.14)**	
<i>D_CFO</i>	2767	0.21 (0)	1 (0)	0.41	763	0.19 (0)	1 (0)	0.39	2004	0.21 (0)	1 (0)	0.41	0.63 (0.63)	
<i>BS_CC</i>	2767	-0.01 (0)	0 (-0.19)	0.05	763	-0.01 (0)	0 (0.18)	0.03	2004	-0.01 (0)	0 (-0.19)	0.06	0.76 (0.43)	
<i>Tenure</i>	2767	9.47 (7)	20 (6)	4.40	763	9.47 (7)	20 (6)	4.40	2004	9.48 (7)	20 (6)	4.39	-0.08 (-0.35)	
<i>No_Rotation</i>	2767	2.41 (2)	4 (1)	0.89	763	22.41 (2)	4 (1)	0.92	2004	2.41 (2)	4 (1)	0.89	0.01 (-0.08)	

Panel B: Pearson Correlations

	1.	2.	3.	4.	5.
1. <i>Earning</i>	1				
2. <i>Accrual</i>	0.11***	1			
3. <i>Basu_CC</i>	0.12***	0.06***	1		
4. <i>BS_CC</i>	0.51***	0.14***	0.08***	1	
5. <i>Basu_CC*ROT</i>	-0.04**	0.02	0.65***	0.01	1
6. <i>BS_CC*ROT</i>	0.16*	-0.08***	0.07***	0.32***	0.16***

Note 1) Variable Definitions: *TACC*: Total accruals, *DCFO*: 1 if CFO is negative, 0 otherwise, *CFO*: Cashflow from operation deflated by previous year assets, *ROT*: 1 if FROT, 0 if PROT, *EAR*: Net income deflated by previous year assets, *DRET*: 1 if RET is negative, 0 otherwise, *RET*: 12months cumulative stock return, *BS_CC*: *CFO*DCFO*, *Basu_CC*: *RET*DRET*, *Tenure*: the number of audit years before the mandatory audit firm rotation, *No_Rotation*: the number of auditor switches before the mandatory audit firm rotation (from 1997). *ROT*: A Dummy variable that is one if MAFR, 0 otherwise

Note 2) ***, **, * indicate significance level of 1%, 5%, 10% respectively

Note 3) t test is mean difference test, z (Wilcoxon z) test is median difference test

<Table 3> Conditional conservatism and mandatory audit firm rotation

BS Model: $TACC_{i,t} = \alpha_0 + \alpha_1 DCFO_{i,t} + \alpha_2 CFO_{i,t} + \alpha_3 BS_CC + \alpha_4 ROT_{i,t} + \alpha_5 BS_CC * ROT + \varepsilon_{i,t}$

Basu Model: $EAR_{i,t} = \beta_0 + \beta_1 DRET_{i,t} + \beta_2 RET_{i,t} + \beta_3 Basu_CC + \beta_4 ROT_{i,t} + \beta_5 Basu_CC * ROT + \varepsilon_{i,t}$

Panel A: Ball and Shivakumar model			Panel B: Basu model		
<i>Variable</i>	<i>MAFR vs MAPR</i>	<i>MAFR vs VOLR</i>	<i>Variable</i>	<i>MAFR vs MAPR</i>	<i>MAFR vs VOLR</i>
<i>Intercept</i>	0.032 (7.32)***	0.026 (1.94)**	<i>Intercept</i>	0.0391 (8.59)***	0.016 (1.42)
<i>DCFO</i>	0.012 (1.76)*	0.087 (1.17)	<i>DRET</i>	-0.009 (-0.104)	-0.018 (-1.39)
<i>CFO</i>	-0.849 (-21.96)***	-0.54 (-13.54)***	<i>RET</i>	-0.005 (-0.63)	-0.019 (-2.12)**
<i>BS_CC</i>	1.194 (19.42)***	1.325 (13.12)***	<i>Basu_CC</i>	0.108 (6.12)***	0.039 (1.27)
<i>ROT</i>	-0.016 (-3.28)***	0.004 (1.24)	<i>ROT</i>	-0.014 (-2.38)**	0.032 (0.28)
<i>BS_CC*ROT</i>	-0.535 (-4.75)***	-0.613 (-2.52)**	<i>Basu_CC*ROT</i>	-0.075 (-3.57)***	-0.007 (-2.43)**
<i>Adj-R2</i>	0.2087	0.2337	<i>Adj-R2</i>	0.1863	0.1629
<i>F-Value</i>	146.87***	74.76***	<i>F-Value</i>	133.25***	89.34***
<i>Obs</i>	2767	1896	<i>Obs</i>	2767	1896

Note 1) Variable Definitions: *TACC*: Total accruals, *DCFO*: 1 if CFO is negative, 0 otherwise, *CFO*: Cashflow from operation deflated by previous year assets, *ROT*: 1 if MAFR, 0 if MAPR or VOLR, *EAR*: Net income deflated by previous year assets, *DRET*: 1 if RET is negative, 0 otherwise, *RET*: 12months cumulative stock return, *BS_CCs*: *CFO*DCFO*, *Basu_CC*: *RET*DRET*

Note 2) ***, **, * indicate significance level of 1%, 5%, 10% respectively

<Table 4> Entrenchment hypothesis vs Expertise hypothesis

$$BS \text{ Model: } TACC_{i,t} = \alpha_0 + \alpha_1 DCFO_{i,t} + \alpha_2 CFO_{i,t} + \alpha_3 BS_CC + \alpha_4 ROT_{i,t} + \alpha_5 BS_CC * ROT + \alpha_6 AUDPER_{i,t} + \alpha_7 BS_CC * AUDPER_{i,t} + \alpha_8 BS_CC * ROT * AUDPER_{i,t} + \varepsilon_{i,t}$$

$$Basu \text{ Model: } EAR_{i,t} = \beta_0 + \beta_1 DRET_{i,t} + \beta_2 RET_{i,t} + \beta_3 Basu_CC + \beta_4 ROT_{i,t} + \beta_5 Basu_CC * ROT + \beta_6 AUDPER_{i,t} + \beta_7 BASU_CC * AUDPER_{i,t} + \beta_8 BS_CC * ROT * AUDPER_{i,t} + \varepsilon_{i,t}$$

Panel A: Number of years (audit tenure) before the mandatory audit firm rotation

<i>Tenure</i>	<i>No. Firm</i>	<i>Ratio (%)</i>	<i>Cumulative Ratio (%)</i>
6 years	88	26.35%	26.35%
7 years	62	18.56%	44.91%
8 years	31	9.28%	54.19%
9 years	57	17.07%	71.26%
10 years	24	7.19%	78.44%
11 years	3	0.90%	79.34%
12 years	11	3.29%	82.63%
13 years	6	1.80%	84.43%
14 years	6	1.80%	86.23%
15 years	3	0.90%	87.13%
16 years	3	0.90%	88.02%
17 years	13	3.89%	91.92%
18 years	3	0.90%	92.81%
19 years	2	0.60%	93.41%
20 years	6	1.80%	95.21%
21 years	5	1.50%	96.71%
22 years	2	0.60%	97.31%
23 years	4	1.20%	98.50%
24 years	4	1.20%	99.70%
25 years	1	0.30%	100.00%
Total	334	100.00%	

Panel B: Regression Analysis: Loss of cumulative knowledge vs Fresh look

Panel A: Ball and Shivakumar model		Panel B: Basu model	
<i>Variable</i>	<i>MAFR vs MAPR</i>	<i>Variable</i>	<i>MAFR vs MAPR</i>
Intercept	0.028 (5.51)***	Intercept	0.036 (6.96)***
DCFO	0.012 (1.78)*	DRET	-0.005 (-0.67)
CFO	-22.07 (-9.66)***	RET	-0.008 (-1.59)
BS_CC	0.79 (9.66)***	Basu_CC	0.064 (2.80)***
ROT	-0.01 (-2.66)***	ROT	-0.014 (-2.29)**
BS_CC*ROT	-0.35 (-1.84)**	Basu_CC*ROT	-0.062 (-2.24)**
AUDPER	0.01 (2.01)**	AUDPER	0.045 (1.85)*
BS_CC*AUDPER	0.54 (2.13)**	Basu_CC*AUDPER	0.086 (3.12)***
BS_CC*ROT*AUDPER	-0.46 (-1.90)*	Basu_CC*ROT*AUDPER	-0.017 (-1.74)*
Adj-R2	21.77	Adj-R2	0.2284
F-Value	97.23***	F-Value	95.34***
Obs	2767	Obs	2767

Note 1) Variable Definitions: *TACC*: Total accruals, *DCFO*: 1 if CFO is negative, 0 otherwise, *CFO*: Cashflow from operation deflated by previous year assets, *ROT*: 1 if MAFR, 0 if MAPR or VOLR, *AUDPER*: 1 if audit period is longer than 8years, 0 otherwise, *EAR*: Net income deflated by previous year assets, *DRET*: 1 if RET is negative, 0 otherwise, *RET*: 12months cumulative stock return, *BS_CC*: *CFO*DCFO*, *Basu_CC*: *RET*DRET*

Note 2) ***, **, * indicate significance level of 1%, 5%, 10% respectively

<Table 5> Switch effect on mandatory audit firm rotation

$$BS \text{ Model: } TACC_{i,t} = \alpha_0 + \alpha_1 DCFO_{i,t} + \alpha_2 CFO_{i,t} + \alpha_3 BS_CC + \alpha_4 ROT_{i,t} + \alpha_5 BS_CC * ROT + \alpha_6 SWITCH_{i,t} + \alpha_7 BS_CC * SWITCH_{i,t} + \alpha_8 BS_CC * ROT * SWITCH_{i,t} + \varepsilon_{i,t}$$

$$Ball \text{ Model: } EAR_{i,t} = \beta_0 + \beta_1 DRET_{i,t} + \beta_2 RET_{i,t} + \beta_3 Ball_CC + \beta_4 ROT_{i,t} + \beta_5 Ball_CC * ROT + \beta_6 SWITCH_{i,t} + \beta_7 Ball_CC * SWITCH_{i,t} + \beta_8 Ball_CC * ROT * SWITCH_{i,t} + \varepsilon_{i,t}$$

Panel A: Number of samples by switch type

<i>Year</i>	<i>No. Firm</i>	<i>Ratio (%)</i>
Big4 to Big4	145	43.41%
Big4 to Non	33	9.88%
Non to Big4	85	25.45%
Non to Non	71	21.26%
Total	334	100.00%

Panel B: Regression Analysis: Non-Big4 to Big4 vs Other switch types

<i>Variable</i>	<i>Ball and Shivakumar model</i>		<i>Variable</i>	<i>Basu model</i>	
	<i>MAFR vs MAPR</i>	<i>MAFR vs VOLR</i>		<i>MAFR vs MAPR</i>	<i>MAFR vs VOLR</i>
<i>Intercept</i>	0.015 (5.29)***	0.013 (1.80)**	<i>Intercept</i>	0.053 (7.64)***	0.014 (1.25)
<i>DCFO</i>	0.014 (3.62)***	0.079 (1.17)	<i>DRET</i>	-0.019 (-2.67)***	-0.021 (-1.59)
<i>CFO</i>	-0.67 (-28.61)***	-0.79 (-16.59)***	<i>RET</i>	-0.008 (-1.48)	-0.028 (-4.14)***
<i>BS_CC</i>	0.578 (10.66)***	1.276 (15.02)***	<i>Basu_Cons</i>	0.081 (2.46)**	0.041 (2.14)**
<i>ROT</i>	-0.009 (-3.42)***	0.003 (0.45)	<i>ROT</i>	-0.014 (-2.39)**	0.036 (0.20)
<i>BS_CC *ROT</i>	-0.362 (-2.87)***	-0.016 (-2.51)***	<i>Basu_CC *ROT</i>	-0.048 (-2.17)**	-0.025 (-1.89)*
<i>SWITCH</i>	0.001 (0.12)	-0.835 (-2.39)**	<i>SWITCH</i>	0.002 (1.08)	-0.008 (-121)
<i>BS_CC *SWITCH</i>	0.162 (2.12)**	0.647 (2.59)***	<i>Basu_CC * SWITCH</i>	0.074 (2.21)***	0.691 (2.25)**
<i>BS_CC *ROT*SWITCH</i>	0.293 (1.78)*	0.201 (1.61)	<i>Basu_CC *ROT* SWITCH</i>	0.051 (2.13)**	0.273 (1.24)
<i>Adj-R2</i>	0.2479	0.2236	<i>Adj-R2</i>	0.2158	0.1562
<i>F-Value</i>	180.20***	64.56***	<i>F-Value</i>	121.21***	49.44***
<i>Obs</i>	2767	3607	<i>Obs</i>	2767	3607

Note 1) Variable Definitions: *TACC*: Total accruals, *DCFO*: 1 if CFO is negative, 0 otherwise, *CFO*: Cashflow from operation deflated by previous year assets, *ROT*: 1 if mandatory audit firm rotation, 0 if MAPR or VOLR, *SWITCH*: 1 if rotation type is from Non to Big4, 0 otherwise, *EAR*: Net income deflated by previous year assets, *DRET*: 1 if RET is negative, 0 otherwise, *RET*: 12months cumulative stock return, *BS_CC*: *CFO***DCFO*, *Basu_CC*: *RET***DRET*

Note 2) ***, **, * indicate significance level of 1%, 5%, 10% respectively

<Table 6> Conditional Conservatism changes over different periods

BS Model: $TACC_{i,t} = \alpha_0 + \alpha_1 DCFO_{i,t} + \alpha_2 CFO_{i,t} + \alpha_3 BS_CC + \varepsilon_{i,t}$

Ball Model: $EAR_{i,t} = \beta_0 + \beta_1 DRET_{i,t} + \beta_2 RET_{i,t} + \beta_3 Ball_CC + \varepsilon_{i,t}$

<i>Ball and Shivakumar model</i>				<i>Basu model</i>			
	MAPR1	MAPR2	MAFR		MAPR1	MAPR2	MAFR
<i>Intercept</i>	0.02*** (3.04)	0.01 (1.41)	0.01 (1.01)	<i>Intercept</i>	0.04*** (6.45)	0.04*** (5.51)	0.01 (1.36)
<i>CFO</i>	-0.61*** (-9.62)	-0.69*** (-8.35)	-0.75*** (-9.64)	<i>Return</i>	-0.00 (-0.42)	-0.01 (-1.30)	-0.00 (-0.12)
<i>D_CFO</i>	0.01 (1.08)	-0.00 (-0.10)	0.01 (0.62)	<i>D_RET</i>	-0.01 (-1.32)	-0.02 (-1.37)	0.02 (1.21)
<i>BS_Cons</i>	0.14* (1.91)	0.49*** (5.70)	0.01 (0.62)	<i>Basu_Cons</i>	0.05* (1.82)	0.07*** (2.86)	0.03 (1.00)
<i>fvalue</i>	57.01***	48.21***	43.31***	<i>fvalue</i>	28.04***	23.25***	20.67***
<i>Adj. R2</i>	0.1884	0.1621	0.1880	<i>Adj. R2</i>	0.1317	0.1131	0.1036
<i>Obs.</i>	1002	1002	763	<i>Obs.</i>	1002	1002	763