

DETERIORATING PROFITS OF BROKERAGE FIRMS POST-IFRS: EMPIRICAL EVIDENCE

Empirical evidence from a study of a large number of brokerage firms in Turkey highlights the extent to which their profitability has declined and the determinants of profits have changed following the introduction of IFRS-based financial reporting in early 2005. This study examines some of the possible links between these events.



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Over the past decade, many countries have adopted International Financial Reporting Standards (IFRS) as common standards for reporting, and this has been a long-awaited and much-needed development. Prior to IFRS, individual countries adopted their own generally accepted accounting principles (GAAP), which often created problems, particularly for companies that either sold their shares on foreign markets or conducted cross-border trade.

The greatest issue was the lack of international recognition of corporate financial statements by analysts and regulators across various jurisdictions. The accounts of companies operating on an international scale and audited by reputable independent audit firms tended to have more credibility than those audited by less well-known audit firms. However, even those using well-known firms were not able to avoid problems in this area. The fundamental reason was that major audit firms that worked with larger companies had to audit their clients according to the GAAPs administered in the judicial territories in which the client/audit firm was located. One country's accounting customs and conventions were often very different from those of others. IFRS was intended to remove this problem through the development of a standardised financial reporting infrastructure which was designed to be consistent around the globe.

Turkey has sought EU membership for many years. In line with this aim, companies in Turkey that are subject to special legislation, such as brokerage firms, banks or insurance firms or those that are publicly listed, were required to implement international accounting principles (IAS) and IFRS from the first quarter of 2005. Before the adoption of IFRS, financial reporting was based on historical cost principles up until the end of 2002, and on inflationary accounting principles in 2003 and 2004. Since its inception, IFRS has, itself, provided significant challenges, particularly for practitioners and auditors examining their accounting records and financial statements in Turkey. This study focuses on brokerage firms operating in Turkey that have recently converted from national GAAP-based financial reporting to IFRS-based reporting.

We explore brokerage firms' profitability in relation to its probable connection with the introduction of IFRS-based reporting. Kaymaz et al. (2010) and Kaymaz and Kaymaz (2010) examine the profitability of brokerage firms operating in Turkey. Kaymaz and Kaymaz (2010) also conduct empirical analyses to explore the drivers of this underlying profitability for brokerage firms, using quarterly financial data over a sample period from 2005 to 2007. To date, there have been few academic studies on the possible links between financial reporting and corporate profitability.

There are a number of studies examining the effect of convergence towards IAS/IFRS on firms operating in the EU Member States. See, for example, Jermakowicz (2004), Van Tendeloo and Vanstraelen (2005), Ormrod and Taylor (2004), Weißenberger et al. (2004), Jones and Luther (2005), Callao et al. (2006), and Schipper (2005).¹ The focus of these studies (e.g. the effect of the change to IFRS on debt covenants, on corporate internal organizations, on management accounting practices, on auditing firms, on earnings management) is quite different from that of this study.²

This study explores financial reporting and its implications for the profitability of brokerage firms. We argue that the introduction of IFRS to financial reporting has affected both the profitability ratios and the key determinants of the profitability of brokerage firms operating in Turkey. To discover the role of IFRS, financial reporting is examined in two separate financial reporting periods — i.e. before and after IFRS (convergence). In the first period (referred to as the pre-IFRS financial reporting period), GAAP accounting standards were employed and international financial reporting standards were used in the latter period (referred to as the IFRS-based financial reporting period). We thus examine changes in the interplay between financial reporting and profitability over the past decade.

To our knowledge, this is the first study to focus on these issues. Because of this, we believe that our study will be of interest and have relevance to a wide international audience, particularly those countries with sizeable numbers of listed firms such as the United Kingdom, United States, Australia, Japan, Germany and Canada. Australia adopted IFRS principles in 2002 and started to implement it in the beginning of the 2005 fiscal year as did the EU Member countries.³

Data and methodology

In this paper, the sample includes all brokerage firms in Turkey whose financial information has been published by the Association of Capital Market Intermediary Firms of Turkey (ACMIIT).⁴ Brokerage firms are just one of the many investment firms operating in Turkey. The financial statements of brokerage firms from 2000 to the third quarter of 2009 are available on ACMIIT's website. However, there are some exceptions as follows.

First, for 2000 and 2001, only the annual financial statements are available. Second, in 2002, quarterly financial statements are only available for the third and

fourth quarters.⁵ Third, financial statements for the fourth quarter of 2009 have not yet been disclosed. For these reasons, unlike the Kaymaz and Kaymaz (2010) study, which ran quarterly financial data in their empirical analyses, brokerage firms' annual financial statements have been employed. The period running from 2000 through 2008 has been treated as the sampling period in our work.

In Turkey, although IFRS-based financial reporting has been de jure enforced since the first quarter of 2008, it has indeed been de facto implemented since the first quarter of 2005.⁶ Before 2005, inflationary-based reporting and historical cost-based reporting were used. For this reason, the sample period falls into two sub-periods, the *Pre-IFRS financial reporting period spanning the time interval 2000-04* and the *IFRS-based financial reporting period spanning the time interval 2005-08*. These sub-periods are referred to as Group 1 and Group 2, respectively.

This study has two main empirical objectives. These are to explore whether (1) profitability ratios and (2) determinants of the profitability of brokerage firms operating in Turkey have been exposed to change following the IFRS implementation. In particular, as part of the first objective, we examine whether there is a significant difference in the profitability ratios of brokerage firms between the two financial reporting groups (cycles). To do this, we perform a test examining group differences.

The second objective requires two consecutive sets of analyses. Based on comparisons of the determinants of profitability in the two different financial reporting periods, the next empirical objective (2a) is to understand whether there is a significant difference in the determinants of the profitability of brokerage firms between the two groups. As with the first empirical investigation, this is achieved by performing a test on unveiling the probable group differences. The next objective (2b) is to identify the significances of the determinants of profitability and the directions of their relationships with the profitability ratios across both of the financial reporting groups. This is achieved through conducting a panel data analysis, which allows a more subtle examination for our purpose.

Three indicators were chosen as profitability ratios: Return on Assets (ROA), Return on Equity (ROE) and % Change in Net Profit After Taxes (NPAT), being the net income or net profit, all of which are widely recognised

TABLE 1a: Profitability ratio construction

Profitability Ratio	Calculation
Return on Assets (ROA)	NPAT/Total Assets
Return on Equity (ROE)	NPAT/Total Equity
Relative (%) Change in Net Profit After Taxes (PRC)	$NPAT_t - NPAT_{t-1} / NPAT_{t-1}$

ratios for capturing profitability. Table 1a shows how these ratios capturing the profitability of brokerage firms are calculated, where the subscripts t and $t-1$ represent present and past periods, respectively.

Table 1b presents the key determinants of profitability in brokerage firms operating in Turkey. Five independent variables were expected to determine each of the profitability ratios in the brokerage firms. These are foreign liabilities (LBT), paid-in capital (PCA), brokerage commissions (BRC), stock trading volume (STV) and fixed income securities trading volume (FISV). In order to avoid bias, variables have been ranked according to the corresponding profitability proxies that they are expected to determine. For instance, where ROA is used as a proxy to capture profitability, all the denominators of the ratios, the underlying factors, become total assets (TA). Where ROE is used as a proxy, all the denominators of the underlying factors become total equity (TE). Or else, where Change in Net Profit After Taxes (PRC) is used as a proxy, all the denominators of the underlying factors become NPAT. Table 1b clearly shows this.

One of the main reasons for selecting the regressors below as the probable explanatory variables determining

profitability is that they are important financial items for any typical brokerage firm. In other words, explanatory variables that are designated to predict the profitability ratios carry strong relative weights within the financial data of the brokerage firms concerned. Since these items are, by definition, brokerage firms' intrinsic financials, they are firm- or micro-level determinants of corporate profitability. Similar to Kaymaz and Kaymaz (2010) and Kaymaz et al. (2010), we employ firm-level financial data.⁷

The next section discusses empirical tests for understanding the group differences in the profitability ratios of brokerage firms.

Empirical tests: group differences in profitability ratios

Prior to conducting our analyses, we ran a normality test. Tests of normality indicate that none of the profitability ratios or determinants of profitability are normally distributed. All the p -values are less than 1%. This robust result suggests that parametric analyses are not applicable to our examinations in making group comparisons. For this reason, a non-parametric analysis was conducted.⁸

TABLE 1b: Profitability determinant construction

Underlying Profitability Determinant	Matching Profitability Ratio
1.LBT/TA: Foreign Liabilities/Total Assets	
2.PCA/TA: Paid-in Capital/Total Assets	
3.BRC/TA: Brokerage Commissions/Total Assets	ROA
4.STV/TA: Stock Trading Volume/Total Assets	
5.FISV/TA: Fixed Income Securities Trading Volume/Total Assets	
1.LBT/TE: Foreign Liabilities/Total Equity	
2.PCA/TE: Paid-in Capital/Total Equity	
3.BRC/TE: Brokerage Commissions/Total Equity	ROE
4.STV/TE: Stock Trading Volume/Total Equity	
5.FISV/TE: Fixed Income Securities Trading Volume/Total Equity	
1.LBT/NPAT: Foreign Liabilities/Net Profit After Tax	
2.PCA/NPAT: Paid-in Capital/Net Profit After Tax	
3.BRC/NPAT: Brokerage Commissions/Net Profit After Tax	PRC
4.STV/NPAT: Stock Trading Volume/Net Profit After Tax	
5.FISV/NPAT: Fixed Income Securities Trading Volume/Net Profit After Tax	

TABLE 2.1: Test statistics^a — profitability ratios

Profitability Ratios	ROA	ROE	PRC
Mann-Whitney U	85957	85128	69025
Wilcoxon W	162985	162156	146053
Z	-5.817	-6.015	-5.071
Asymp. Sig. (2-tailed)	0	0	0

a. Grouping Variable: Groups

We ran non-parametric analysis on SPSS, through splitting the sample into two groups: i.e. pre-IFRS financial reporting period versus IFRS-based financial reporting period. Results in Table 2.1 strongly indicate that there is a significant difference in the profitability ratios between the two groups at the 1% significance level. In other words, profitability indicators are noticeably different between the two different financial reporting groups examined.

Table 2.2 allows us to see the profitability results across the financial reporting cycles. It reports major statistics on each of the profitability ratios for both groups. Test statistics clearly explain upper non-parametric test findings. Groups 1 and 2 are the financial reporting periods before and after the implementation of IFRS in Turkey, respectively. In the first period, mean values of ROA, ROE and PRC are around 0.068, 0.034 and 12.503. In the latter period, mean values of ROA, ROE and PRC are around -0.005, -0.02 and -5.571.

These findings reveal two important points. First, the profitability ratios of the brokerage firms have been

significantly affected by the change in financial reporting, i.e. convergence towards IFRS. Second, all the profitability ratios have tended to decrease following the introduction of IFRS-based financial reporting. In other words, after IFRS, the profitability ratios of brokerage firms have weakened. The next section discusses empirical tests for understanding the group differences in the determinants of the profitability of brokerage firms.

Empirical tests: group differences in determinants of profitability

As in the case of profitability ratios, we ran a non-parametric analysis, partitioning the sample into two groups: i.e. the pre-IFRS financial reporting period versus the IFRS-based financial reporting period. Recall that the determinants of profitability were set for three different profitability proxies. We first present non-parametric test results when ROA is the profitability. Table 3.1 indicates that the ratios, brokerage commissions to total assets (BRC/TA) and fixed income securities trading volume to total assets (FISV/TA) show a significant divergence

TABLE 2.2: Descriptives — profitability ratios

		N	Mean	Std. Deviation
ROA	1	563	0.068	0.215
	2	392	-0.005	0.234
ROE	1	563	0.034	1.340
	2	392	-0.02	0.463
PRC	1	442	12.503	241.396
	2	392	-5.571	76.753

TABLE 3.1: Test statistics^a — ROA is the profitability

	LBT/TA	PCA/TA	BRC/TA	STV/TA	FISV/TA
Mann-Whitney U	105033	107126	79083	104507	101090
Wilcoxon W	263799	265892	156111	263273	178118
Z	-1.268	-.768	-7.456	-1.393	-2.209
Asymp. Sig. (2-tailed)	.205	.442	.000	.164	.027

a. Grouping Variable: Groups

TABLE 3.2: Descriptives — ROA is the profitability

		N	Mean	Std. Deviation
LBT/TA	1	563	0.356	0.212
	2	392	0.378	0.236
PCA/TA	1	563	0.428	0.409
	2	392	0.456	0.433
BRC/TA	1	563	0.557	0.524
	2	392	0.351	0.373
STV/TA	1	563	333.457	348.898
	2	392	377.747	389.194
FISV/TA	1	563	229.322	365.341
	2	392	171.895	334.547

between the pre-IFRS financial reporting period and the IFRS-based financial reporting period. Put differently, BRC/TA and FISV/TA are the profitability indicators which exhibit a significant difference following the change in the financial reporting to IFRS. Notice that p -values for these two variables are much less than the 5% significance level. Group difference for BRC/TA is the most robust, as its p -value approximates 0.

Table 3.2 presents descriptives given that ROA is the profitability. From the changes in the mean values of the underlying determinants of profitability across the financial reporting groups in Table 3.2, we see that three determinants of profitability, LBT/TA, PCA/TA, STV/TA, tend to increase, while the remaining two, BRC/TA and FISV/TA, tend to decrease after IFRS. Decreasing tendencies in BRC/TA and FISV/TA are important as these are the determinants of profitability in which group differences were found to be significant at the 5% level. Therefore, we can also say that in the aftermath of IFRS, these determinants of profitability have weakened.

In Table 3.3, we present non-parametric test results where ROE is the determinant of profitability. According to this, the ratios, paid-in capital to total equity (PCA/TE), and brokerage commissions to total equity (BRC/TE) show a significant difference between the pre-IFRS financial reporting period and the IFRS-based financial reporting period at the 5% significance level. STV/TE ratio is significant at the 10% level.

Table 3.4 reports descriptives where ROE is the determinant of profitability. From the changes in the mean values of the determinants, we see that two determinants of profitability, LBT/TE and STV/TE, tend to rise while the remaining three tend to fall after IFRS. In particular, decreasing tendencies in PCA/TE and BRC/TE are important since these are the determinants for which group differences were found to be significant at the 5% level. We can hence conclude that after IFRS, the determinants of profitability in this category have weakened once again.

TABLE 3.3: Test statistics^a — ROE is the profitability

	LBT/TE	PCA/TE	BRC/TE	STV/TE	FISV/TE
Mann-Whitney U	105204	99557	85113	102273	104112
Wilcoxon W	263970	258323	162141	261039	181140
Z	-1.227	-2.574	-6.018	-1.926	-1.488
Asymp. Sig. (2-tailed)	.220	.010	.000	.054	.137

a. Grouping Variable: Groups

TABLE 3.4: Descriptives: — ROE is the profitability

	N	Mean	Std. Deviation
LBT/TE	1	563	0.908
	2	392	1.011
PCA/TE	1	563	0.781
	2	392	0.779
BRC/TE	1	563	0.994
	2	392	0.667
STV/TE	1	563	587.525
	2	392	745.170
FISV/TE	1	563	820.160
	2	392	776.965

TABLE 3.5: Test statistics^a — PRC is the profitability

	LBT/NPAT	PCA/NPAT	BRC/NPAT	STV/NPAT	FISV/NPAT
Mann-Whitney U	102506	105399	98129	104919	100835
Wilcoxon W	179534	182427	175157	181947	177863
Z	-1.782	-1.090	-2.829	-1.205	-2.183
Asymp. Sig. (2-tailed)	.075	.276	.005	.228	.029

a. Grouping Variable: Groups

TABLE 3.6: Descriptives — PRC is the profitability

		N	Mean	Std. Deviation
LBT/NPAT	1	561	950.710	0.000224
	2	392	-111.930	2017.352
PCA/NPAT	1	561	360.801	8444.008
	2	392	-168.880	3316.312
BRC/NPAT	1	561	625.708	0.000147
	2	392	-59.875	1225.472
STV/NPAT	1	561	304.731	0.0000072
	2	392	76.310	0.0000015
FISV/NPAT	1	561	7530.433	0.0054
	2	392	1733.183	0.095

Table 3.5 reveals the test statistics, given that PRC is the determinant of profitability. Accordingly, foreign liabilities to net profit after tax (LBT/NPAT), brokerage commissions to net profit after tax (BRC/NPAT) and fixed income securities trading volume to net profit after tax (FISV/NPAT) exhibit a significant difference between the pre-IFRS financial reporting period and the IFRS-based financial reporting period. The LBT/NPAT ratio is significant at the 10% level while the others are at the 5% level. The group difference for BRC/TA is the most robust.

Table 3.6 presents descriptives where PRC is the profitability ratio. From the changes in the mean values of the determinants across the financial reporting groups, we see that they all tend to fall. In other words, following IFRS, micro factors driving profitability here have also weakened.

Overall, our findings show that the determinants of profitability in brokerage firms have been negatively affected by the change to IFRS in financial reporting in Turkey. In other words, the determinants of profitability have weakened after the change to IFRS. Findings also document that, irrespective of which profitability ratio, and, hence, which denominator is employed, the financial item 'brokerage commissions' explains profitability in common with all three proxies. This makes sense because it is a major source of income from which brokerage firms realise their intermediary operations such as public offerings. The next section examines profitability-determinant relationships.

Empirical tests: profitability-determinant relationships before and after IFRS

As discussed earlier, three profitability indicators have been chosen to capture profitability in the brokerage firms operating in Turkey. A panel data analysis using Stata was performed to determine which factors or determinants underlie profitability. Panel regression models were estimated for each of three profitability indicators as follows.

$$Y_{it} = d_{0i} + \sum_{i=1}^n d_i X_{it} + e_{it}(RE)$$

$$Y_{it} = d_0 + \sum_{i=1}^n d_i X_{it} + e_{it}(FE)$$

where (RE) and (FE) refer to random and fixed effects panel regressions, respectively. X (determinant) is the independent variable regressing Y (profitability). Both X and Y are firm-specific. Notations i , n and t refer to cross-section (brokerage institution), number of firm-specific independent variables and time, respectively.

All the profitability ratios together with the determinants of profitability were individually run through random and fixed-effects models across pre-IFRS and IFRS-based financial reporting periods. Hausman tests were performed for all. The findings of these tests indicate that the random effects panel model for each of the three profitability ratios, across both the reporting periods, should be chosen to predict profitability. Therefore, for the sake of brevity, we report only the random effects model results below, starting from ROA.⁹

Factors underlying ROA

The random effects model findings presented in Table 4.1 show that the overall model significantly accounts for the profitability as p -value (Prob.>chi2) converges at 0. At the 5% significance level, the regressors LBT/TA, PCA/TA and FISV/TA strongly explain the profitability, i.e. ROA. The relationships of LBT/TA, PCA/TA and FISV/TA with ROA are respectively negative, negative, and positive. The overall adjusted coefficient of variation (R^2), the explanatory power of the model, is almost 51%, which is not low.

Table 4.2 shows the test results for the IFRS-based financial reporting period in Turkey. As in the pre-IFRS case, the random effects model robustly explains ROA as the p -values (around 0%) of the model fall far short of the 5% level. Random effects model findings in Table 4.2 suggest that the variables such as LBT/TA, PCA/TA, BRC/TA and STV/TA significantly explain ROA at the 5% level. BRC/TA is positively and the others are negatively related to ROA. On the other hand, R^2 is around 47%, which is less than that (51%) of the random effects model run for ROA in the pre-IFRS financial reporting period (Table 4.1).

TABLE 4.1: Random effects: — pre-IFRS financial reporting period

Number of obs: 563						
Group variable: firm		Number of groups = 119				
R-sq: within = 0.4773		Obs per group: min = 3				
between = 0.5933		avg = 4.7				
overall = 0.5080		max = 5				
Random effects u _i - Gaussian		Wald chi2(5) = 565.32				
corr(u _i , X) = 0(assumed)		Prob > chi2 = 0.0000				
roe	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lbtta	-.3132	.0322	-9.74	0.000	-.37624	-.2502
pcata	-.3654	.0165	-22.17	0.000	-.3977	-.3331
brcta	-.0315	.0237	-1.33	0.184	-.0781	.0150
stvta	8.76e-06	.00004	0.25	0.802	-.00006	.00008
fisvta	.00007	.00002	3.85	0.000	.00004	.0001
_cons	.3342	.0174	19.18	0.000	.3000	.3683

TABLE 4.2: Random effects — IFRS-based financial reporting period

Number of obs: 392						
Group variable: firm		Number of groups = 100				
R-sq: within = 0.4894		Obs per group: min = 1				
between = 0.4303		avg = 3.9				
overall = 0.4717		max = 4				
Random effects u _i - Gaussian		Wald chi2(5) = 347.45				
corr(u _i , X) = 0(assumed)		Prob > chi2 = 0.0000				
roe	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lbtta	-.3409	.0401	-8.50	0.000	-.4195	-.2623
pcata	-.3608	.0215	-16.77	0.000	-.4030	-.3187
brcta	.1427	.0295	4.83	0.000	.0848	.2006
stvta	-.00009	.00003	-3.13	0.002	-.00014	-.00003
fisvta	.00001	.00003	0.48	0.631	-.00004	.00007
_cons	.2703	.0266	10.16	0.000	.2182	.3224

TABLE 4.3: Random effects: — pre-IFRS financial reporting period

Number of obs: 563						
Group variable: firm		Number of groups = 119				
R-sq: within = 0.8899		Obs per group: min = 3				
between = 0.8792		avg = 4.7				
overall = 0.8820		max = 5				
Random effects u _i - Gaussian		Wald chi2(5) = 4313.51				
corr(u _i , X) = 0(assumed)		Prob > chi2 = 0.0000				
roe	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lbtta	-.0874	.0108	-8.09	0.000	-.1086	-.0662
pcata	-.6316	.0114	-55.34	0.000	-.6539	-.6092
brcta	.0558	.0404	1.38	0.168	-.0234	.1349
stvta	-.00006	.00007	-0.83	0.406	-.0002	.00008
fisvta	.00001	.000012	0.88	0.378	-.00001	.00003
_cons	.5751	.0323	17.81	0.000	.5118	.6384

TABLE 4.4: Random effects: IFRS-based financial reporting period

Number of obs: 392		Number of groups = 100			
Group variable: firm		Obs per group: min = 1			
R-sq: within = 0.5450		avg = 3.9			
between = 0.4837		max = 4			
overall = 0.5231		Wald chi2(5) = 428.78			
Random effects u_i - Gaussian		Prob > chi2 = 0.0000			
corr(u_i, X) = 0(assumed)					

roe	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lbtta	-.0259	.0120	-2.16	0.031	-.0496	-.0024
pcata	-.4061	.0269	-15.12	0.000	-.4588	-.3535
brcta	.0912	.0281	3.25	0.001	.0362	.1462
stvta	-.0001	.00003	-3.88	0.000	-.0002	-.0005
fisvta	-8.69e-06	8.33e-06	-1.04	0.297	-.00003	7.64e-06
_cons	.3427	.0298	11.50	0.000	.2843	.4011

TABLE 5.1: Profitability ratios along the two groups — pre-IFRS financial reporting period versus IFRS-based financial reporting period: summary

Analysis	Measurement	Profitability Ratio		
		ROA	ROE	PRC
Group Difference: Between Pre-IFRS and IFRS-Based Financial Reporting Periods		significant*	significant*	significant*
Tendency: From Pre-IFRS to IFRS-Based Financial Reporting Periods		↓	↓	↓

*: significant at 1%.

TABLE 5.2: Profitability determinants along the two groups — pre-IFRS financial reporting period versus IFRS-based financial reporting period: summary

Analysis	Measurement	Profitability Determinants				
		LBT/TA	PCA/TA	BRC/TA	STV/TA	FISV/TA
Panel A: ROA is profitability.						
Group Difference: Between Pre-IFRS and IFRS-Based Financial Reporting Periods		insignificant	insignificant	significant*	insignificant	significant**
Tendency: From Pre-IFRS to IFRS-Based Financial Reporting Periods		↑	↑	↓	↑	↓
Panel B: ROE is profitability.						
Group Difference: Between Pre-IFRS and IFRS-Based Financial Reporting Periods		insignificant	significant*	significant*	significant***	insignificant
Tendency: From Pre-IFRS to IFRS-Based Financial Reporting Periods		↑	↓	↓	↑	↓
Panel C: PRC is profitability.						
Group Difference: Between Pre-IFRS and IFRS-Based Financial Reporting Periods		significant***	insignificant	significant*	insignificant	significant**
Tendency: From Pre-IFRS to IFRS-Based Financial Reporting Periods		↓	↓	↓	↓	↓

*: significant at 1%, **: significant at 5%, ***: significant at 10%

TABLE 5.3: Panel regression results

Panel A. Regression summary: ROA				
REGRESSORS	Pre-IFRS Financial Reporting Period		IFRS-Based Financial Reporting Period	
	Significance	Direction	Significance	Direction
Foreign Liabilities/Total Assets	*	–	*	–
Paid-in Capital/Total Assets	*	–	*	–
Brokerage Commissions/Total Assets	insignificant	–	*	+
Stock Trading Volume/Total Assets	insignificant	+	*	–
Fixed Income Securities Trading Volume/Total Assets	*	+	insignificant	+

Panel B. Regression Summary: ROE				
REGRESSORS	Pre-IFRS Financial Reporting Period		IFRS-Based Financial Reporting Period	
	Significance	Direction	Significance	Direction
Foreign Liabilities/Total Equity	*	–	**	–
Paid-in Capital/Total Equity	*	–	*	–
Brokerage Commissions/Total Equity	insignificant	+	*	+
Stock Trading Volume/Total Equity	insignificant	–	*	–
Fixed Income Securities Trading Volume/Total Equity	insignificant	+	insignificant	–

*, significant at 1%; **, significant at 5%; ***, significant at 10%.

Factors underlying ROE

Another proxy for profitability was ROE, for which panel regression results are given as follows. According to random effects model findings for the pre-IFRS financial reporting cycle given in Table 4.3, LBT/TE and PCA/TE appear to be the variables that significantly account for ROE. The direction of the relationship of ROE is negative for both the variables. The random effects model robustly explains the profitability as the p -value of the overall model is close to 0. R^2 is over 88%, which is high.

Table 4.4 reports the profitability-determinant relationships in the IFRS-based financial reporting period. Random effects model findings in Table 4.4 indicate that LBT/TE, PCA/TE, BRC/TE and STV/TE are the variables that significantly explain ROE. The direction of the relationship of ROE is negative for all the variables except for BRC/TE. The p -value of the overall model approximates 0, making it robust. On the other side of the coin, we see that R^2 is over 52%, which is significantly less than R^2 (88%) in the random effects model run for ROE in the pre-IFRS financial reporting period (Table 4.3).

Factors underlying PRC

The last profitability ratio was PRC, which measures the relative change in the NPAT number. We have run panel regression analyses for both pre-IFRS and IFRS-based financial reporting periods. According to these results, neither the predicated variables nor the overall models account for PRC, where all the p -values exceed 5%. In both periods, R^2 is almost 0%. Nonetheless, we observe that, although overall significances and R^2 values seem insignificant in all of the panel regression models run

for PRC across pre-IFRS and IFRS periods, they tend to decline after IFRS.¹⁰

In summary, we find that profitability-determinant relationships have weakened in the aftermath of the introduction of IFRS-based financial reporting. The next section concludes the paper.

In Turkey, financial reporting in brokerage firms has considerably changed since the implementation of IFRS in 2005. This study has examined the effects on the profitability of the brokerage firms in Turkey produced by this shift in financial reporting towards IFRS. This wide-ranging examination has covered the effect of this change in financial reporting on profitability ratios, the determinants of profitability, and profitability-determinant relationships, using a sample of all brokerage firms with publicly available financial data.

The overall results are compiled in Table 5.1, Table 5.2 and Table 5.3. They suggest that the profitability ratios, determinants of profitability, and profitability-determinant relationships for brokerage firms in Turkey have all weakened in the aftermath of IFRS-based financial reporting implementation. In conclusion, based on this robust evidence, we contend that the profitability of brokerage firms has declined following the introduction of IFRS.

We do not, however, argue that profitability in this sector has been negatively affected by IFRS, nor do we directly claim that IFRS is the cause of the significant decline in profitability. We leave the issue of the probable causality between financial reporting and profitability for future research. ■

Notes

1. See Callao et al. 2007. There are some other works on IFRS recently studied from different angles as well. For instance, Ding and Su (2008) provide an analysis of the effects of IFRS enforcement within a highly regulated market relative to that in a deregulated market. Beneish and Yohn (2008) explore the influence of worldwide IFRS adoption on the degree of equity home bias along with information friction (information processing costs and uncertainty). They suggest that geographical proximity is connected to the quality of the financial information conveyed to investors. More importantly, they conclude that worldwide acknowledgement of IFRS will not provide any remedy for mitigating investor home bias.
2. Ibid.
3. See, for example, www.aasb.gov.au/admin/file/content102/c3/IFRS_adoption_in_Australia_Sept_2009.pdf (accessed on 29 May 2010) and www.iasb.org/NR/rdonlyres/75813E40-7BCC-433E-850D-525D391C3ECF/0/2b.ppt (accessed on 29 May 2010).
4. Literal translation of ACMIIT is TSPAKB in Turkish. TSPAKB is the Turkish abbreviation of Türkiye Sermaye Piyasası Aracı Kuruluşları Birliği. TSPAKB is a professional organisation guiding capital market players such as brokerage firms or banks on how to operate in Turkish capital markets. Banks are other particular types of investment houses in Turkey. See www.tspakb.org.tr for the URL of ACMIIT from which the data have all been imported.
5. ACMIIT is the best source of the financial data of brokerage firms, which are not available to the public.
6. The legal bases for de jure and de facto IFRS enforcements mainly rely on the communiqué Serial No.11/29 and the communiqué Serial No.11/25 respectively. The Capital Markets Board (CMB) of Turkey has the authority to introduce and implement the financial legislation for brokerage firms (e.g. Turkish Commercial Code, Corporate Income Tax Code). See, for example, a report recently issued by UNCTAD (2008). See Canibano and Mora (2000) for an analysis on de facto accounting harmonisation, convergence towards IAS, recently undertaken by the EU member countries.
7. See Kaymaz and Kaymaz (2010) for some explanatory variables (e.g. stock trading volume, fixed income securities trading volume, foreign liabilities) used in this study. For a study employing balance sheet items, income statement items and profitability ratios see, for example, Callao et al. (2007). Academics study the role of book-to-market value to examine the comparability, usefulness and relevance of financial reporting to determine how close (far) Spanish GAAP is to (from) IFRS.
8. For the sake of brevity, tests results are not reported here. They are available upon request.
9. Hausman tests and fixed effects model test results are available upon request.
10. For the sake of brevity, tests results are not reported here. They are available upon request.

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