

CHAPTER 4

RESULTS AND ANALYSIS OF MARKET TIMING MODELS

4.1 Introduction

This chapter provides the estimated results for the standard returns market model, the quadratic returns market model and the dual-beta market model. A further test of the specification of the last two models is conducted and the results are reported. The market timing and stock selection abilities are analyzed. The ARCH test is performed to check for the statistical adequacy of the market timing models.

4.2 Results for the Market Timing Models

The standard excess returns market model is used to assess the performance of the sample of 15 finance stocks listed on the Main Board of KLSE. The results are reported in Table 4.1.

First, we consider the estimates of beta. All the finance stocks' have betas that are significantly different from zero at the 1% level. We can see that all the beta coefficients have positive values. The estimated betas fall in the range of 0.38 to 1.58. HANCOCK has the lowest systematic risk with a beta estimate of 0.3818, while MGIC has the highest systematic risk with a beta estimate of 1.5809.

There are 8 cases of estimated beta with values greater than unity, whilst 7 cases with betas of less than unity. The betas of AMMB, COMMERZ, IDRIS, MAA, MAYBANK, MGIC, RHBCAP and TA are greater than one, while the others are less than one. MAYBANK and MIDF have beta estimates that are close to unity. This analysis shows that the returns of the finance stocks are systematically related to market returns. The relationship is positive and statistically significant.

Now, we consider the performance of the stocks as reflected by their alpha estimates reported in Table 4.1. The value of α_i is a measure of the abnormal performance of stock i . With regard to the results, all α_i 's are not significantly different from zero. A strong pattern that emerges from this analysis is that all the stocks analyzed do not exhibit abnormal performance in terms of returns.

As argued by Sinclair (1990, p.60), to the extent that the stocks may successfully be engaged in market timing activities, the standard alpha performance discussed above may not provide complete information. To look for evidence of market timing ability, a few different models are estimated. It should also be noted that the null hypothesis of no ARCH effect is rejected in all cases.

The quadratic market model is estimated for all 15 stocks and the results are shown in Table 4.2. As can be seen, all the beta estimates are still significantly different from zero at the 1% level. All the beta values are positive and fall in the range of 0.38 to 1.66. The beta estimates are very close to those reported in Table 4.1 and the findings on systematic risk are similar.

Table 4.1 Results for the Standard Returns Market Model

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$$

Stocks	α_i	β_i	R^2	D-W	ARCH LM Test		
					1 lag	3 lag	5 lag
AMMB	0.0001 (0.0007)	1.2832** (0.0331)	0.468	2.018	32.115**	34.068**	45.288**
APEX	-0.0004 (0.0007)	0.6439** (0.0313)	0.199	2.076	20.435**	25.187**	26.048**
COMMERZ	0.0006 (0.0006)	1.4042** (0.0292)	0.577	2.050	103.624**	215.705**	212.621**
HANCOCK	0.0000 (0.0005)	0.3818** (0.0227)	0.155	2.066	33.594**	73.450**	106.237**
IDRIS	-0.0017 (0.0011)	1.4666** (0.0518)	0.357	2.000	64.623**	64.830**	65.062**
MAA	0.0005 (0.0008)	1.3406** (0.0362)	0.451	2.052	26.496**	57.664**	124.700**
MAYBANK	0.0006 (0.0004)	1.0425** (0.0194)	0.634	2.014	58.856**	77.236**	174.963**
MBSB	-0.0006 (0.0007)	0.8177** (0.0335)	0.295	2.033	259.868**	305.791**	307.372**
MGIC	-0.0012 (0.0011)	1.5809** (0.0608)	0.384	2.223	71.166**	76.082**	116.651**
MIDF	-0.0005 (0.0007)	0.9864** (0.0323)	0.349	2.136	125.677**	127.774**	129.200**
OSK	-0.0003 (0.0007)	0.9178** (0.0314)	0.343	2.011	33.775**	41.462**	48.872**
PBFIN	0.0002 (0.0006)	0.8193** (0.0274)	0.352	2.003	25.303**	30.201**	62.519**
PHILEO	-0.0002 (0.0007)	0.8863** (0.0349)	0.279	2.065	49.228**	63.804**	65.211**
RHBCAP	-0.0001 (0.0007)	1.4706** (0.0317)	0.565	2.044	86.906**	96.802**	102.767**
TA	-0.0004 (0.0008)	1.2689** (0.0377)	0.399	2.134	117.933**	123.099**	147.589**

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

Figures in parentheses are White heteroskedasticity-consistent standard errors.

The γ_i estimates are important for indicating market timing behaviour. There are 7 (11) cases for which evidence of market timing is detected at the 1% (5%) level. The sample stocks that show evidence of market timing performance at the 1% level are AMMB, COMMERZ, MAA, MAYBANK, MGIC, PBFIN and RHBCAP and at the 5% level are HANCOCK, IDRIS, MIDF and PHILEO. Of these, all the

cases show that the quadratic term is positive indicating favourable market timing behaviour except MGIC. As for the security selection performance, all α_i estimates are not statistically different from zero, except IDRIS at the 5% level.

The results do not show positive association between the security selection and market timing performance, as documented by Bello and Janjigian (1997), or the negative association as documented by Sinclair (1990). For the 11 cases above, (AMMB, COMMERZ, HANCOCK, IDRIS, MAA, MAYBANK, MGIC, MIDF, PBFIN, PHILEO and RHBCAP) there is evidence that the investors have had significant market timing ability although there is no stock selection ability, except IDRIS. However, it must be noted that the market timing ability is perverse for MGIC. Strong presence of ARCH effect is also detected.

Table 4.3 presents the results for comparing these cases to their abnormal performance using the standard market model in order to quantify the component attributable to market timing, although not significantly so. The cases that have returns exceeding 0.05% per day such are AMMB, COMMERZ, IDRIS and MAA, whilst MGIC shows a negative value. AMMB and MAA have the highest values among all the stocks. AMMB has an overall daily abnormal performance of 0.01%, which decomposes into -0.06% of abnormal return specific to stock selection and 0.07% of abnormal return specific to market timing ability. On the other hand, MAA has an overall daily abnormal performance of 0.05%, which decomposes into -0.02% of abnormal return specific to stock selection and 0.07% of abnormal return specific to market timing ability.

Table 4.2 Results for the Quadratic Returns Market Model

$$R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i R_{mt}^2 + e_{it}$$

Stocks	α_i	β_i	γ_i	R^2	D-W	ARCH LM Test		
						1 lag	3 lag	5 lag
AMMB	-0.0006 (0.0007)	1.2662** (0.0330)	1.5688** (0.2946)	0.476	2.023	24.758**	29.479**	38.500**
APEX	-0.0005 (0.0007)	0.6430** (0.0315)	0.0821 (0.2800)	0.199	2.076	20.641**	25.377**	26.225**
COMMERZ	0.0000 (0.0006)	1.3880** (0.0292)	1.3848** (0.2582)	0.584	2.075	57.161**	166.769**	166.829**
HANCOCK	-0.0002 (0.0005)	0.3767** (0.0227)	0.4393* (0.1940)	0.158	2.060	32.022**	75.806**	107.023**
IDRIS	-0.0023* (0.0011)	1.4538** (0.0520)	1.1395* (0.4424)	0.360	2.009	64.742**	64.939**	65.152**
MAA	-0.0002 (0.0008)	1.3218** (0.0361)	1.6800** (0.3192)	0.460	2.049	32.379**	72.074**	135.477**
MAYBANK	0.0003 (0.0004)	1.0353** (0.0195)	0.6582** (0.1737)	0.631	2.250	57.364**	81.885**	177.435**
MBSB	-0.0006 (0.0007)	0.8192** (0.0336)	-0.1418 (0.2998)	0.262	2.424	259.241**	305.087**	306.687**
MGIC	-0.0002 (0.0011)	1.6644** (0.0636)	-3.0066** (0.7159)	0.394	2.234	45.284**	52.427**	84.866**
MIDF	-0.0008 (0.0007)	0.9720** (0.0324)	0.5931* (0.2896)	0.351	2.149	135.894**	137.213**	139.113**
OSK	-0.0004 (0.0007)	0.9141** (0.0315)	0.3392 (0.2817)	0.334	2.149	36.372**	45.540**	50.688**
PBFIN	-0.0001 (0.0006)	0.8118** (0.0275)	0.6636** (0.2431)	0.355	2.012	23.061**	27.567**	58.362**
PHILEO	-0.0005 (0.0007)	0.8847** (0.0349)	0.6638* (0.3021)	0.281	2.057	48.939**	62.785**	64.154**
RHBCAP	-0.0004 (0.0007)	1.4608** (0.0318)	0.7320** (0.2809)	0.567	2.047	62.695**	72.110**	77.838**
TA	-0.0004 (0.0008)	1.2700** (0.0379)	-0.0997 (0.3381)	0.399	2.132	116.682**	121.258**	145.173**

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

Figures in parentheses are White heteroskedasticity-consistent standard errors.

There is evidence of market timing ability across our sample using the quadratic market model approach since 67% of the sample shows positive results.

Our concern is whether this conclusion is sensitive to the choice of market timing model.

Table 4.3 Abnormal Returns Specific to Market Timing Ability for the Quadratic Returns Market Model

Stocks	Abnormal returns specific to stock selection (α_i from Table 4.2)	Abnormal performance (α_i from Table 4.1)	Abnormal returns specific to market timing activity
AMMB	-0.0006	0.0001	0.0007
APEX	-0.0005	-0.0004	0.0001
COMMERZ	0.0000	0.0006	0.0006
HANCOCK	-0.0002	0.0000	0.0002
IDRIS	-0.0023*	-0.0017	0.0005
MAA	-0.0002	0.0005	0.0007
MAYBANK	0.0003	0.0006	0.0003
MBSB	-0.0006	-0.0006	0.0000
MGIC	-0.0002	-0.0012	-0.0010
MIDF	-0.0008	-0.0005	0.0003
OSK	-0.0004	-0.0003	0.0001
PBFIN	-0.0001	0.0002	0.0003
PHILEO	-0.0005	-0.0002	0.0003
RHBCAP	-0.0004	-0.0001	0.0003
TA	-0.0004	-0.0004	0.0000

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

The dual-beta market model is estimated and the results are given in Table 4.4. There are 6 cases for which the evidence of market timing is detected based on the dual-beta specification at the 1% level. The sample stocks that show evidence of market timing performance are AMMB, COMMERZ, IDRIS, MAA, MAYBANK and RHBCAP.

All the 6 cases that are significant at the 1% level have estimated β_{1i} values in the range of 1.10 to 1.70 and estimated β_{2i} values in the range of 0.13 to 0.50. In all the cases the 'down-market' β_{2i} is positive indicating superior market timing behaviour. For the security selection performance, the estimated value of α_i is negative for these 6 cases although COMMERZ and MAYBANK are not significantly so.

All these cases show that the estimate for β_{2i} is positive indicating favourable market timing behaviour except MGIC. The estimated β_{2i} of MGIC is statistically significant at 5% level. However, MGIC has a positive estimated α_i value and it also exhibits perverse market timing ability. These results confirm the negative association between the security selection and market timing performance as documented by Sinclair (1990).

There is evidence of market timing ability across our sample using the dual-beta market model approach since 40% of the sample shows positive results. A comparison with Table 4.2 shows that AMMB, COMMERZ, IDRIS, MAA, MAYBANK and RHBCAP are also identified as market timing performers according to the quadratic market model. Both Tables 4.2 and 4.4 show that MGIC exhibits perverse market timing ability. Again, strong evidence of ARCH effects in the error term is found.

Table 4.5 presents the results for comparing these cases to their abnormal performance using the standard market model in order to quantify the component

attributable to market timing, although not significantly so for most of the cases. AMMB, IDRIS, MAA and RHBCAP are the 4 sample stocks that have evidence that the investors have had significant market timing ability which has been offset by significantly poor stock selection ability.

Table 4.4 Results for the Dual-Beta Market Model

$$R_{it} = \alpha_i + \beta_{1i}R_{mt} + \beta_{2i}DR_{mt} + e_{it}$$

Stocks	α_i	β_{1i}	β_{2i}	R^2	D-W	ARCH LM Test		
						1 lag	3 lag	5 lag
AMMB	-0.0018* (0.0009)	1.4170** (0.0510)	0.2878** (0.0836)	0.471	2.008	26.635**	30.660**	39.868**
APEX	-0.0001 (0.0008)	0.6212** (0.0481)	-0.0495 (0.0793)	0.200	2.074	19.938**	24.662**	25.570**
COMMERZ	-0.0014 (0.0008)	1.5496** (0.0446)	0.3167** (0.0737)	0.581	2.066	72.980**	179.925**	178.275**
HANCOCK	0.0000 (0.0006)	0.3822** (0.0345)	0.0008 (0.0568)	0.155	2.066	33.605**	73.490**	106.253**
IDRIS	-0.0049** (0.0014)	1.7020** (0.0795)	0.5001** (0.1285)	0.364	2.011	66.065**	66.256**	66.485**
MAA	-0.0026** (0.0009)	1.5653** (0.0552)	0.4853** (0.0906)	0.460	2.047	32.952**	72.819**	132.981**
MAYBANK	-0.0003 (0.0005)	1.1043** (0.0299)	0.1333** (0.0492)	0.629	2.253	58.042**	80.445**	170.334**
MBSB	-0.0003 (0.0009)	0.7964** (0.0516)	-0.0459 (0.0848)	0.262	2.425	259.755**	305.480**	307.063**
MGIC	0.0008 (0.0014)	1.4221** (0.0932)	-0.3514* (0.1565)	0.387	2.233	57.810**	63.746**	102.149**
MIDF	-0.0014 (0.0009)	1.0383** (0.0499)	0.1290 (0.0818)	0.350	2.139	131.058**	132.600**	134.132**
OSK	-0.0008 (0.0008)	0.9585** (0.0485)	0.0877 (0.0796)	0.334	2.150	35.954**	44.504**	50.585**
PBFIN	-0.0004 (0.0007)	0.8647** (0.0420)	0.0986 (0.0692)	0.353	2.004	23.785**	28.403**	59.680**
PHILEO	0.0002 (0.0009)	0.8564** (0.0547)	-0.0628 (0.0883)	0.279	2.068	50.083**	64.914**	66.319**
RHBCAP	-0.0031** (0.0008)	1.6933** (0.0481)	0.4831** (0.0791)	0.575	2.049	70.168**	80.011**	82.781**
TA	-0.0012 (0.0010)	1.3230** (0.0581)	0.1165 (0.0954)	0.399	2.136	120.163**	127.294**	154.533**

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

Figures in parentheses are White heteroskedasticity-consistent standard errors.

Specifically, AMMB has an overall abnormal performance of 0.01% which decomposes into -0.18% of abnormal return specific to security selection and 0.19% of abnormal return specific to market timing activity. IDRIS has an overall abnormal performance of -0.17% which decomposes into -0.49% of abnormal return specific to security selection and 0.32% of abnormal return specific to market timing activity. Similarly, MAA has an overall abnormal performance of 0.05% which decomposes into -0.26% of abnormal return specific to security selection and 0.31% of abnormal return specific to market timing activity. RHBCAP has an overall abnormal performance of -0.01% which decomposes into -0.31% of abnormal return specific to security selection and 0.30% of abnormal return specific to market timing activity.

Table 4.5 Abnormal Returns Specific to Market Timing Ability for the Dual-Beta Market Model

Stocks	Abnormal return specific to stock selection (α_1 from Table 4.4)	Abnormal performance (α_1 from Table 4.1)	Abnormal return specific to market timing activity
AMMB	-0.0018*	0.0001	0.0019
APEX	-0.0001	-0.0004	-0.0003
COMMERZ	-0.0014	0.0006	0.0020
HANCOCK	0.0000	0.0000	0.0000
IDRIS	-0.0049**	-0.0017	0.0032
MAA	-0.0026**	0.0005	0.0031
MAYBANK	-0.0003	0.0006	0.0009
MBSB	-0.0003	-0.0006	-0.0003
MGIC	0.0008	-0.0012	-0.0020
MIDF	-0.0014	-0.0005	0.0009
OSK	-0.0008	-0.0003	0.0005
PBFIN	-0.0004	0.0002	0.0006
PHILEO	0.0002	-0.0002	-0.0004
RHBCAP	-0.0031**	-0.0001	0.0030
TA	-0.0012	-0.0004	0.0008

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

The results show that there is evidence of market timing ability across the sample stocks, based on the evidence reported in Tables 4.2 and 4.4 regardless of the timing model applied. The stock selection ability, however, has largely offset this market timing ability, rendering abnormal returns to be not significantly different from zero.

4.3 Results for the Specification Tests

The specification tests of the market timing models are performed following the suggestions of Jagannathan and Korajczyk (1986). A quadratic market model augmented by an additional variable of a higher order, which is the cubic term is used. The results of this analysis are reported in Table 4.6.

From Table 4.6, we see that the sample stocks that show significant cubic term are APEX, HANCOCK, IDRIS, MAYBANK, MBSB, OSK, PBFIN, PHILEO, RHBCAP and TA at the 1% level. There are 10 cases or 67% of the sample that reveal a significant cubic term at the 1% level. This suggests a nontrivial degree of misspecification of the quadratic market model, which is consistent with the results of Kothari and Warner (1997). The analysis of the result shows that all the significant cubic terms produce an estimated parameter which is negative, except MAYBANK. Interestingly, HANCOCK, IDRIS, MAYBANK, PBFIN, PHILEO and RHBCAP coincide with the significant results found for the quadratic specification in Table 4.2. On the other hand, AMMB, COMMERZ, MAA, MGIC and MIDF are the stocks that exhibit market timing performance and the quadratic market model is not misspecified.

Table 4.6 Results for the Specification Tests on the Quadratic Returns Market Model

$$R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i R_{mt}^2 + \delta_i R_{mt}^3 + e_{it}$$

Stocks	α_i	β_i	γ_i	δ_i	R^2	D-W	ARCH LM Test		
							1 lag	3 lag	5 lag
AMMB	-0.0006 (0.0007)	1.2679** (0.0404)	1.5670** (0.2956)	-0.1282 (1.772)	0.476	2.023	24.793**	29.484**	38.512**
APEX	-0.0004 (0.0007)	0.7289** (0.0384)	-0.0074 (0.2798)	-6.4831** (1.6776)	0.206	2.066	19.379**	23.647**	24.324**
COMMERZ	0.0000 (0.0006)	1.3725** (0.0358)	1.4012** (0.2592)	1.1560 (1.5550)	0.584	2.077	55.160**	164.688**	165.062**
HANCOCK	-0.0001 (0.0005)	0.4511** (0.0282)	0.3632 (0.1937)	-5.1868** (1.1757)	0.168	2.042	29.773**	72.041**	102.801**
IDRIS	-0.0021 (0.0011)	1.5577** (0.0649)	1.0387* (0.4431)	-7.2068** (2.7048)	0.363	1.998	64.102**	64.315**	64.515**
MAA	-0.0002 (0.0008)	1.3275** (0.0443)	1.6741** (0.3204)	-0.4299 (1.9258)	0.460	2.049	32.186**	71.609**	134.940**
MAYBANK	0.0002 (0.0004)	0.9965** (0.0238)	0.6980** (0.1739)	2.9555** (1.0419)	0.632	2.236	59.169**	85.192**	168.253**
MBSB	-0.0005 (0.0007)	0.9195** (0.0410)	-0.2448 (0.2993)	-7.5998** (1.7944)	0.270	2.414	256.531**	303.641**	304.866**
MGIC	-0.0002 (0.0012)	1.6709** (0.0723)	-2.8350* (1.1645)	-1.3577 (7.2668)	0.394	2.234	45.572**	52.666**	84.895**
MIDF	-0.0008 (0.0007)	0.9872** (0.0397)	0.5775* (0.2906)	-1.1613 (1.7408)	0.351	2.145	131.017**	132.633**	134.364**
OSK	-0.0002 (0.0007)	1.0976** (0.0378)	0.1510 (0.2770)	-13.982** (1.6591)	0.361	2.116	27.125**	34.713**	37.577**
PBFIN	-0.0001 (0.0006)	0.8636** (0.0337)	0.6100* (0.2435)	-3.8800** (1.4631)	0.358	2.001	24.083**	27.952**	59.838**
PHILEO	-0.0004 (0.0007)	1.0177** (0.0420)	0.6259* (0.2994)	-10.178** (1.8184)	0.294	2.036	41.683**	54.824**	56.150**
RHBCAP	-0.0004 (0.0007)	1.5203** (0.0386)	0.8651** (0.2847)	-4.6234** (1.7087)	0.569	2.023	85.622**	99.125**	100.963**
TA	-0.0003 (0.0008)	1.3609** (0.0462)	-0.1930 (0.3382)	-6.9330** (2.0256)	0.403	2.119	106.944**	109.315**	129.169**

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

Figures in parentheses are White heteroskedasticity-consistent standard errors.

Finally, we consider the results of augmenting the dual-beta market model with a quadratic term as shown in Table 4.7. The table reveals 6 (8) cases or 40% (53%) of the sample in which the coefficient of the augmented variable is significant at the 1% (5%) level. The sample stocks that exhibit significant quadratic terms are

AMMB, COMMERZ, HANCOCK, MAYBANK, MGIC and PBFIN at the 1% level, whereas PHILEO and TA at the 5% level. This suggests that the misspecification problem is less serious in the case of dual-beta model compared to the quadratic market model.

Table 4.7 Results for the Specification Tests on the Dual-Beta Market Model

$$R_{it} = \alpha_i + \beta_{1i}R_{mt} + \beta_{2i}DR_{mt} + \delta_i R_{mt}^2 + e_{it}$$

Stocks	α_i	β_{1i}	β_{2i}	δ_i	R^2	D-W	ARCH LM Test		
							1 lag	3 lag	5 lag
AMMB	0.0006 (0.0010)	1.1497** (0.0796)	-0.2347 (0.1459)	2.2510** (0.5164)	0.477	2.035	25.703**	29.996**	39.483**
APEX	0.0006 (0.0010)	0.5391** (0.0754)	-0.2106 (0.1389)	0.6928 (0.4905)	0.201	2.073	20.119**	24.590**	25.550**
COMMERZ	0.0001 (0.0009)	1.3766** (0.0701)	-0.0232 (0.1293)	1.4519** (0.4542)	0.584	2.075	56.976**	166.899**	166.992**
HANCOCK	0.0015* (0.0007)	0.2090** (0.0548)	-0.3415** (0.1016)	1.4098** (0.3474)	0.164	2.080	27.501**	65.320**	105.421**
IDRIS	-0.0060** (0.0016)	1.8223** (0.1279)	0.7327** (0.2327)	-0.9577 (0.7987)	0.364	2.010	66.705**	66.899**	67.133**
MAA	-0.0017 (0.0011)	1.4640** (0.0869)	0.2870 (0.1596)	0.8481 (0.5620)	0.461	2.047	33.294**	74.037**	135.074**
MAYBANK	0.0006 (0.0006)	1.0056** (0.0469)	-0.0601 (0.0861)	0.8328** (0.3046)	0.631	2.250	57.374**	81.663**	180.690**
MBSB	-0.0004 (0.001)	0.7995** (0.0810)	-0.0399 (0.1489)	-0.0259 (0.5264)	0.262	2.425	259.653**	305.388**	306.975**
MGIC	-0.0026 (0.0016)	1.9685** (0.1626)	0.5466* (0.2691)	-5.0607** (1.239)	0.396	2.228	47.112**	54.473**	85.128**
MIDF	-0.0007 (0.0010)	0.9591** (0.0781)	-0.0261 (0.1434)	0.6690 (0.5077)	0.351	2.150	136.057**	137.387**	139.323**
OSK	-0.0005 (0.0010)	0.9279** (0.0760)	0.0278 (0.1395)	0.2584 (0.4939)	0.334	2.149	36.427**	45.516**	50.801**
PBFIN	0.0008 (0.0009)	0.7250** (0.0660)	-0.1759 (0.1217)	1.1731** (0.4282)	0.356	2.017	23.960**	28.512**	59.851**
PHILEO	0.0001 (0.0009)	0.8391** (0.0551)	-0.0956 (0.0893)	0.7152* (0.3058)	0.282	2.063	50.241**	64.479**	65.883**
RHBCAP	-0.0031** (0.0008)	1.6806** (0.0505)	0.4626** (0.0830)	0.2381 (0.2922)	0.575	2.051	64.287**	73.869**	76.632**
TA	-0.0026* (0.0012)	1.4826** (0.0910)	0.4289* (0.1670)	-1.3471* (0.5916)	0.401	2.128	110.036**	113.406**	139.646**

**Coefficient is statistically significant at 1% level.

*Coefficient is statistically significant at 5% level.

Figures in parentheses are White heteroskedasticity-consistent standard errors.

When we compare the results, AMMB, COMMERZ, MAYBANK and MGIC are common to the significant results that show evidence of market timing ability reported in Table 4.4. On the other hand, the dual-beta market model is not misspecified for IDRIS, MAA and RHBCAP that show ability of market timing.

The presence of ARCH effect is examined for equations (3.3), (3.4), (3.6), (3.7) and (3.8), and the results are presented in Tables 4.1, 4.2, 4.4, 4.6 and 4.7, respectively. The ARCH LM test is performed for each market model and ARCH effect is found for all the market models. These equations are to be reestimated to incorporate this effect. The findings are examined to check if they are sensitive to the incorporation of the ARCH effect in the next chapter.