Effects of tax policy announcements in the Athens Stock Exchange.

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Abstract

The purpose of the study is to investigate whether corporate tax policy announcements affect the systematic risk of bank returns in the Athens Stock Exchange for the period: 2001-2006. The study examines the role of Greek financial market as a transmission mechanism for the tax policy announcements released in a period following major institutional changes. The impact of such announcement is studied through the calculation of time-varying betas. To this aim we use a modified BEKK-GARCH model including the effects of tax policy announcements in its conditional variance equation. Empirical findings indicate that corporate tax announcements do not have an obvious statistically significant effect on the systematic risk of bank returns.

Key-words: Athens Stock Exchange, corporate tax reform, announcements, BEKK-GARCH model.
JEL classification: C49, C52, H25, G12, G14.

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1. Introduction

In the last decades a significant number of empirical works has investigated the role of microeconomic or macroeconomic changes (e.g. company operational changes, expectations of future events, inflation, etc) in the determination of the systematic risk of asset series. According to the Capital Asset Pricing Model the beta coefficient of a risky asset or portfolio is assumed to be constant. Instead of the former assumption of a constant beta, Fabozzi and Francis (1978) in one of the first studies in the subject suggested that betas move randomly through time[2].

The studies that followed dealt in more depth with the factors which could potentially affect beta evolution. Several econometric models and theoretical constructions have been proposed to provide explanations of the presence of interesting structures and inefficiencies which were not considered by the standard capital market theory. So, depending on the nature of the economic or financial event various findings on the beta's behaviour came to complete the list. Brown, Nelson, and Sunnier (1995) found the presence of an asymmetric effect in beta supporting the overreaction theory. Brown, Nelson, and Sunnier (1995) concluded that betas are not responsive enough to account for the differing return performances of "winners" and "losers" stocks and supported the findings of De Bondt and Thaler (1989) and Chopra, Lakonishok and Ritter (1992) who have shown that the inefficiency of the stock market is reflected on the overreaction of stock prices.

Cho and Engle (1999) examine whether or not beta increases with bad news and decreases with good news, just as volatility does. Using daily returns for nine stocks in a double beta model they find that betas depend on two source of news: market shocks and idiosyncratic shocks. The witnessed asymmetric effect in betas in this paper lead researchers to conclude that abnormalities can, at least partially, be explained by changes in expected returns through a change in beta. Their conclusions differ from those of Brown, Nelson, and Sunnier (1995).

Discussing on the time varying betas studies we notice the "leverage or asymmetric effect" which is the asymmetric effect of news on the volatility of stock. The leverage effect indicates that stock market volatility increases with bad news and decreases with good news and was first discovered by Black (1976) and confirmed with the studies of French, Schwert and Stambaugh (1987), Schwert (1990) etc. Black (1976) and Christie (1982) concluded that when the value of a leveraged firm drops that causes high leverage effect and increase in its equity volatility but they point out that financial and operational leverage is not enough to fully account for the asymmetry of volatility.

[2] See also Bos and Newbold (1984), Bollerslev et al. (1988).

According to Brooks and Henry (2002) this practise induces equity holders to value their assets as being more risky. They underlined that if beta is a proper measure of the sensitivity to risk and the risk premium increases with volatility, then this beta has to be asymmetric and time-varying because of the time variation and asymmetry in the variance-covariance structure of returns.

The leverage effect can be also attributed to the close adherence of equity's volatility to the expected market risk premium. That means, holding risk-free rates constant, an increase in market volatility could lead to a lower equity price because of the implied increase of the expected return

According to Cho and Engle (1999), the asymmetric effect in volatility leads to an asymmetric effect in beta, when we perceive the beta as being the measure of sensitivity to risk and the risk premium to increase with the volatility. Asymmetric effect and variation in volatility may also imply asymmetric effect in time-varying systematic risk. The varying expected returns on the market portfolio and in relative risk of the firm's investment, causes financial or operational leverage and thus the time variation of beta. Thus, if expected equity betas increase with leverage in case of equity negative returns, leverage increases and subsequently betas increase. Ball and Kothari (1989) and Braun et al. (1995) are among the earlier field studies discussing the market shocks and time-varying betas.

Referring to time-varying betas behaviour, in Andersen et al. (2006) supported that "even from a purely statistical viewpoint, market betas, which are ratios of time-varying conditional covariances and variances, might be expected to display persistent fluctuations, as in Bollerslev, Engle, and Wooldridge (1988). In fact, unless some special cancellation occurs – in a way that we formalize – betas would inherit the persistence features that are so vividly present in their constituent components."

In later event studies using time-varying betas to examine an event effect on stock series we distinguish that of Choudhry (2005a,b) and Patton and Verardo (2009). According to Choudhry (2005a) who studies the effects of the Asian financial crisis of 1997–1998 on the time-varying beta of 20 firms from Malaysia and Taiwan there is evidence of the influence of the financial crisis and the period after on the time-varying betas of the examined firms. From the extensive event study literature on regulations, political or economic announcements effects on stock markets yields that, changes in the general business conditions might became from microeconomic or macroeconomic reasoning and these might change the market risk and market return expectations.

Choundry (2005b) in another study of the same strand examines the effect of the 11th September 2001 events for the global economy and the financial markets around the world. Working on the time-varying betas of 20 US firms, using daily data from 1991 to 2002 and a bivariate MA-GARCH model, he concluded that September 11th terrorist attack and the

period after affected most of the US companies under investigation. Noticeably, the size and the direction of the effect on betas varied across the examined firms, while market volatility had more effect on the beta after the September 11th event.

Patton and Verardo (2009) analyse the behaviour of a stocks' beta during times of firm specific information flows. He finds that betas increase during firm specific news announcements by a statistically and economically significant amount, regardless of whether the news is good or bad. Also, they find considerable heterogeneity in the behaviour of betas across the different examined stocks.

In the present study we follow the strand of literature according to which a macroeconomic event in the form of a regulation announcement could potentially affect the individual stocks time-varying betas. We examine whether or not these time-varying betas move with the changes in corporate tax law announcements in the view that in an efficient market these will be eventually reflected on the listed firms fundamental values or will alter the stock market transaction costs. The importance of testing the relationship between news and undiversifiable or systematic risk is underlined by Brooks et al. (2002) who argued that the dependence of beta on news is important of dynamic hedging.

This work contributes to the literature by investigating the time-varying betas in four Greek Banks through the use of the bivariate BEKK-GARCH model that is appropriately modified to take into account the effect of the tax low announcements in the variance and covariance of series. The data used here are daily and refer to individual firm's stock returns as well as the Athens stock exchange returns since according to Cho and Engle (1999), asymmetric response of beta to good and bad news may be smoothed when aggregate data are used. To our knowledge, no other study investigates the influence of the corporate tax regulations changes on the systematic risk of Greek firms listed in Athens stock exchange.

The paper is organised as follows. Section 2 sets out the modified BEKK-GARCH framework while in Section 3 we employ and discuss the empirical results. Section 4 contains concluding comments.

2. The model

The first version is the simple BEKK model of Engle and Kroner (1995); in more details the expressions for the conditional mean and variance-covariance are

$$R_{i,t} = \varepsilon_{i,t} \qquad (1)$$

with $\varepsilon_t|\Phi_{t-1} \sim N(0,H_t)$ and

$$H_t = C_0'C_0 + \sum_{k=1}^{K} C_{1k}' x_t x_t' C_{1k} + \sum_{k=1}^{K}\sum_{i=1}^{q} \Gamma_{ik}' \varepsilon_{t-i} \varepsilon_{t-i}' \Gamma_{ik} + \sum_{k=1}^{K}\sum_{i=1}^{p} B_{ik}' H_{t-i} B_{ik} \qquad (2)$$

i=A, M where A and M designate the asset and market returns respectively. $R_{i,t}$, and $\varepsilon_{t,t}$ are the return vector, and the residual vector respectively. C_0, Γ_{ik} and B_{ik} are n×n parameter matrices with C_0 lower triangular, C_{1k} are J×n parameter matrices and the summation limit K determines the generality of the process. x_t is a J×1 vector of exogenous variables as defined by Engle et al. (1983). Eq. (1) gives the expression for the conditional mean. Eq. (2) is the conditional variance-covariance matrix. It depends on its past values and on past values of $\varepsilon_{t,}$ parameter. The BEKK-GARCH model guarantees by construction that the covariance matrices in the system are positive definite. The vast majority of empirical applications uses k=p=q=1. Therefore, from now on the equation of the conditional variance will be specified as follows:

$$H_t = C_0^{'}C_0 + \Gamma_{11}^{'}\varepsilon_{t-1}\varepsilon_{t-1}^{'}\Gamma_{11} + B_{11}^{'}H_{t-1}B_{11} \quad (3)$$

In an attempt to identify possible effects of tax policy announcements on the systematic risk determination we introduce a matrix of dummies ω_t in the equation of conditional variance. More specifically:

$$H_t = C_0^{'}C_0 + \Gamma_{11}^{'}\varepsilon_{t-1}\varepsilon_{t-1}^{'}\Gamma_{11} + B_{11}^{'}H_{t-1}B_{11} + D_{11}^{'}\omega_{t-1}\omega_{t-1}^{'}D_{11} =$$

$$\begin{pmatrix} c_{11} & 0 \\ c_{21} & c_{22} \end{pmatrix}^{'}\begin{pmatrix} c_{11} & 0 \\ c_{21} & c_{22} \end{pmatrix} + \begin{pmatrix} \gamma_{11} & \gamma_{12} \\ \gamma_{21} & \gamma_{22} \end{pmatrix}^{'}\varepsilon_{t-1}\varepsilon_{t-1}^{'}\begin{pmatrix} \gamma_{11} & \gamma_{12} \\ \gamma_{21} & \gamma_{22} \end{pmatrix} + \begin{pmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{pmatrix}^{'} H_{t-1}\begin{pmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{pmatrix} +$$

$$\begin{pmatrix} d_{11} & d_{12} \\ d_{21} & d_{22} \end{pmatrix}^{'}\omega_{t-1}\omega_{t-1}^{'}\begin{pmatrix} d_{11} & d_{12} \\ d_{21} & d_{22} \end{pmatrix} \quad (5)$$

We define $\omega_{i,t} = \begin{cases} 0 & \text{if no announcement occurs} \\ 1 & \text{if an announcement occurs (-/ + 5 days window around the event)} \end{cases}$[3],

where i=A, M. A detailed description of these events is presented in Table 3.

The simple BEKK model (eq.2) can be viewed as a special case of eq.5 where all the elements of matrix D_{11} are zero.

In most empirical studies, measurement of systematic risk has been based in on the single index model of the form:

$$R_{i,t}=\alpha_i+\beta_i R_{m,t}+\varepsilon_t$$

where $R_{i,t}$ is the return of the asset i and $R_{m,t}$ the return of the market portfolio *m* at time t. α_i and β_i are constant parameters to be estimated. The estimated slope β is the so-called beta

[3] It is worth to notice that when referring to tax effects in the form of announcements, stock event studies become quite arbitrary as to the specification process of the event date '0', as well as, the length setting of the event window. The latter is obviously affected by the degree of the announcements expectancy, from the market information transmission mechanism and also, from the nature of the announcements itself. For all these reasons we construct a short window around the event (-/5 days) that concerns both the date of the bill voting in the parliament and the date of official publication.

coefficient and corresponds to the systematic risk of the asset. However as it is pointed out by Koutmos and Knif (2002) among others, "…the static model overstates the amount of unsystematic risk by more than 10%". Similar inconveniences can be overcome by time-varying the beta coefficient. Estimates of the time-varying variance-covariance-matrix in eq.5 can be used to calculate time-varying betas, which is the measure of undiversifiable risk associated with the asset *i* as follows:

$$\beta = \frac{h_{Mi,t}}{h_{M,t}} \quad (6)$$

where the h_{Mi} (covariance between the specific asset *i* and the market portfolio returns M) and the h_M (variance of the market portfolio returns M) are taken from the matrix $H_t = \begin{bmatrix} h_{i,t} & h_{iM,t} \\ h_{Mi,t} & h_{M,t} \end{bmatrix}$.

3. Empirical Application

The data employed in this application consist of four Greek bank stock series: the Bank of Greece (tell), the National Bank of Greece (ete), the Bank of Attica (att), and the Egnatia Bank (egnatp). The period covered is: 1.6.2001 - 16.10.2006. The data series consist of daily returns on a five-day trading week basis. To avoid abrupt changes in the dynamics of series and their subsequent effect on systematic risk, the chosen period begins after a critical date for the Greek market[4]. On 1.6.2001 officially starts the period that the Athens stock exchange (officially announced by Morgan Stanley on July 2000) is being upgraded from an emerging to a developed capital market. As a result, by that time, foreign speculative capital funds investing in emerging markets worldwide left the stock market.

The estimation results of the simple and modified BEKK-GARCH models are presented in Table1. As it can be seen the different estimated BEKK-GARCH models exist and are consistent with the condition of positive definite covariance matrices. More specifically the determinants of the matrices C_0, Γ_{11}, B_{11} and D_{11} are positive and the parameters c_{11}, γ_{11}, β_{11}, d_{11} are positive as well. The estimated covariances can be viewed in Figures 1 and 2.

Testing the statistical significance of the coefficients shows that the modified BEKK GARCH is informative only for the private banks Attica and Egnatia. The dummy variables in the equation of conditional variable are insignificant for both Bank of Greece and National Bank of Greece. So, we proceed with the calculation of time-varying betas by employing eq.6 only

[4] As it is known in the literature, emerging markets tend to have quite different behavioural characteristics compared to the developed ones (see for example Antoniou and Ergul, 1997, Bekaert and Harvey, 1997).

for the Bank of Attica and Egnatia Bank. The graphical representation of betas in Figure 3 shows a quasi-identical evolution. It seems that the inclusion of dummies has an effect on the covariances and variances which cannot however be translated into a significant improvement of the time-varying betas.

Examining the corporate effects on stock market series, we can present the very interesting example of dividend puzzle. According to Miller and Modigliani (1961) dividends do not affect the firm value in perfect capital markets with no taxes, transaction costs and asymmetries in information. They argued that investment policy can only affect corporate value. Generally, the dividend puzzle has been disputed quite extensively in empirical financial literature and there are ample of theories that attempt to explain the effect of dividends in the stock returns. Among others, obviously the strongest explanation behind a company's decision to distribute dividends is that of the market imperfections due to information asymmetries between management and investors.

Taking into account the particularities of each stock market, the regulatory framework, the nature of investors and the kind of corporate announcements we understand that there is a lot of work to do in order to obtain sufficient empirical evidence able to shed light into the big issue of systematic risk determination.

4. Conclusion

Through the use of a modified BEKK-GARCH model we tried to emerge potential relationships between the corporate tax announcements and the time-varying systematic risk in the Greek stock market. The empirical results indicated that such announcements do not have an obvious statistically significant effect on the systematic component of risk.

The interpretation of this finding can be twofold. The simplest approach is to consider that no clear effect exists on the systematic risk since investors do not think that similar announcement are of a certain value for them and so are left unaffected no matter the relevance of the measures. This approach also puts in question on the one hand the role of the Greek stock-market channel in the transmission of such type of information into prices and on the other the efficiency of those policy decisions. The second possible interpretation has to do with the specific characteristics of the Greek stock market mostly related to the way that information is propagated within investors and institutions. Corporate tax regulation issues are often debated for a long time in the policy arena. This long procedure is able to smooth the intensity of the impact of an announcement since concerned people have all the necessary time to adjust slowly their behaviour.

Table 1: BEKK GARCH estimation results

	Bank of Greece		**National Bank of Greece**		**Attica Bank**		**Egnatia Bank**	
Coefficients	**Simple model**	**Modified model**	**Simple model**	**Modified model**	**Simple model**	**Modified model**	**Simple model**	**Modified model**
c_{11}	0.0056 *(22.001)*	0.0056 *(21.778)*	0.004 *(7.625)*	0.0046 *(7.154)*	0.009 *(19.541)*	0.0095 *(18.663)*	0.0115 *(13.525)*	0.0102 *(11.608)*
c_{21}	-0.000054 (-0.147)	-0.000097 (-0.257)	0.0011 *(6.444)*	0.0013 *(6.748)*	0.0014 *(5.923)*	0.0016 *(6.195)*	0.0015 *(5.948)*	0.0018 *(6.342)*
c_{22}	0.00104 *(2.454)*	0.001 *(2.251)*	0.0012 *(3.061)*	0.0011 *(2.296)*	0.0012 *(3.738)*	0.0013 *(4.002)*	-0.000086 (-0.184)	0.0018 *(6.342)*
γ_{11}	0.463 *(17.338)*	0.464 *(16.758)*	0.232 *(4.455)*	0.216 *(4.095)*	0.477 *(17.399)*	0.479 *(16.951)*	0.418 *(13.956)*	0.353 *(13.152)*
γ_{21}	-0.037 (-1.095)	-0.053 (-1.549)	0.097 (1.378)	0.122 *(1.671)*	0.129 *(3.621)*	0.128 *(3.418)*	0.137 *(2.784)*	0.0684 (1.372)
γ_{12}	0.231 *(11.698)*	0.231 *(11.306)*	0.276 *(7.343)*	0.300 *(7.498)*	0.275 *(14.783)*	0.281 *(13.839)*	0.233 *(13.859)*	0.252 *(13.438)*
γ_{22}	0.0283 (1.392)	0.027 (1.331)	-0.013 (-0.454)	-0.032 (-1.028)	0.013 (1.204)	0.0176 (1.599)	0.0125 (0.883)	0.0127 (0.907)
β_{11}	0.781 *(44.533)*	0.779 *(43.519)*	0.916 *(31.951)*	0.922 *(30.395)*	0.788 *(51.653)*	0.772 *(43.466)*	0.749 *(23.125)*	0.807 *(27.477)*
β_{21}	0.122 *(5.131)*	0.128 *(5.236)*	0.0175 (0.5028)	0.0116 (0.2988)	0.0717 *(2.477)*	0.059 *(1.841)*	0.108 *(2.263)*	0.0925 *(2.032)*
β_{12}	0.982 *(90.994)*	0.981 *(84.033)*	0.951 *(47.299)*	0.9319 *(40.238)*	0.965 *(130.154)*	0.955 *(103.03)*	0.963 *(96.474)*	0.951 *(80.437)*
β_{22}	-0.027 *(-2.056)*	-0.027 *(-2.004)*	0.003 (0.176)	0.017 (0.881)	-0.0188 *(-3.017)*	-0.0186 *(-2.577)*	-0.0037 (-0.293)	-0.0007 (-0.066)
d_{11}	--	0.0415 (0.141)	--	-0.057 (-0.145)	--	0.229 *(1.991)*	--	0.5019 *(5.626)*
d_{21}	--	0.179 (0.953)	--	0.1029 (0.251)	--	0.507 *(2.372)*	--	-0.349 (-1.364)
d_{12}	--	0.033 (0.278)	--	0.149 (0.856)	--	0.212 *(4.201)*	--	-0.123 *(-1.751)*
d_{22}	--	0.057 (0.727)	--	-0.029 (-0.168)	--	-0.044 (-1.559)	--	0.024 (0.684)
Diagnostics for model performance	Log Likelihood= 8054.29 Schwarz= -11.96	Log Likelihood= 8054.66 Schwarz= -11.941	Log Likelihood= 8317.35 Schwarz= -12.35	Log Likelihood= 8318.86 Schwarz= -12.33	Log Likelihood= 7459.65 Schwarz= -11.08	Log Likelihood= 7466.49 Schwarz= -11.06	Log Likelihood= 7344.89 Schwarz= -10.91	Log Likelihood= 7353.03 Schwarz= -10.89

within parenthesis t-statistic is reported. Values in italics indicate statistical significance at α=5% or 10%.

Table 2a: Corporate Tax Law changes in Greece (2001-2006)

TAX LAW NUMBER	GAZETTE NUMBER OF LAW PUBLICATION	DATE OF LAW OFFICIAL PUBLICATION	DATE OF BILL VOTING IN PARLIAMENT	EFFECTIVE AS OF DATE	DATE OF THE FIRST RELEVANT ARTICLE ON DAILY PRESS
L 2992/2002	G.N. 54 A'/ 20.3.2002	20/3/2002	11/2/2002	20/3/2002	8/9/2001 (Kathimerini)
L.2992/2002	G.N. 54 A'/ 20.3.2002	20/3/2002	11/2/2002	1//1/2002	8/9/2001 (Kathimerini)
L.2992/2002	G.N. 54 A'/ 20.3.2002	20/3/2002	11/2/2002	1/1/2003	8/9/2001 (Kathimerini)
L.2992/2002	G.N. 54 A'/ 20.3.2002	20/3/2002	11/2/2002	1/1/2005	8/9/2001 (Kathimerini)
L.3091/2002	G.N. 330 A'/24.12.2002	24/12/2002	2/12/2002	1/1/2003	21/3/2002 (Naftemporiki)
L.3220/2004	G.N. 15A' /28.1.2004	28/1/2004	7/10/2003	28/1/2004	7/6/2003 (Naftemporiki)
L.3229/2004	G.N. 38 A'/10.2.2004	10/2/2004	14/1/2004	10/2/2004	2/8/2003 (Naftemporiki)
L.3301/2004	G.N. 263 A'/23.12.2004	23/12/2004	3/12/2004	1/1/2005	21/3/2004 (Kathimerini)
L.3296/2004	G.N. 253 A' /14.12.2004	14/12/2004	31/11/2004	1/1/2005	30/10/2003 (Kathimerini)
L.3296/2004	G.N. 253 A' /14.12.2004	14/12/2004	31/11/2004	1/1/2006	30/10/2003 (Kathimerini)
L.3296/2004	G.N. 253 A' /14.12.2004	14/12/2004	31/11/2004	1/1/2007	30/10/2003 (Kathimerini)
L.3299/2004	G.N. 261 A'/23.12.2004	23/12/2004	23/11/2004	1/1/2005	30/10/2003 (Kathimerini)
Circular: 1019/7.2.2006	-	7/2/2006	-	7/2/2006	28/1/2006 (Naftemporiki)

Notes: The Circular No: 1019/7.2.2006, recalls the Tax Law No: 3220/2004 for the years 2004 and 2005. In cases when a corporate tax law includes articles that come into effect on various dates, the tax law is restated at a line below as many times as the number of different articles.

Table 2b: A brief synopsis of the Tax laws included in the Table 2a

GAZETTE NUMBER	SUMMARY OF CORPORATE AND STOCK TRANSACTION TAX LAWS						
G.N. 54 A' / 20.3.2002 *Law: 2992/2002*	Corporate Tax relieves for businesses development and investments. Effective from 20/3/2002.	Incentives to corporations to apply IAS by the formation of a tax free depository capital of the same value with IAS launching costs for the start up year. Effective from 20/3/2002.	Incentives for merging corporations listed in ATHEX. Reduces by **10%** the Corporate Tax Rate for the first year of the merger. Effective from year 2002.	Incentives for merging corporations listed in ATHEX. Reduces by **5%** the Corporate Tax Rate for the second year of the merger. Effective from year 2003.	*(Article 10)* Reduces by **50%** the costs of research and development in businesses. Effective:1/1/2002-31/12/2004.	Makes obligatory the use of IAS for all listed in ATHEX companies, Effective from 1/1/2005.	Reduce of Corporate tax rates in corporations that increase their employees. Effective for the year 2002. The CTR decreases from **35%** to **34%** when employment increases by **5%.** CTR decreases from **35%** to **33%** when employment increases by **10%.** CTR decreases from **35%** to **32,5%** when employment increases by **12,5%.**
G.N. 330A' /24.12.2002 *Law: 3091/2002*	*(article 28)* Sets the rules for the fixed capital added value estimation. Effective from 1/1/2003.						

G.N. 15A' /28.1.2004 *Law: 3220/2004*	Changes partly the corporate tax relieves of the Law: *2601/1998.* Refers to the years: 2004-2008 and is effective from 28/1/2004.						
G.N.38A' /10.2.2004 *Law: 3229/2004*	Changes partly the business development and investment law: *2992/2002* and launches the application of International Accounting (IAS) Standards for all listed in ATHEX companies as of 10/2/2004.						
G.N.263A' /23.12.2004 *Law: 3301/2004*	Changes partly the business development and investment law: *3229/10.2.2004* as to the implementation of the International Accounting standards (IAS). Effective from 1/1/2005.						
G.N.253 /14.12.2004 *Law: 3296/2004*	Decrease of transaction taxes in ATHEX from **0,3% to 0,15%.** Effective from 1/1/2005.	Changes of the tax treatment for the listed Banks' fixed assets added value. (Modifies the article 15 of the Law: *3229/2004).*	Reduces gradually the Corporate Tax Rates (CTR) from **35%** for the year 2004 to 25% for the year 2007. CTR for the year **2005** is set	Reduces gradually the Corporate Tax Rates (CTR) from **35%** for the year 2004 to 25% for the year 2007. CTR for the year **2006** is set to **29%.**	Reduces gradually the Corporate Tax Rates (CTR) from **35%** for the year 2004 to **25%** for the year 2007. CTR for the year **2007** is set to **25%.**		

			to **32,5% .**				
G.N.261A' /23.12.2004 *Law: 3299/2004.*	Tax relieves for business development Effective from 1/1/2005.						
The Circular No:1019/7.2.2006, recalls the Tax Law No: 3220/2004 for the years 2004 and 2005.	Recall of the tax relieves for the years: 2002 and 2003 under the E.U. directive for equal opportunities in business practices for foreign and domestic corporations. Effective from 7/2/2006.						

Notes: Gazettes included in the study are provided from the *National Printing House* site:www.et.gr.The articles in press are electronically assessed and categorized through Greek newspapers' web sites or occasionally collected in paper. For the needs of the present study, tax announcements concern only written news and therefore, rumours or news announced on radio or TV are not included. *Naftemporiki,* for the time examined, is the top daily financial paper in readability with the most comprehensive web stock portal. *Kathimerini,* for the time examined, is among the top daily political newspapers with an extensive financial session while additionally maintains a quite extended articles' web data base .

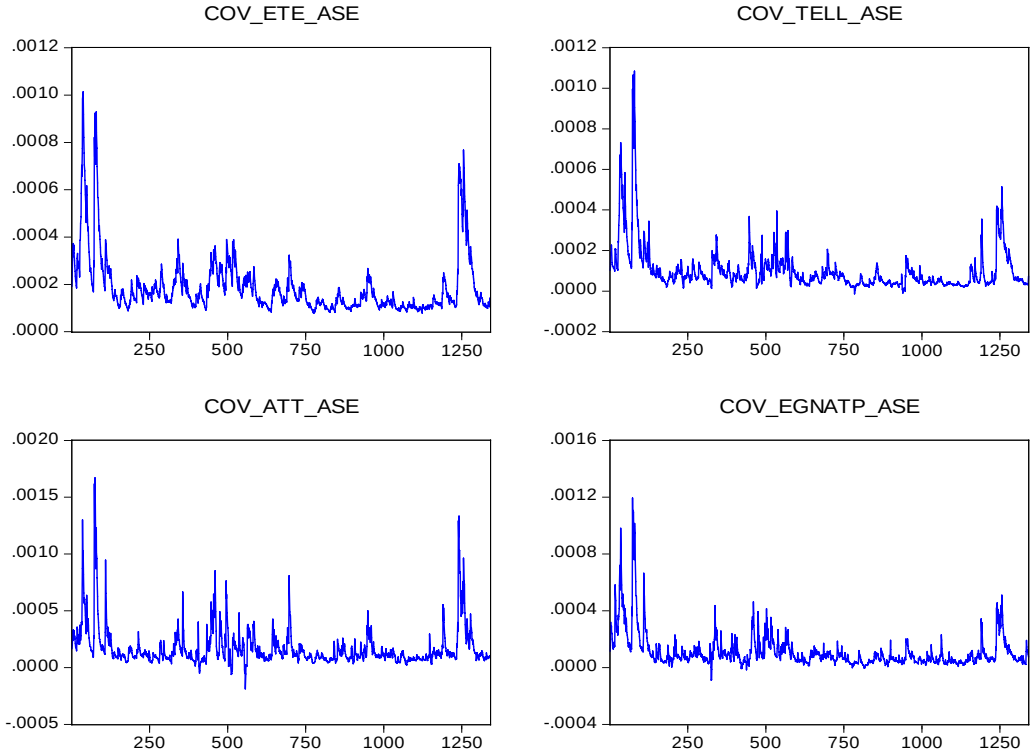

Figure 1: Simple BEKK-GARCH: covariances between the bank and the Athens Stock exchange returns series (ase).

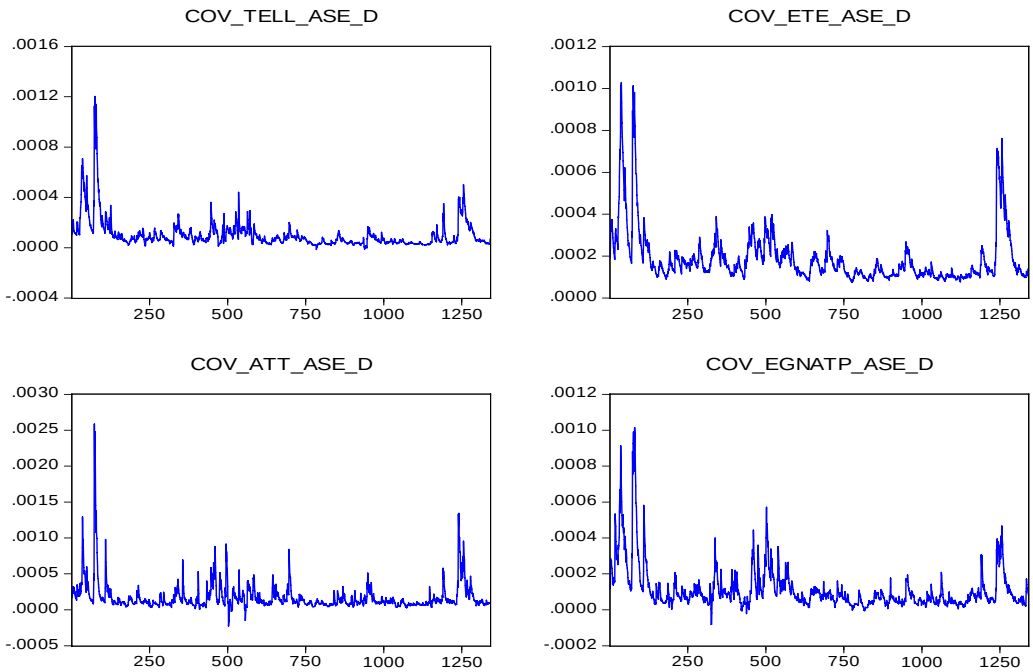

Figure 2: Modified BEKK-GARCH: covariances between the bank and the Athens Stock exchange returns series (ase).

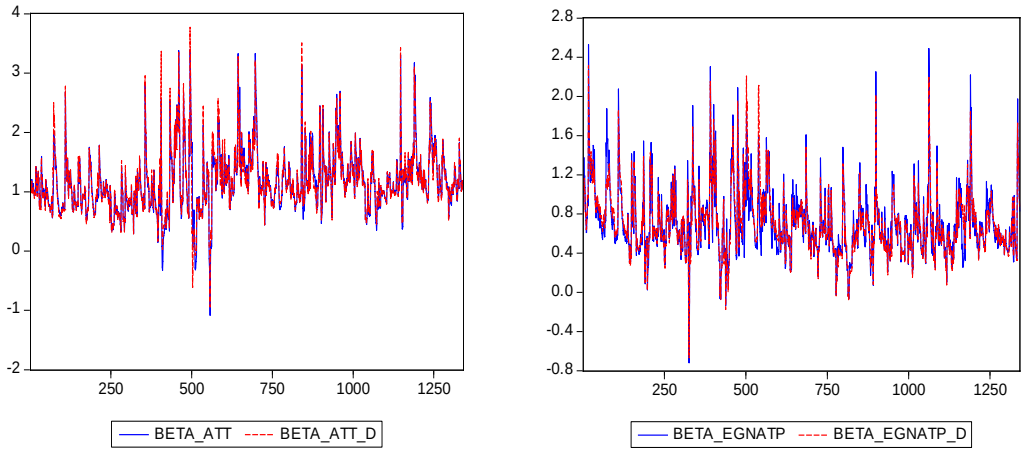

Figure 3: Time-varying beta comparison for Attica and Egnatia banks

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