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Market Trend, Company Size and Microstructure Characteristics of Intraday Stock Price Formations

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Abstract

The purpose of this study is to investigate whether there are certain price patterns during the trading session in the Athens Stock Exchange (ASE). We investigate statistically the series of stock returns, the volatility of stock returns and trading volume. In our analysis we use data from two different time periods; a period of rising prices ("bull" market) and a period of declining stock prices ("bear" market). We also use different categories of shares i.e. blue chips, medium capitalization stocks and small capitalization stocks. Our results indicate that there exist specific intraday patterns. The explanation of the revealed patterns can be based on investor sentiment and stock market microstructure characteristics

Keywords*: pattern, intraday, microstructure, regression*

JEL Classification*: G14*

1. Introduction

The empirical research for stock price formation investigates a) if there is past available information which can help in predicting future returns profitably, and b) if non rational factors i.e. factors which are not predicted by the economic theory, influence stock prices (Muth 1961, Cootner 1962, Fama 1965, 1970, 1976, 1991, Gowland and Baker 1970, Cutler, Poterba and Summers 1989 and 1991, MacDonald and Taylor 1988, 1989, Spiro 1990, Cochrane 1991, Frennberg and Hansson 1993, Jung and Boyd 1996, Al-Loughani and Chappel 1997). Thus, according to the theory there should not be any patterns in the formation of stock prices or relevant variables i.e. trading volume, volatility which would imply a) and/or b) above.

There have been several studies for the price formation of the Athens Stock Exchange (A.S.E.), (Niarchos 1972, Panas 1990, Koutmos, Negakis and Theodossiou 1993, Alexakis P. and Petrakis 1991, Alexakis P. and Xanthakis 1995, Niarchos and Alexakis C. 1998). However, up to now, there has been little research and subsequently little evidence for the behaviour of stock prices during the trading session (Niarchos and Alexakis C., 2000). In this study the behaviour of intraday

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stock market prices is investigated statistically. Analytically, intraday regularities[1] in stock returns, price volatility and trading volume are put on test for different categories of stock i.e. small, medium and big capitalization companies; different market conditions i.e. "bull" and "bear" markets and finally under different microstructure characteristics i.e. trading periods with different close price estimation method. The different size of the companies may reveal patterns which are related to the characteristics of the stock categories under investigation e.g. risk or marketability. The different market conditions, "bull" and "bear", may shed light to price patterns related to investors sentiment i.e. optimism or pessimism. Finally, regarding the stock market microstructure characteristics, the stock price formation is examined under two different methods of estimating the closing price. This, because in the intraday stock price research the closing time period has revealed price patterns for a number of reasons.

Section two (2) of this study, presents a review of the theory and the international evidence. Section three (3) presents the models and the data sets used and section four (4) presents the empirical findings. Finally, section five (5) summarizes the results.

2. Theory and Methodology

Under the Efficient Market Hypothesis (EMH) of the stock price formation the Fair Game[2] model holds for stock price changes and consequently for stock returns :

$$E[\ P_t-(P^*_t/I_{t-1})]=0 \quad \text{or} \quad E(r_t/I_{t-1})=0 \qquad (1)$$

where I_{t-1} is the information set available at time t-1, P_t is the actual price at time t, P^*_t is the expected price which is based on the information set I_{t-1}, and $P_t-P^*_t$ is the forecast error which is uncorrelated with variables in the information set I_{t-1}. Similarly, r_t is the stock return which is uncorrelated with variables in the information set $I_{t-1,}$ (Le Roy, 1990). Empirically, the above proposition is examined statistically through the relation of the current stock return or price change or any other variable related to the predictability of stock return with its own history. If a strong statistical relationship indicates return predictability or non rational factors related to the stock price formation, then the EMH may be under question.

Because of the recent availability of intraday transaction data, basically a result of computer based trading, it has been possible to observe, on an international basis, the behaviour of individual investors as they deal in the market. Thus, stock market anomalies literature, which suggests that intraday stock returns exhibit systematic patterns, has accumulated since then. In this study we will use ultra high frequency data, i.e. intraday data, and investigate statistically if there are intraday trading patterns in the series of stock returns, volatility of stock returns and trading volume for the case of the Greek stock market.

In general, the results of some earlier studies, of which the most characteristic are presented below, suggest that mean stock returns exhibit distinct intraday

[1] Market regularities form evidence against the Efficient Market Hypothesis

[2] The Fair Game model is derived from the Martingale model: $E(P_t/I_{t-1})=P_{t-1}$. According to the Martingale model, if the price of a stock is a Martingale, the best forecast of price P_t that could be constructed based on the available information set I_{t-1}, would just equal P_{t-1}, assuming that P_{t-1} is in I_{t-1}.

patterns, with overall high returns at the beginning and the end of the trading day. Wood, McInish and Ord (1985) using NYSE data found evidence, although weak, of intraday patterns in the average market return, as well as in its standard deviation, contrary to the prediction of the Efficient Market Hypothesis. In another study, Harris (1986), reports significant positive returns, both during the first 45 minutes (except Mondays) and during the last 15 minutes of the trading day. Additionally, Terry (1986), found that the return of the Dow Jones 30 is significantly larger in the last hour than in other trading hours and that most of this effect is concentrated in the last trade of the day. Jain and Joh (1988), also found that common stock returns differ across trading hours of the day. On average, the largest stock returns occur during the first (except Mondays) and the last trading hours. On the other hand, the lowest return is earned in the fifth hour of the day. Harris (1989), reports that the price rise at the end of the day was shown to be pervasive through time and across firms. In addition, the "end of the day" anomaly seems to be common in several national stock markets. For instance, Aitken, Brown and Walter (1995) established that an "end of the day" anomaly is evidenced in Australia.

Not only stock returns, but volume of trading as well, indicates systematic patterns. A significant intraday pattern in trading activity could imply that the information content of stock prices differs in several periods of the trading day. Foster and Viswanathan (1993) tested and rejected the hypothesis of equal volume of trading across different hours of the trading day by using data from AMEX and NYSE. Jain and Joh (1988) also report a significant U-shaped pattern in stock trading in NYSE. The highest volume occurs at the opening time, during the trading day the volume subsides, and near the close time it increases again, albeit not to the same level as at the opening.

3. The Data Used and the Models Employed

In this study we use intraday stock prices (P) of individual stocks of big, medium and small capitalization companies. We chose the companies that are representative of their category and their shares are actively traded in the Athens Stock Exchange. For every category the individual stocks were used to compose an index with an equal weight. Thus, we composed the indices of the big cap, the medium cap and the small cap companies.

In ultra high frequency stock market data and for a certain time period e.g. a minute of trading, we may observe high trading activity and a large number of observations, where in other certain minutes of trading we may have low or no trading activity and consequently a small number or no observations of prices. In order to overcome the above difficulty, which might cause estimation problems with the use of time series techniques, we used in our study five minute time intervals. Five minute time intervals are short enough to present the trading activity of the market and long enough, we believe, to include market reaction to new information. The stock prices of these intervals refer to the average price in the five minute period weighted by the corresponding volume i.e. a price at which heavy trading took place accounts more than a price at which light trade took place.

In all cases we used the logarithmic transformation (lP) of the price series and we calculated the returns as the difference of the logarithmic prices. The volatility in

our analysis is measured by the simple variance of the stock returns. Finally, the trading volume refers to the total number of shares which were traded during the five minutes trading period.

The calendar periods under examination were chosen in order to represent a period of rising prices and a period of declining prices. The "bull" market was taken to be the three-month period of June, July and August 1999, and the "bear" market the period September, October and November 2000.

As far as the market microstructure characteristics are concerned, it is important to note here that in the first period under examination ("bull" market) the trading in the Athens Stock Exchange was conducted from 10.45 p.m to 13.30 a.m with a total of 33 five minutes periods in a trading session. For the second period under examination ("bear" market) the trading hours were set by the Athens Stock Exchange authorities from 10.00 p.m to 14.30 a.m. which give us a total of 45 five minute periods in a trading session. For the first period under examination the closing price was the last price at which trading took place, whereas for the second period the closing price was estimated as the average price of the last ten minutes of the trading session according to the directive of the Athens Stock Exchange authorities. We must note here, that the intraday data were collected on a daily basis, because there is not a databank which contains historical intraday data for the Athens Stock Exchange.

A model usually employed in order to investigate whether a variable like stock returns is time dependent is:

$$R_t=\alpha_1 D_1+\alpha_2 D_2+\alpha_3 D_3+\ldots\ldots\ldots\ldots\ldots+\alpha_n D_n \quad (5)$$

where :

R_t is a series of actual stock returns and $D_1, D_2, D_3, \ldots D_n$ are dummy variables which refer to the stock returns of certain time intervals.

For a stock price formation under the Efficient Market Hypothesis, it must be true that:

$$\alpha_1 = \alpha_2 = \alpha_3 = \ldots = \alpha_n = 0$$

i.e. stock returns should be independent of time.

In our study we used the above model as well. The dependent variable took the form of stock returns, volatility and trading volume. In the case where the dependent variable was found to be serially correlated we adjusted our model to include, as additional explanatory variable, the lagged dependent. With this adjustment, we might avoid possible autocorrelation problems due to mis-specified dynamics, which would introduce bias to the statistical findings. Finally, we have adjusted the above models to take into account possible heteroscedasticity effects.

4. The Results

Table I presents the results of the Dickey – Fuller (DF) test for unit roots. It is clear from this table that the null hypothesis that any of the price series have unit roots cannot be rejected. This is confirmed by the DF statistics which test for unit roots in the first differenced series. In each case the null hypothesis is easily rejected. Together with the results in the level series, it strongly implies that each of the stock price series are integrated of order one, I~(1). For the case of the trading volume series the DF statistics indicate that the series are integrated of order zero, I~(0). According to the above results the price series must be differenced once in

order to obtain stationarity whereas the trading volume series is stationary in its level.

Table II presents the basic statistics of the series under examination. The mean return for the "bull" market is positive and for the case of the "bear" market negative. The standard deviation relates in a reverse manner to the size of the companies under examination i.e. it is larger for the small cap companies and smaller for the big cap companies. This result is expected, since standard deviation is a measure for risk and the small cap companies can be considered more risky than the big ones.

Table III presents the results of the autocorrelation tests we performed on the stationary series under examination. In the case of the "bull" market we accept the null hypothesis of no autocorrelation for all price series. For the case of the "bear" market we obtained evidence of high positive autocorrelation at lag one for big and medium cap companies. For the volume series the tests indicated that they exhibit positive autocorrelation in all cases and for all examined lags. Thus, the regressions which examine the time dependency of the above variables will be adjusted accordingly.

Tables IV_I and IV_{II} present the results of the tests for intraday time regularities in the series of stock returns. It is interesting to note that in all cases intraday stock returns exhibit regularities. For the case of the "bull" market the first five minute interval appears to be positive in all cases. Additionally, the last five minutes time interval appears to be positive in all cases as well. In general, in the case of the "bull" market the stock returns appear to follow a U shape during the trading session (Diagram 1). For the case of the "bear" market the results change. The first five minutes time interval appears to be negative in all cases. Also, the five minutes time interval prior to the last one appears to be positive and statistically significant as well. In general, in the case of the "bear" market the stock returns appear to have a reverse Z shape during the trading session (Diagram 2). The R^2 as a measure of model explanatory power, varied from 1.8% to 3.4% for the case of the "bear" market and from 7.6% to 13.6% for the case of the "bull" market which can be considered high, at least for intraday data, (Table VII). The diagnostics for the residuals of the estimated equations did not indicate any econometric problem which would have biased the results.

Tables V_I and V_{II} indicate that the volatility of stock returns is found to be high in the beginning of the trading session. For the case of the "bull" market the first five minutes appear to be statistically significant, where for the case of the "bear" market the volatility appears to be high the first twenty to thirty five minutes of the trading sessions (Diagrams 3 and 4). Finally, from tables VI_I and VI_{II} the trading activity appears to indicate the following pattern: in the case of the "bull" market we observe a pattern of high trading activity in the first five minutes for mid and small cap companies, then the activity lowers for the second five minutes interval and rises again for the third five minutes interval for all kinds of companies; then the trading activity remains insignificant and rises again in the last five minutes of the trading session. For the case of the "bear" market the trading activity is low for the first ten minutes of the trading session and rises the last fifteen minutes with most prominent the five minutes interval before the last one (Diagrams 5 and 6). Again the explanatory power of the above models appears to be higher for the case of the "bull" market as the relevant statistics indicated, (Table VII).

5.Conclusions

The econometric tests performed in this study indicated that there are intraday patterns in the Athens Stock Exchange for the variables of stock return, volatility and trading activity. The revealed patterns were found to be different for "bull" and "bear" markets with the patterns of the "bull" market to be statistically stronger. Analytically, when the variable of stock return is investigated, in the case of the "bull" market (1999) the beginning of the trading session exhibits positive returns and statistically significant, as well as the close (the last five minutes) of the trading session. On the contrary, in the case of the "bear" market of (2000) the beginning of the trading session exhibits negative statistically significant returns. As far as the closing period is concerned, for the case of the "bear" market, the five minutes time interval before the last one exhibits positive and statistically significant returns. The above patterns are evident in all categories of shares i.e. small, medium and big capitalization companies. The above evidence contradicts the Efficient Market Hypothesis assumption that stock returns should be independent of time.

The trading activity shows a different behaviour for "bull" and "bear" markets. Taking into account that the trading volume indicates interest, in the case of the "bull" market we observe a pattern of high interest in the beginning of the trading session for mid and small cap companies, as well as a high interest in the last five minutes of the trading session for all companies. For the case of the "bear" market the interest appears low in the beginning of the trading session and rises again close to the end of the trading session and especially ten minutes before trading stops.

Finally, for the variable of stock return volatility we reached the conclusion that in almost all categories of shares, for both rising and declining markets, the volatility of returns tends to start high and end low during the trading session.

We believe that the most interesting results in economic terms are those of the return patterns. The significant positive closing return is in line with other studies which produced evidence of the so called "end of the day" anomaly. Some possible explanations, although difficult to test empirically, are that the high return at the end of the trading session may be the result of consistent arrival at that time of good news or some common investor trading habits which drive stock prices up. Nevertheless, a number of possible explanations for intraday stock price regularities are based on the stock market microstructure characteristics. The assumption in standard pricing theories that the institutional market structure has no effect on security prices is challenged by the growing market microstructure literature, according to which there may be effects of the markets` institutional structure on the price formation process. According to Schwartz (1988), the market microstructure literature focuses on the details of the trading process and the rules and institutional features of a stock market that determine how orders are transformed into trades. Market and limit orders, as well as bid and ask prices, are elements of microstructure theory which have been applied in order to explain the high returns at the end of the day. Amihud and Mendelson (1991) note three important differences between market orders and limit orders. First, market orders are executed immediately and with certainty. Second, limit orders do, but market orders do not, provide immediate liquidity to the rest of the market. Third, submitting a limit order implies the release of more information to the market than submitting a

market order. They summarize the difference by stating that immediacy is supplied to the market by limit orders and consumed by market orders. Thus, a high level of new limit orders at the end of the trading day would be surprising taking into account the high returns at that time. Investors waiting to close open positions would presumably use market orders rather than limit orders during the last minutes. Thus, market orders can account for the high return at the end of the day. Miller (1989) claims that some short sellers (as one-day traders) wish to close out their positions at the end of the day and try to achieve a net zero overnight position to deal easily with settlement. Based on the above, we would expect stocks that may have been sold short, to have a greater probability to trade on the asking price, driving the closing price up at the end of the day. The similarity of the price and volume patterns also leads us to accept that the "end of the day" upturn may be caused by a higher proportion of trades at the asking price, Harris (1989).

Another line of argument can be based on a combination of microstructure characteristics and stock price manipulation. It is widely recognised that stock market prices can be manipulated, so that some groups of investors might benefit at the expense of others. This is the reason for the existence of market surveillance departments. These departments monitor the stock market trading in order to protect investors from stock price manipulation.

As Harris (1989) observed, among all stock price transactions observed during a trading day, closing prices were the most important. They are used to compute mutual fund net asset values, to determine the cost of some package trading contracts and to compute returns analyzed by academic and professional researchers e.g. the closing price is used by most technical analysts for their reports and forecasts. Closing prices are used for these purposes, because of their convenience and the assumption that they fairly represent common stock values at the end of the trading day. Given the fact that the closing price of a stock is a widely used stock market indicator, it would be of significant interest in case of possible market manipulation. For instance, a group of investors could try to manipulate the closing price of a stock with buy orders in order to produce optimism among investors and create more and more buy orders. The strongest argument, in line with the above explanation, is the following. In year 2000 the closing price was decided by the stock market authorities to be calculated as an average of the last ten minutes of the trading session instead of the last price of the trading session, as it was in the year 1999. According to our statistical findings the observed "end of the day" stock return pattern changed and instead of observing the last five minutes as a period of rising prices, as it was in 1999, we obtained statistical findings which indicated the last ten minutes time interval as a period of rising prices, with most prominent the five minutes period before the last five minutes of the trading session. This can be explained as a reaction of the market participants to a change in a microstructure characteristic. In turn this may lead us to accept that microstructure is an important element of stock price determination and that market participants may use market microstructure in order to manipulate stock prices and create sentimental trading between investors.

We believe that the above findings are important for policy making to the benefit of the stock market operation. Nevertheless, the use of more intraday trading information, like types of sell and buy orders with bid and ask prices, may reveal

more patterns and consequently help us to understand better the workings of the Stock Exchange.

List of Tables

Table I_a: Dickey - Fuller Unit root statistics (Prices)

Index	D.F. Statistic Levels Year 1999	D.F. Statistic Δ Transformation Year 1999	D.F. Statistic Levels Year 2000	D.F. Statistic Δ Transformation Year 2000
Big	-0,08	-19,59**	0,12	-25,54**
Medium	-0,93	-20,27**	-0,07	-25,84**
Small	-1,67	-20,35**	-0,44	-25,32**

Double star denotes significance at 99% confidence interval

Table I_b: Dickey - Fuller Unit root statistics (Trading Volume)

Index	D.F. Statistic Levels Year 1999	D.F. Statistic Δ Transformation Year 1999	D.F. Statistic Levels Year 2000	D.F. Statistic Δ Transformation Year 2000
Big	-8,08**	-29,09**	-12,02**	-33,68**
Medium	-9,13**	-29,62**	-12,05**	-35,40**
Small	-10,18**	-30,33**	-13,15**	-36,46**

Double star denotes significance at 99% confidence interval

Table II_a: Index Return, Basic Statistics

Index	Mean Year 1999	St. Deviation Year 1999	Mean Year 2000	St. Deviation Year 2000
Big	0,000201	0,00400	-0,000049	0,00270
Medium	0,000291	0,00580	-0,000083	0,00409
Small	0,000201	0,00689	-0,000118	0,00432

Table II_b: Trading Volume (Δ), Basic Statistics

Index	Mean Year 1999	St. Deviation Year 1999	Mean Year 2000	St. Deviation Year 2000
Big	0,00056	0,41752	-0,00024	0,60804
Medium	-0,00034	0,47690	-0,00067	0,66636
Small	-0,00054	0,62439	0,00012	0,97166

Lag	Big Year 1999	Medium Year 1999	Small Year 1999	Big Year 2000	Medium Year 2000	Small Year 2000
1	0,035	0,014	-0,040	0,227*	0,109*	-0,005
2	0,035	0,024	-0,017	-0,005	-0,049	-0,029
3	0,008	-0,005	0,021	-0,119*	0,084	-0,054
4	0,039	0,005	-0,018	-0,088	-0,049	0,012
5	-0,014	-0,008	0,018	-0,021	-0,008	-0,019

Table III_a: Stock Return Autocorrelation Function

Single star denotes significance at 95% confidence interval

Table III_b: Trading Volume Autocorrelation Function

Lag	Big Year 1999	Medium Year 1999	Small Year 1999	Big Year 2000	Medium Year 2000	Small Year 2000
1	0,690*	0,603*	0,555*	0,712*	0,651*	0,499*
2	0,633*	0,562*	0,513*	0,595*	0,545*	0,417*
3	0,598*	0,513*	0,456*	0,520*	0,483*	0,359*
4	0,574*	0,485*	0,432*	0,465*	0,451*	0,344*
5	0,550*	0,466*	0,398*	0,436*	0,481*	0,329*

Single star denotes significance at 95% confidence interval

Table IV_1, 1999 – Returns
Big Cap

Significant Variable	Coefficient	t Statistic
D1	0.005922	12.16991*
D2	0.001186	2.436595*
D33	0.002087	4.288079*

Mid Cap

Significant Variable	Coefficient	t Statistic
D1	0,012101	17.66715*
D33	0.001844	2.692841*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	0.010572	12.56672*

Diagram 1
"Bull" Market (1999) Return Patterns

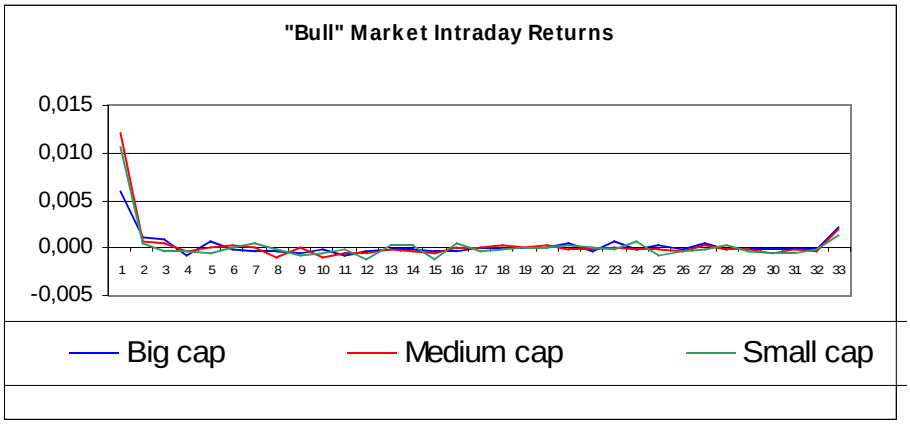

Table IV_{1I}, 2000 – Returns
Big Cap

Significant Variable	Coefficient	t Statistic
D1	-0.001501	-4.464589*
D2	0.000971	2.889027*

D7	-0.001078	-3.206843*
D44	0.001119	3.328454*

Mid Cap

Significant Variable	Coefficient	t Statistic
D1	-0.001539	-3.014610*
D44	0.002201	4.313108*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	-0.001391	-2.600527*
D3	0.001425	2.664577*
D5	-0.001296	-2.423132*
D44	0.003074	5.746457*
D45	0.001765	3.299559*

Diagram 2
"Bear" Market (2000) Return Patterns

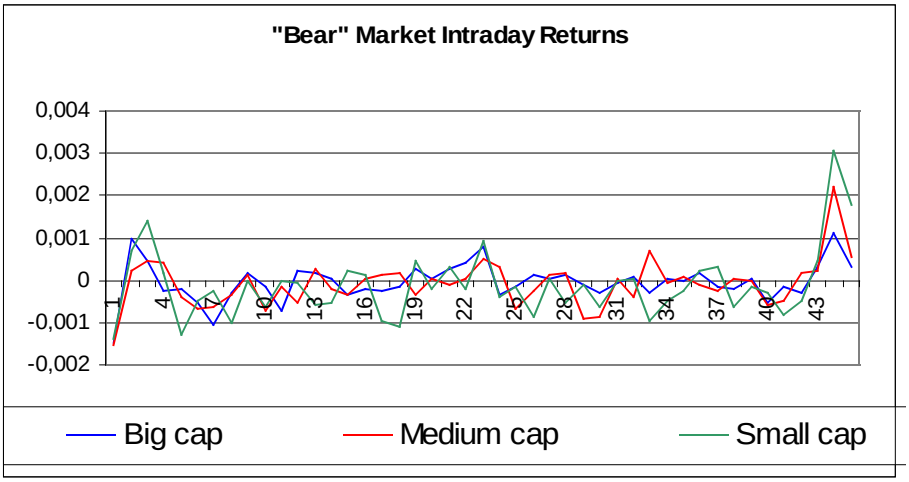

Table V_1, 1999 - Volatility
Big Cap

Significant Variable	Coefficient	t Statistic
D1	0.000293	22.22085*

Mid Cap

Significant Variable	Coefficient	t Statistic
D1	0.000839	34.15410*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	0.001178	32.99017*

Diagram 3

"Bull" Market (1999) Volatility Patterns

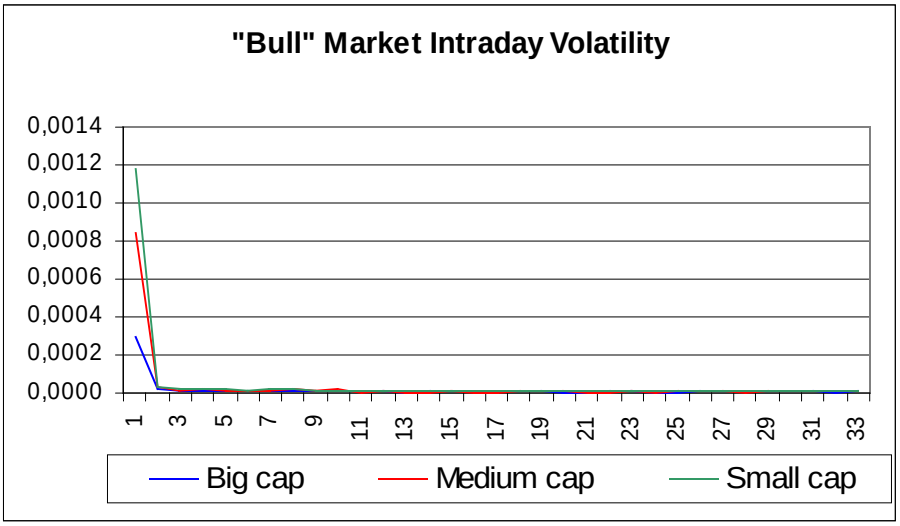

Table V_{11}, 2000 - Volatility

Big Cap

Significant Variable	Coefficient	t Statistic
D1	0.00008	21.1090*
D2	0.00002	6.5364*
D3	0.00001	3.1022*
D4	0.00001	3.7872*

Medium Cap

Significant Variable	Coefficient	t Statistic
D1	0.000234	24.55642*
D2	0.0000357	3.743019*
D3	0.0000394	4.139774*
D4	0.0000217	2.280237*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	0.000176	19.48066*
D2	0.0000340	3.765198*
D3	0.0000417	4.609381*

D4	0.0000307	3.392227*
D5	0.0000336	3.716554*
D6	0.0000283	3.129387*
D7	0.0000191	2.118382*
D44	0.0000190	2.098856*
D45	0.0000179	1.977131*

Diagram 4
"Bear" Market (2000) Volatility Patterns

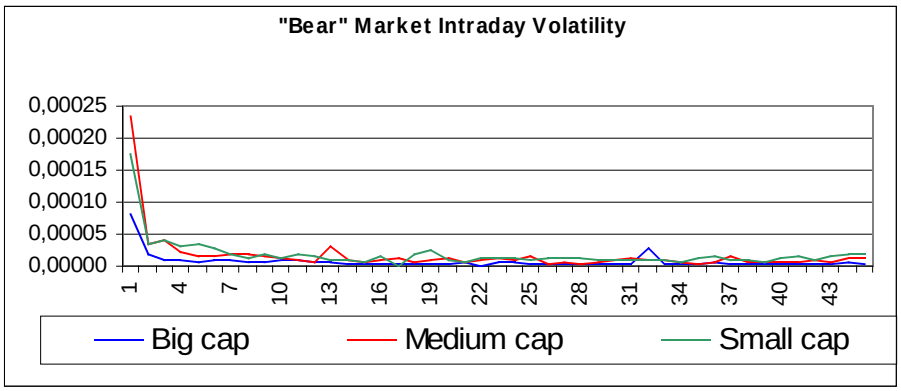

Table VI$_1$, 1999 – Trading Activity (Volume)
Big Cap

Significant Variable	Coefficient	t Statistic
D2	-0.750078	-15.20499*
D3	0.124212	2.517922*
D33	0.298936	6.059796*

Medium Cap

Significant Variable	Coefficient	t Statistic
D1	0.708851	13.03938*
D2	-0.901464	-16.58250*
D33	0.204874	3.768667*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	0.860629	11.91287*
D2	-1.091679	-15.11107*
D33	0.345174	4.777911*

Diagram 5
Bull Market (1999) Volume Patterns

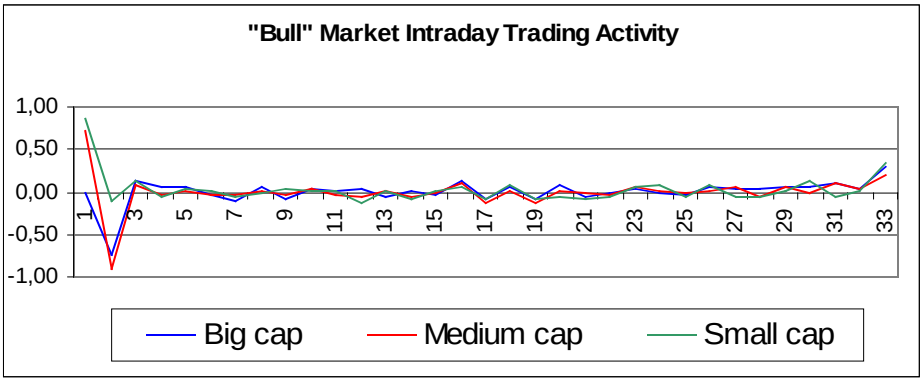

Table VI_{1I}, 2000 – Trading Activity (Volume)

Big Cap

Significant Variable	Coefficient	t Statistic
D1	-1.380189	-19.67369*
D2	-0.346007	-4.932100*
D43	0.165837	2.363901*
D44	0.560522	7.989872*
D45	0.346048	4.932686*

Medium Cap

Significant Variable	Coefficient	t Statistic
D1	-1.259674	-15.92261*
D2	-0.236223	-2.985916*
D44	0.556689	7.036698*
D45	0.231071	2.920803*

Small Cap

Significant Variable	Coefficient	t Statistic
D1	-1.162023	-9.775528*
D2	-0.491744	-4.136797*
D44	0.408897	3.439851*

Diagram 6
"Bear" Market (2000) Volume Patterns

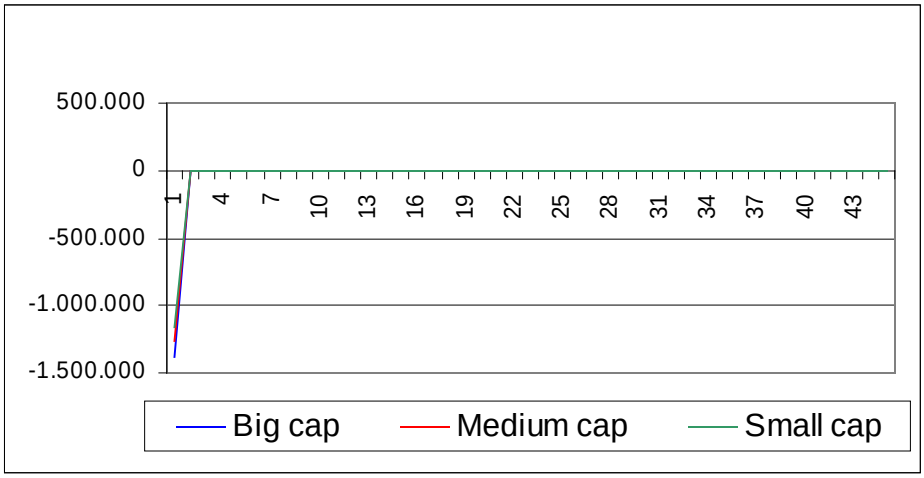

Table VII, Explanatory Power

Returns Regression:

1999			2000		
Big Cap	**Med Cap**	**Small Cap**	**Big Cap**	**Med Cap**	**Small Cap**
R^2=0,083	R^2=0,136	R^2=0,076	R^2=0,027	R^2=0,018	R^2=0,034

Volatility Regression:

1999			2000		
Big Cap	**Med Cap**	**Small Cap**	**Big Cap**	**Med Cap**	**Small Cap**
R^2=0,182	R^2=0,351	R^2=0,335	R^2=0,131	R^2=0,164	R^2=0,108

Trading Activity Regression:

1999			2000		
Big Cap	**Med Cap**	**Small Cap**	**Big Cap**	**Med Cap**	**Small Cap**
R^2=0,134	R^2=0,193	R^2=0,169	R^2=0,164	R^2=0,127	R^2=0,056

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