

VOLATILITY SPILLOVER BETWEEN LEBANESE POLITICAL SHOCKS AND FINANCIAL MARKET RETURNS

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ABSTRACT

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This paper examines the impact of Lebanese political news announcements on Beirut Stock Exchange (BSE) returns and volatility from 2005 to 2014. Using a sample of (294) Lebanese political news, the results from GARCH, EGARCH and ARCH models reveal significant impacts of favorable and unfavorable political news on BSE returns. Favorable political news has a positive impact while unfavorable political news has a negative impact. This research also confirms that both favorable and unfavorable political news announcements increase BSE volatility. Additional analysis shows that unfavorable political news has greater impacts on BSE volatility and returns than favorable political news. It seems that BSE investors are more sensitive to unfavorable political news which leads them to avoid the regret feeling by following the market tendency. The findings of this study show that the Lebanese banking sector plays a positive role by mitigating the negative impact of bad political news.

Keywords: financial market, market volatility, political news, political instability, market returns, Beirut Stock Exchange

INTRODUCTION

Financial market is a place where buyers and sellers trade assets such as securities (stocks and bonds), derivatives, and commodities at prices that reflect supply and demand. There are many types of financial markets (capital market, money market, derivative markets, interbank market...) which can be found in nearly every nation in the world. Some financial markets are large with high level of trading activity such as Tokyo Stock Exchange, New York Stock Exchange and London Stock Exchange. Others are very small with few available securities and participants such as Beirut Stock Exchange (BSE).

In Lebanon, Beirut Stock Exchange is the second oldest exchange market in the region. It is the only formal securities market for Lebanon. The volume of trading activities and the number of listed companies on BSE were increasing over years until 1983 when the trading activity was halted due to the Lebanese civil war to be re-launched 13 years later in 1996. Nowadays, there are few listed companies on BSE; they are Bank Audi, Bank of Beirut, Bank BEMO, BLC bank, BLOM bank, Byblos bank, S.L. des Ciments Blancs, Holcim, Rasamny Younis Motor Co., and Solidere.

For the Lebanese economists, a developed and smoothly operating financial market contributes to the health and growth of the economy. But actually, there are many factors that can stop the positive contribution of the financial market such as inflation, interest rates, changes in economic policy and political instability.

In Lebanon, the political unpredictability is regarded by economists as the most serious problem for economic growth. It leads to an increase in the volatility, a decrease in the investment level and thus can negatively affect the financial market performance. Since the creation of BSE there were hundreds of negative political events (such as the assassination of the Lebanese Prime Minister R. Hariri, terrorist attacks, government dissolution...to name a few) that reduced the investor's confidence over the financial market. In the meantime, the Lebanese Financial Authority has been attempting to improve its monitoring system to better limit the negative impact of political crises. During 2014, the Lebanon's Central Bank issued 18 circulars to protect the financial system. According to Riad Salameh, Governor of Lebanon's Central Bank, «the economy and banking sector will be able to weather the negative impact of the political stalemate as they have weathered many other internal and external crises in the past few years»¹ which leads us to ask if the monitoring system used in Lebanon is capable to reduce the negative impact of political news.

In this study, we will examine the influence of political news on the performance of the Lebanese financial market. The questions here are: how does the politic situation affect the Lebanese financial market? And how does the banking sector contribute to the Lebanese financial stability?

The best method to explain the relation between these two elements, political situation on one hand and Lebanese financial market on another hand, is to represent some examples of political changes and behold their effects on Lebanese financial market. The contribution of this research consists of assessing the impact of political news announcements on volatility and performance of Lebanese financial markets.

The next section explains the impact of the political situation on financial markets then explores the political situation of Lebanon between 1975 and 2014. The following section outlines the methodology and describes the data. The last section reports the results and concludes the paper.

LITERATURE REVIEW

Interaction between political news and financial market performance

From watching BSE it would be easy to deduct that it is the corporate earning that move the financial market. On some days it can be heard that stocks drop down more than the market expectations. Something had to push the market to go up and down. Instead of monitoring how negative earnings propels stocks prices down, it would be better to think about what information causes a decrease in earnings in the first place.

¹ Exclusive interview by Duncan Kerr (2014).
<http://www.euromoney.com/Article/3256297/Lebanons-Salam-stresses-resilience-and-stability.html>

The impact of information on the performance of financial markets has been initiated by Fama (1970) before being developed theoretically and empirically by thousands of studies. His work has activated a lot of debates that attempt to understand the degree of market efficiency.

By introducing the efficient market hypothesis, Fama (1970) has revealed that strong efficient stock markets react to any type of information. Beside the strong form of efficiency, Fama (1970) has indicated that there are two other forms, the weak form in which the security's price reflects its historical data and the semi strong form in which the security's price reflects the publicly available information.

According to efficient market hypothesis, all the information about political events such as assassinations of political persons, dissolution of government, and election of prime minister could change the economic situation and consequently the market performance. The high volatility and the low performance of US stocks market during the political depressions confirm the relation between political arena and financial stock market (Schwert, 1989).

Brown *et al.* (1988) provided a theoretical framework to understand the investors behaviors based on the external events in uncertain situation generated by unexpected events such as political shocks. Their hypothesis on uncertain information has widely studied and used to explain the market variations. They found that the investors are generally assumed to overreact to bad news than to good news. Suleman (2012) confirmed the theory of Brown *et al.* (1988) and pointed out that political event is a source of volatility in stocks markets of different countries. His results indicate that bad news lead to more volatility and low return level while good news lead to lowest volatility and highest return.

The Arbitrage pricing theory (APT) also could be used to explain the interaction between political news and stocks prices. In their macroeconomic model, Chen *et al.* (1986) specified the importance of news as unanticipated elements that can explain the market performance. Concerning the interaction between news and market performance, the literature review indicates that there are two opposite approaches. The first one was introduced by Lindbeck (1976) in which the politicians send certain signals about the economic indicators in order to increase the probability of their reelections. This concept of signaling was studied by Ross (1977), Leland and Pyle (1977) through the signal theory. As a consequence, some players are induced to send signals to make greater profits than the other players (Grossman and Stiglitz, 1980).

The second and the most developed approach was initiated by Hibbs (1977) in which the economic situations arise as a result of political situations. La Porta *et al.* (1998) confirmed indirectly the impact of political environment on the performance of corporate firms and consequently on the financial markets. They revealed a negative impact of low legal protection initiated and generated by politicians especially in civil law countries.

Along the same line Barro (1991) found that political instability affects negatively the economic indicators in 98 different countries around the world. Barro's study indicated that the correlation may be attributed with low probability to reverse causality.

Chen and Siems (2003) examined the impact of 14 terrorist and military attacks on the US capital market during 96 years (from 1915 until 2001). They found a negative capital markets' response to the 14 attacks and they demonstrated that the existence of a stable financial sector is needed to promote market stability by providing liquidity.

Chan and Wei (1996) studied the impact of political news by distinguishing between red-chip (controlled by People's Republic of China) and blue-chip (the Hang-Seng index) shares. In their study, they found a high level of sensitivity for blue-chip stocks and very low level of sensitivity for red-chip stocks. These reveal a high risk's level for non-protected markets when political environment is unstable.

Huang *et al.* (1991) revealed a significant impact of political events on the financial markets. The authors found a negative cumulative residuals for stocks market following the election of democratic president, while positive cumulative residuals have been detected after the election of republican president.

Goonatilake and Herath (2007) conducted a study to examine the impact of US political news in three markets (S&P 500, NASDAQ, and DJIA) during 2006. They categorized three movements of stocks (increase, unchanged, or decrease) based on three types of political news (good, normal, or bad news). The Chi-square result indicated a significant association between the nature of news and stock market fluctuation.

Wang and Chuang (2009) studied the impact of political changes in four developed markets (Dow Jones 30, SBF 250, Nikkei 225 and FTSE 30). The results from this study indicated a negative relationship between political changes and the abnormal returns of developed markets (France, US, Japan and UK).

The results regarding the impact of political news on the financial markets were not sufficient for many authors. Hence they tried to capture the impact of political environment on the volatility of financial markets. And they found that volatility was affected by three levels of political news: local related to the country news, regional related to the regional news and global related to the international news.

Hussain and Harju (2011) studied the impact of US macroeconomics news on four European equity markets (UK, Germany, Switzerland and France). They found a significant influence on the conditional volatility across these markets. Nowak *et al.* (2011) revealed the same results in four emerging bond markets (Turkey, Russia, Mexico and Brazil).

The results of Yi *et al.* (2013) showed significant volatility interdependence between BRIC (Brazil, Russia, India and China) and CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa) markets which supports the impact of international news on the volatility of regional markets.

Finally, by studying the Indonesian stock exchange during 2 years (from 1999 to 2001), Ismail and Suhardjo (2001) rejected the semi-strong hypothesis of market efficiency. They found that the abnormal returns did not respond to the political events. Hence it's not possible to generalize the significant impact of political news on the performance of Lebanese financial markets and further analysis must be exploited especially in the case of Lebanon.

The Lebanese political situation

After the Lebanese civil war (1975-1989), the Lebanese financial situation was stable until February 14 2005, the day of PM R. Hariri’s assassination. The impact of this terrorist attack was very heavy on BSE. The MSCI Lebanon index² dropped down 25% (Figure 1) and the investors were not eager to buy even with under-evaluated stocks. Since 2005 many political crises and changes have occurred in Lebanon and have affected the Lebanese financial system.



Figure 1. Impact of PM R. Hariri’s assassination on BSE (February 14, 2005).

The regional instability, the civil war in Syria and the location of Lebanon along Syrian and Israel borders have triggered a series of assassinations from 2005 to 2011 (Figure 2) such as the assassination of Samir Kassir (journalist), Gibran Tuani (journalist and head of An Nahar journal), Pierre Gemayel (Minister of industry), Walid Eido (member in Lebanese parliament), Francois el Hajj (Brigadier general), Wissam Eid (senior terrorism investigator at the Lebanese Internal Security). Their results were catastrophic on the Lebanese financial market as measured by the trading activity in BSE. According to Vice President of BSE, Ghaleb Mahmassani, the conflict in Syria has affected the sentiment of Lebanese and Arab investors which has consequently affected the Lebanese market activity, particularly in terms of trading volumes³.

² The MSCI Lebanon Index is a major stock market index which tracks the performance of largest companies listed on the Beirut Stock Exchange. It is a free-float weighted equity index.

³ Source: <http://www.thebusinessyear.com/publication/article/2/20/lebanon-2012/taking-stock->

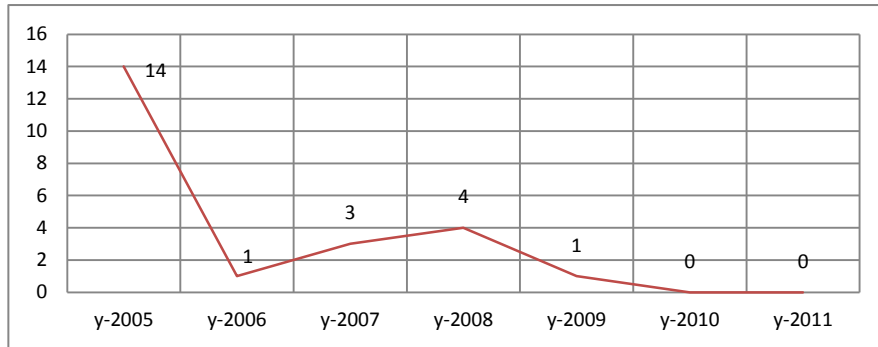


Figure 2. Number of bombing and assassination between 2005 and 2011, compiled by the author.

In 2012, the Daily Star reported that Lebanon was dancing on a volcano. During this year Lebanon has constituted a main bridge to smuggle weapons to Syrian civil war and several reports appeared that accused Hezbollah of sending fighters to Syria. At the same time the Syrian civil war had badly affected the north Lebanon region (Tripoli) that suffered many clashes between Alawites and Sunnis with high killing scores. In October, the top intelligence chief Wissam el-Hassan was assassinated by a car bomb. The implication of this terrorist attack was negative on MSCI Lebanon index (Figure 3). High demand for the dollar was registered during this year and the mid-price of exchange rate (Lebanese pound against dollar) increased from (\$/LBP) 1507-1511 to (\$/LBP) 1513-1514.



Figure 3. Impact of the top intelligence chief assassination (October 21, 2012).

In 2013, the AMB country risk reported that Lebanon is considered one of the riskiest countries in the MENA (Middle East and North Africa) Region (Figure 4). The official involvement of Hizbullah in Syrian civil war has increased the political risk. The resignation of PM Mikati’s in March 2013 and the absence of a new government for a period of 11 months was also a source of financial instability. During this year 16 terrorist attacks

affected Lebanon⁴. The most important attacks were the assassination of Mohamad Chatah (member in Lebanese parliament and former finance minister) and the bombing of two mosques in Tripoli with 400 injured and 62 murdered. A recent report was published by AUDI BANK showing the negative effect of political information during 2013⁵.



Source: A.M. Best (2014) | <http://www.ambest.com/ratings/cr/CountryRiskGlobalReport.pdf>.

Figure 4. Political risk summary (1: best and 5: worst).

The year 2014 was highly challenging for the Lebanese financial authorities due to 9 terrorist attacks, Syrian spillover and political chaos. BSE showed mixed performance over the past months partly triggered by the failure to elect new president. The average volume of transactions dropped 20% during the first quarter of 2014. At the same year a positive financial environment has been detected after the nomination of the new PM Tamam Salam to lead the new government and to end 11 months of standoff (Figure 5).

The Lebanese Central Bank (BDL) tried to support the positive political environment by offering credit facilities to the Lebanese commercial banks with 1% interest rate. The contribution through this strategy increased the GDP of 2014 from 0.5% to 2%. Moreover, the BDL succeeded in preserving the exchange rate stability during 2014 against the political shocks through its gold and financial reserves.

⁴ Source: <http://www.annahar.com/archives/search.phpq=2014page=5>.

⁵ Source: <http://www.bankaudi.com.lb/annualreport/annualreport2013.pdf>.



Figure 5. Impact of the nomination of the Salam Government on the MSCI Lebanese index in 2014.

The Lebanese banks played also under the umbrella of BDL a key role in the Lebanese financial system (El-Chaarani, 2014). By their existence they performed during the last decade a vital role in protecting the financial system against any potential shocks.

Based on the above results treated above, the hypotheses of this research can be defined as follows:

- H0: *Political news has a significant impact on stocks market returns.*
- H1: *Political news has a significant impact on market volatility.*

To be more accurate and to detect the impact of information's type on stocks market returns and market volatility, the Lebanese political news has been divided in this study to negative news (such as assassination, terrorist attacks...) and positive news (such as nomination of new president, new government...). Therefore, the two basic hypotheses of this study (H0 and H1) were divided to two sub-hypotheses as follows:

- H0-1: *Positive political news has a positive significant impact on stocks market returns.*
- H1-1: *Positive political news has a positive significant impact on market volatility.*

METHODOLOGY AND DATA

In order to capture the impact of political news on the Lebanese financial market, the daily Beirut Stock Exchange (BSE) returns indicators were considered from January 2005 to December 2014. The stocks market data was collected from BSE database while the political news data was provided from the National News Agency (NNA) one of the most famous Lebanese agencies known to international and domestic investors. During a 10 years period, 294 political news and crises were analyzed and studied in term of impact before, during and after the announcements.

The Generalized Autoregressive Conditional Heteroscedasticity model (GARCH-M) was used in this research to test the impact of Lebanese political news on stocks volatility

and returns. According to Bollerslev (1987) and Engle & Granger (1987), the GARCH-M model can capture the levels of volatility, skewness and leptokurtosis. Moreover this model uses the return history as information set which allows one to gain more efficiency in terms of generalization and estimation. According to Bodie *et al.* (2009), the GARCH-M model suggests that the prediction of market volatility evolves each period in response to new observations on market returns. The general form of GARCH-M model can be presented as follow:

$$R_t = \alpha_0 + \alpha_1 \sigma_t^2 + e_t \quad (1)$$

Where: $\sigma_t^2 | \Phi_{t-1} \sim N(0, \sigma_t^2)$

And: $\sigma_t^2 = a_0 + a_1 e_{t-1} + a_2 (\sigma_{t-1})^2$

R_t is the return of the market in t period base on a set of information in previous period Φ_{t-1} . e_t is the error term while σ_t^2 is the time varying variance. $(a_1, a_2) < 1$ and $a_0, a_1, a_2 > 0$. a_1 indicates the magnitude of the effect imposed by the error in term e_{t-1} in conditional variance σ_t . The coefficient of a_1 indicates the impact of volatility on stocks returns. A positive (negative) coefficient indicates that the investor was compensated with higher (lower) return at higher level of risk.

To capture the asymmetry between bad and good Lebanese news, two dummy variables were introduced as follow:

$$R_t = \alpha_0 + \alpha_1 \sigma_t^2 + \alpha_2 R_{t-1} + \alpha_3 BN + \alpha_4 GN + e_t \quad (2)$$

$$\sigma_t^2 = a_0 + a_1 e_{t-1} + a_2 \sigma_{t-1}^2 + a_3 BN + a_4 GN \quad (3)$$

Where: (BN) is a dummy variable that takes the value 1 in the case of bad news and 0 otherwise, while (GN) is a dummy variable that takes the value 1 in the case of good news and 0 otherwise.

The coefficients values of error (a_1) and variance (a_2) is used to test the persistence level of political impact on stocks volatility and returns. For Engle (1982) and Bollerslev (1987) if the value of $(a_1 + a_2)$ equals to 1, it means a persistence of impact over the time. If the value is greater than 1, it means an increasing of volatility over the time.

After the GARCH model, the Exponential Generalized Autoregressive Conditional Heteroscedasticity model (EGARCH) (equation 3) was also used to capture the leverage effect of Lebanese political news. Based on Nelson (1991), and Koutmos & Booth (1995), the used EGARCH model is represented as follow:

$$\log(\sigma_t^2) = a_0 + a_2 \log(\sigma_{t-1}^2) + \gamma (e_{t-1} / \sigma_{t-1}) + \tau (|e_{t-1}| / |\sigma_{t-1}|) + a_3 BN + a_4 GN \quad (4)$$

In EGARCH model, τ represents the magnitude effect of Lebanese political news on BSE volatilities. γ is used to capture the leverage effect of Lebanese political news on BSE volatilities. If $\gamma > 0$, it means that the BSE volatility is more sensitive and developed after the release of bad news than good news. Whereas, if $\gamma < 0$, it means that Lebanese positive news increases volatility more than bad news.

Finally, the autoregressive Conditional Heteroscedasticity model (ARCH) was applied in this study to verify the asymmetry impact of Lebanese news on BSE volatility. The ARCH model developed by Engle (1982) is represented by the following equation:

$$\sigma_t^\delta = C_0 + \beta_1 (|e_{t-1}| - \gamma e_{t-1})^\delta + \beta_2 \sigma_{t-1}^\delta + a_3 BN + a_4 GN \quad (5)$$

The added value of ARCH model is the studying of long memory effect through δ which arises when the effect of volatility shock declines slowly.

RESULTS AND DISCUSSION

Descriptive results

The initial analysis of this study explored the BSE stock index and all the selected Lebanese news from January 2005 to December 2014. In Figure 6, the “x” and “o” dots represent respectively the positive and the negative Lebanese political news in each day.

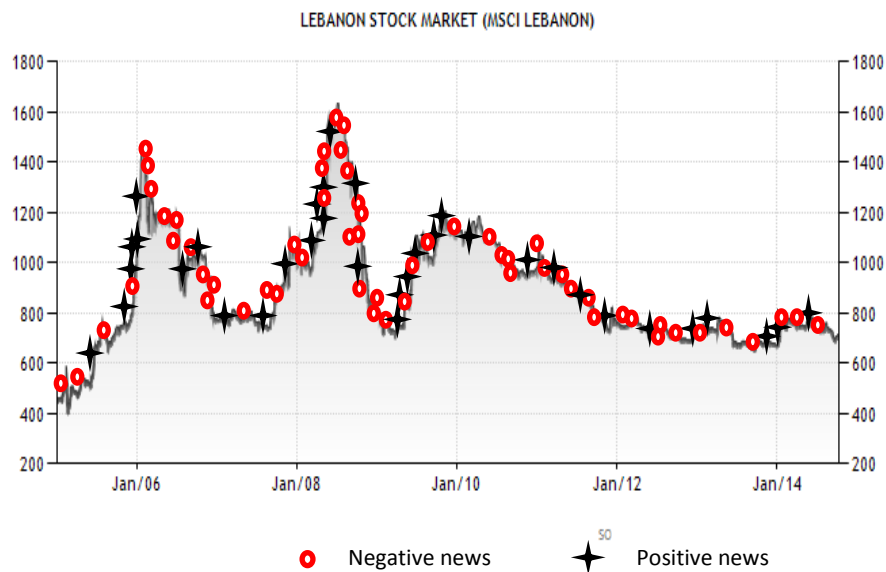


Figure 6. Selected positive and negative Lebanese news based on Lebanon stock market returns.

From the majority of observations in Figure 6, it can be noticed that the stock index return is related to the type of Lebanese political news. The rising of stock index return is associated with positive news, while its decline is associated with negative political news. In some cases this relationship wasn't valid such as the last armed conflict (September, 2014) between Lebanese army and (ISIL) Daesh⁶ group in Aarsal⁷. Opposite to the market expectation we witnessed during the end of September 2014 a positive market reaction (+1.56%).

Table 1 (Panel A) reports the descriptive statistics of BSE returns from January 2005 to December 2014. The results indicate a negative impact of bad political news on BSE returns and a positive impact in the case of good political news. The number of selected

⁶ Islamic State of Iraq and Syria. The group's aim is the establishment of Islamic state in the region.

⁷ Region in Lebanon beside the Syrian border.

negative news (198) reflects the fragile and the critical situation in Lebanon. For the political analysts: «the future for Lebanon is gloomy in terms of its stability, economy and national unity» (Daily Star, March 7 2014)⁸. The results in panel B indicates a non-normal distribution of BSE returns during the studied period. The value of Kurtosis is extremely large (above than 1.5) and the value of skewness is low (less than 0).

TABLE 1

Return and Political Descriptive Statistics

Panel A

<i>Type of political news</i>	Number of observations	Mean of BSE Returns	Standard deviation of BSE Returns
<i>Positive political news per day</i>	96	0.0029	0.0112
<i>Negative political news per day</i>	198	-0.0046	0.0134
<i>Total political news per day</i>	294	-0.0037	0.0121

Panel B

<i>Minimum BSE returns</i>	-0.0822
<i>Maximum BSE returns</i>	0.1013
<i>Mean BSE returns</i>	-0.0023
<i>Standard deviation BSE returns</i>	0.0143
<i>Skewness</i>	-1.0221
<i>Kurtosis</i>	14.6673

TABLE 2

Comparison between Positive and Good News

Mann-Whitney U	512.000
Wilcoxon W	2340.000
Z	-4.257
Asymp. Sig. (2-tailed)	.000

The non-normal distribution leads to the use the non-parametric (Mann-Whitney) test to compare the impact of positive *versus* negative political news. The results in Table 2

⁸ <http://www.dailystar.com.lb/News/Analysis/2014/Mar-07/249519-bleak-future-for-lebanon-as-syria-war-enters-fourth-year.ashx>

indicate that the market returns are different between good and bad political news at 95% confident level. The negative political news has a higher impact on Lebanese market returns.

Concerning the Lebanese market volatility (σ^2), the results in Figure 7 reveal high level of fluctuation for BSE returns. It seems that the critical situation in Lebanon during the studied period, especially 2005, 2008 and 2012 caused high level of volatilities.

At the beginning of the studied period and after the assassination of PM. R. Hariri (2005) a moderate volatility was found followed by stable fluctuation. During 2008, a second wave of fluctuations appeared at the pick to get a normal situation until 2012. During 2012, a third wave of volatility was detected due to the critical situation especially after the assassination of top intelligence Chief Wissam El-Hassan. After 2012, a low level of volatility was detected to the end of the studied period (December 2014).

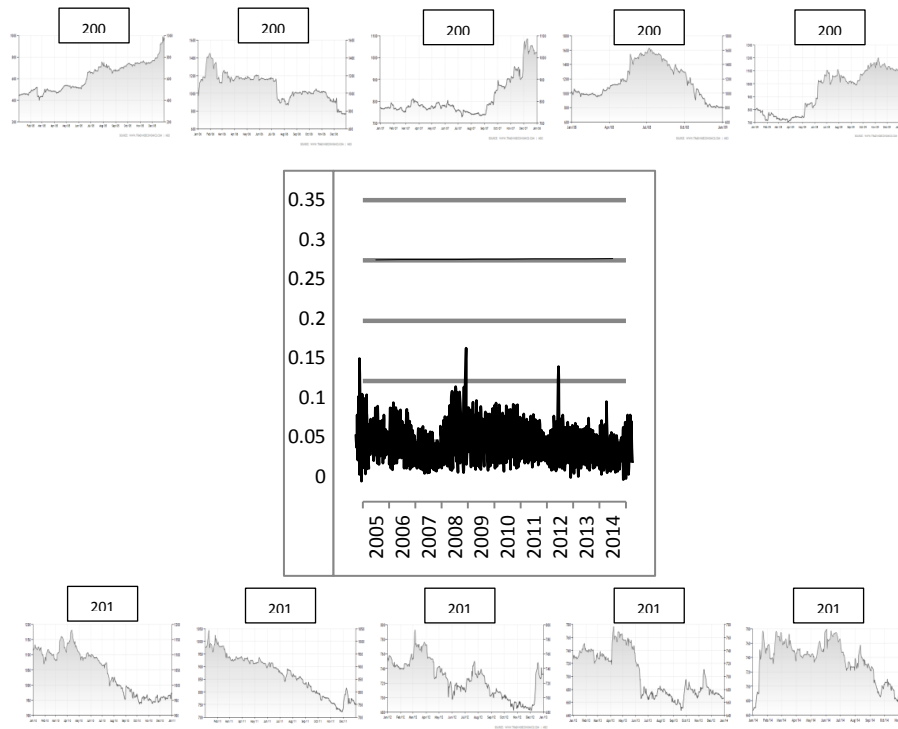


Figure 7. BSE volatility between 2005 and 2014.

ARCH, GARCH and EGARCH results

To test the impact of Lebanese political news on BSE returns and volatilities, ARCH, GRACH and EGARCH models have been applied by using two dummy variables (BN) for bad political news and (GN) for good political news. The dummy variables were added to explore the impact of good and bad political news.

TABLE 3

Analytical Results of ARCH, GARCH and EGARCH Models

	(1)GARCH(1,1)	(2)EGARCH	(3)ARCH
Mean R_t			
α_0	0.0006 (0.198)	0.0007 (0.224)	0.0003 (0.465)
α_1	-0.0564 (0.803)	-0.0413 (0.381)	-0.0400 (0.655)
α_2	0.0352 (0.201)	0.0381 (0.272)	0.0267 (0.199)
α_3	-0.0045** (0.012)	-0.0051** (0.013)	-0.0047** (0.012)
α_4	0.0021** (0.013)	0.0019** (0.017)	0.0022** (0.015)
Variance σ_t^2			
a_0	-11.466*** (0.000)	-0.9202 (0.000)	0 (0.339)
a_1	0.0697*** (0.000)	---	---
a_2	0.6115*** (0.000)	0.8022*** (0.000)	---
a_3	1.8959** (0.010)	1.4449** (0.011)	0 (0.669)
a_4	1.0065** (0.013)	1.1363* (0.064)	0 (0.301)
γ	---	0.1255*** (0.001)	0.3091*** (0.000)
τ	---	0.0403 (0.269)	---
δ	---	---	2.4453*** (0.000)
β_1	---	---	0.0892*** (0.000)
β_2	---	---	0.6988*** (0.000)
Log Likelihood	3662.55	3578.42	3502.56

T-statistics are provided in parentheses. *, **, *** denote significance at 10%, 5% and 1% level, respectively.

The results in Table 3 indicate that both bad and good political news have significant impacts on BSE returns (R_t). The unfavorable political news has a negative significant impact at 95% confidence level while the favorable political news has a positive significant impact at 95% confidence level. Similar findings were discovered in many studies. This first evidence confirms that Lebanese political news (favorable and unfavorable) has a direct impact on the returns of local financial market. Kongprajya (2010) revealed the same

results regarding the impact of political news on Thai stocks market before and after the military coup during 2006. Wang & Lin (2009) also found a similar interaction between political news and Taiwan stock exchange returns.

The magnitude of impact appears more developed for unfavorable news than favorable news (around + 0.002 for positive news and around -0.0047 for negative news) in GARCH, EGARCH and ARCH models. In GARCH model the impact of positive news is 0.0021 while the impact of negative news is -0.0045. The results in EGARCH model are respectively 0.0019 and -0.0051 for good and bad political news. The results of ARCH model are consistent with GARCH and EGARCH models. In ARCH model the favorable news has a positive impact (0.0022) while the unfavorable news has a negative impact (-0.0047). These findings confirm the Mann-Whitney test (Table 3) which reveals a difference in term of impact between positive and negative news. It's very important to note that all the detected results are stable in term of significance, value and sign which reveal high level of reliability and consistency regarding the returns impact.

The results of variance (σ_t^2) in GARCH and EGARCH models reveal positive impacts of unfavorable and favorable Lebanese political news on BSE volatilities. The coefficients (a_3 and a_4) of bad and good political news are positive and significant at 95% confident level in GARCH model. The impact of good political news is significant at 90% in EGARCH model. It can be confirmed that the Lebanese political news announcements have a significant effect on BSE volatility and this may be the results of more transparent and less surprising content of news.

The values of a_3 and a_4 ($a_3 > a_4$) in both GARCH and EGARCH models also indicate that bad political news has a higher impact on volatility than good news. The analytical analysis of γ indicates a positive and significant value at 95% confident level, which confirms that the Lebanese negative news increases volatility more than good news. It seems that BSE investors are pessimistic when the market goes down after a political shock which leads them to ignore the historical data while placing too much importance on unfavorable opinions and events. For Shefrin and Statman (1985) avoiding regret and seeking pride affect people's behavior and lead them to be less predisposed to support loss.

Furthermore, the positive value of δ indicates a long memory of volatility which indicates that the effect of volatility shock declines slowly. This analysis is also confirmed by the summation of a_1 and a_2 (less than 1). Finally, the log-likelihood values (>3500) reveal a high level of suitability for the three used models (GARCH, EGARCH and ARCH) to explain the impact of political news on BSE returns and volatility. The GARCH model appears as the most preferred model according to log-likelihood result.

The global results from these analyses imply that BSE returns and volatility respond to the political news. Consequently, the hypotheses of this research (H_0 , H_1 , H_0-1 , and H_1-1) are confirmed in the Lebanese financial market. Moreover, it seems that BSE returns and volatilities are more sensitive to bad political news than good political news. The critical situation in Lebanon makes the investors more sensitive to unfavorable news which leads them to retire their investments to other countries and markets after any political shock. The Lebanese economy is open and very sensitive to the political conditions surrounding it.

At the same time it is possible to say that the financial regulations and institutions in Lebanon play a positive role by mitigating the negative impact of bad political news. The

bank based financial system used in Lebanon and the implications of Lebanese banks in BSE reduce the liquidity risks and guarantee a minimum amount of funds available for investments.

The results in Table 2 confirm the above reasoning by detecting a maximum value of -0.5% ⁹ after the release of bad news. The non-significant value of τ reveals the absence of magnitude effect of unfavorable Lebanese political news on BSE volatilities. The negative indicator is alarming but it would not be dangerous in itself if it will be protected by the intervention of intelligent financial strategy based on banks financial system. The study of Odhiambo (2010) has revealed the same result by discovering a positive relationship between financial bank system and stocks market development. Chen and Siems (2003) have also confirmed that the existence of a stable financial sector is needed to promote market stability by providing liquidity.

CONCLUSION

In light of the actual Syrian civil war and after the assassination of PM. R. Hariri on February 2005 the Lebanese economic situation has faced many challenges. The observed failure of tourism seasons, the rise in industrial imports, the slowdown of real estate sector and the deterioration of the trade and agriculture sectors have affected all the economic indicators. According to economists, the actual growth rate of GDP in 2014 was less than 2% and the balance of payment was negative.

Through this paper we tried to spot the light on the Lebanese political situation and its impact on the BSE returns and volatility. The generalized autoregressive conditional heteroscedasticity (GARCH), the exponential generalized autoregressive conditional heteroscedasticity (EGARCH) and the autoregressive conditional heteroscedasticity (ARCH) were used to determine the impact of Lebanese political news on stocks returns and volatility. The implementation of (EGARCH and ARCH) models was to capture the asymmetric effect of Lebanese political news. Thus, two dummy variables (BN: bad news and GN: good news) were introduced to measure the impact of unfavorable and favorable Lebanese political news.

By using 294 (news/day) from 2005 to 2014, the results indicate that the unfavorable Lebanese political news have significant negative impacts on BSE returns while the favorable news have significant positive impacts. Additional analysis shows that both favorable and unfavorable political news have positive impacts on BSE volatilities. As the Lebanese economic indicators, it seems that the political crises in Lebanon have a significant impact on the investors that appear very sensible to any political news.

All the results from (ARCH, GARCH and EGARCH) models also indicate that the BSE investors are more sensitive to the unfavorable political news. The exploration of (BN) and (GN) variables reveal a higher impact of unfavorable news on BSE returns. The high

⁹ The 0.5% is considered acceptable by comparing the politic crises in Lebanon with the politic crises in MENA region such as Egypt (January 2011) and Saudi Arabia (March 2015). The detected impacts were -1.184% and -1.06% for Egyptian exchange (EGX) and Saudi Arabia Stock Exchange (Tadawul), respectively. Sources: <http://www.egx.com.eg/arabic/homepage.aspx>. and <http://www.tadawul.com.sa/>

level of risk adverse and the emotional sensitivity due to the instable situation in Lebanon lead the investors to sell their portfolios after any unfavorable political news. It can be argued that the BSE investors take more risk and sell the under evaluated stocks to avoid more losses than to realize gains. Psychologically, the investors in the Lebanese financial markets overestimate risks and they don't exaggerate their abilities to control events. Hence they sell their stocks to avoid risks.

Finally, it was found that the actual financial system plays a positive role by mitigating the impact of unfavorable political news. A maximum impact of -0.5% in the case of bad political news reveals the positive implication of the Lebanese financial system as one of the most important pillars during the worst economic times driven by domestic and regional political uncertainty.

The current results are exploratory due to several limitations. The first limitation is associated to the analysis of BSE data. We considered in this study that BSE volatility resulted only from political news while it can be affected from macro and micro economic news. The second limitation is related to the selected political news. Some selected political news may be viewed as insignificant for the investors. We also ignored the endogeneity problem between BSE volatility and political news that occurs due to loop of causality between dependent and independent variables.

The findings of this research are important but they could be developed over a longer period of time to compare the impact of political news on BSE returns and volatility before and after 2005, the date of PM Hariri assassination. Finally, the analysis can be improved in a future research study by considering some macro and micro economic indicators.

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