



Impact of Political Factors on Stock Market Development: *With Special Reference to Colombo Stock Exchange*

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ABSTRACT

Stock market development is imperative for economic development. Although most of the growing economies are endowed with growing stock markets, due to prevailed unfavorable political condition in Sri Lanka, Colombo Stock Exchange (CSE) remained underdeveloped during the pre-war period. However, due to peaceful political environment created in post-war period, CSE reported a robust growth. Nevertheless, despite the impressive political environment change emerged, the stock market growth was not sustained after 2012. Therefore, the constraints for stock market development remain unclear. Thus, this study examined the impact of political factors on stock market development in Sri Lanka using a multiple regression analysis over the monthly data between 2002 and 2014. Stock market turnover was used as the proxy of stock market development whereas explosions, fatalities in terrorist violence, politically motivated assassinations, defense expenditure and elections were used as the key political factors.

The results suggest that all political factors except elections influence the stock market development. More precisely, explosions, fatalities in terrorist violence, politically motivated assassinations and defense expenditure have curtailed the stock market development in Sri Lanka. Further, defense expenditure and explosions were identified as the most influencing political factors to the stock market development in Sri Lanka.

Accordingly, to develop CSE, policy makers can implement policies to stabilize political environment and attract more local and foreign investors to CSE. Moreover, policies can be implemented to have a peaceful environment within the country while reducing defense expenditure.

KEYWORDS: *Political factors, Sri Lanka, Stock market turnover*

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1. Introduction

Stock market development signals the future trend of the economy (Adenuga, 2010). Further, it works as an indicator of the overall health of the economy. Emerging stock markets in the world have attained considerable development since the early 1990s. For example, the market capitalization of emerging markets like India, Philippines, Indonesia etc. has doubled over the past decade (Yartey, 2008). However, most of previous studies ignore the impact of political environment to stock market development.

Compared with the developed economies, most emerging economies do not have a well-functioning stock markets (Feldman and Kumar, 1995). Recent studies have identified high transaction cost, high return volatility, poor information structure etc. as major efficiency issues in emerging stock markets (Abdulrahim, 2011, Adenuga, 2010, Adjasi and Biekpe, 2006, Kuwornu, 2012). In most emerging stock markets, only a few stocks account for a considerable part of the total market capitalization (Patel and Sarkar, 1998). Because of these actively traded shares, serious informational and disclosure deficiencies occur for other stocks. Further, there are weaknesses in the transparency of transactions on these markets (Henry and Kannan, 2008). Further, firms in emerging stock markets do not have a long enough track record to form a reputation (Yartey, 2008). Moreover, share prices in emerging markets are considerably more volatile than in developed markets (El-Erian and Kumar, 1995). Thus, it is unclear whether emerging markets respond similarly to economic and political environments like developed markets.

During the latter half of the twentieth century an increasing number of stock markets such as the stock markets in Colombia, Georgia, Iraq, Lebanon, Nepal, Nigeria, Palestine, Pakistan, and Sri Lanka were exposed to political conflicts and civil war (Abeyratne, 1998, Bardhan, 1997). Performances of these stock markets were consequently deteriorated. Thus, these markets have experimented with different policies and plans such as demutualization of the stock markets, amend SEC act, implementation of risk management system, development of unit trust industry, develop infrastructure like broker back office systems; to improve the performances.

Politically stable economies provide strong foundations for stock market development while political instability results in reduced investments (Roe and Siegel, 2011). Political instability has two dimensions (Carmignani, 2003). The first dimension includes socio-political unrest such as mass violence, politically motivated assassinations, riots and revolutions. Second dimension of political instability includes events, such as government terminations and electoral surprises. Such activities have adversely affected to the economy and the stock markets. Malik et al. (2009) found that political events substantially influence the trading volume and stock return. Further, stock prices decline when un-pleasant political events like terrorist attacks occur (Aktas and Oncu, 2006, Ramiah et al., 2008).

During past three decades, Sri Lankan economy was interrupted by the civil war which caused economic and political instability. However, post-war Sri Lankan economy is quite contrasting to pre-war Sri Lankan economy. Remarkable infrastructure developments such as road development, telecommunication and electricity sector developments, airport development, harbor development and stimulus development of North and East Provinces started when the political climate became conducive after the war.

Sri Lankan stock market boomed just after ending of the three decade long civil war. For example, in October 2009, the market capitalization at CSE reached to the LKR one trillion for the first time in CSE history. Further, with 125 percent growth, CSE was recognized as the second best performing stock market in the world in 2009. All Share Price Index (ASPI) reached to 3549.27 points in January 2010 establishing a new record. Over 24 years from 1985 to 2009 ASPI has gained only 1400 points while it gained 2850 points in three and half years after the ending of war. However, stock market development as indicated by ASPI declined from 7800 in February 2011 to 6000 points in December 2011. Meanwhile, the average daily turnover declined from LKR 3.5 billion in February 2011 to mere 0.8 billion in December 2011.

Stock market capitalization as a share of GDP is one of the most commonly used measures of stock market development in cross-country comparisons. When compared to other Asian region countries, market capitalization of CSE is still only a 30 percent of the GDP while market capitalization relative to GDP in India, Thailand, Philippines, Malaysia and Singapore are 53 percent, 77 percent, 87 percent, 160 percent and 250 percent respectively. Thus, CSE is not exploiting the full potential of the stock market to support economic development. In other words, still there are huge numbers of potential investors which has not yet been attracted by the CSE.

2. Research Problem and Objectives

Being an emerging stock market in the world, CSE has gained considerable attention of investors, policy makers and academics. This is mainly due to the post-war development of the CSE. Consequently, the changes occurred

in political environment in Sri Lanka also gained higher attention of above parties. Economic environment in Sri Lanka has not changed considerably due to the war. For example, the pre-war average GDP growth from 2002-2008 in Sri Lanka was 6.4 percent and after the war, from 2010-2014 average GDP growth is only 7 percent. Thus, it is clear that during the period of 2002-2014, even though political environment changed considerably with the end of the war, economic environment remains substantially unchanged. However, Sri Lankan stock market returned back to its pre-war stagnant status within a short period of time. Thus, it is unclear how Sri Lankan stock market responds to political environment during pre-war and post-war periods. Moreover, it is quite puzzling why a country with a substantial economic growth and reasonable degree of political stability endows such a stagnant stock market. Therefore, an enormous challenge is vested in the policy makers in developing strategies aimed at financial deepening in Sri Lanka. This provides an important rationale for investigating the impact of political factors on the stock market development in the Sri Lanka. Therefore, this study addresses **do political factors affect stock market development?**

To this end, this study aims to,

- 1) Assess the stock market development in Sri Lanka.
- 2) Investigate the impact of political factors on stock market development in Sri Lanka.

3. Literature Review

The relationship between political environment and stock market development has been frequently investigated in the recent literature (Perotti and Van Oijen, 2001, Schneider and Troeger, 2006) as political environment has a substantial influence on the stock market (Aquino, 2006). Political instability is a situation in a specific country where the political system experiences tensions. This situation appears in terms of terrorism activities, wars, turmoil, elections, or other events that can cause tension in the political regime. Political instability affects stock market development by creating an unstable economic environment which leads to shorten investors' confidence. It also leads to a more frequent switch of economic policies, and thus, negatively affects stock market development through return fluctuations (Alesina et al., 1996). In contrast stable political environment increases investor confidence while lowering market risk. Consequently, equity investment becomes attractive given the higher returns and reduced risk (Perotti and Van Oijen, 2001). Thus, favorable political environment improves the stock market performances while unfavorable political environment demolishes the performances (Chan and John Wei, 1996). Therefore, political stability can determine the attractiveness of stock market investment and hence the degree of stock market development.

Return fluctuations of stock markets are strongly related with political risks (Bilson et al., 2002). Zach (2003) reveals that, returns on stocks move towards extremes on days that follow political events than other days. Further, Benton (2008) observed a negative reaction from investors for political events. For example, when political events such as war, elections etc. are occurring, stock market investments would be reduced due to uncertainty. Interconnection between business and politics, is the major reason for this return fluctuation (Ali et al., 2010). Erb et al. (1996) show that expected returns are positively related to the magnitude of political risk. Accordingly, lower level of political risk results in lowering the required stock returns and vice-versa. Thus, political risk can be identified as priced factor which investors are rewarded and it strongly affects the stock market returns, creating implications for stock market development.

Terrorism is one of the crucial political factors which influence on business continuity (Chesney et al., 2011). The term terrorism means premeditated, politically motivated violence perpetrated against noncombatant targets by sub-national groups or clandestine agents, usually intended to influence an audience (Bird et al., 2008). In the context of war, the risks of terrorist attacks on businesses and other organizations are likely to remain on the agenda continuously. Terrorism potentially affects investors' sentiment and thereby generates a negative impact on the stock prices (Shiller, 2003). Karachi Stock Exchange stock returns which demonstrate that the largest stock market of Pakistan KSE-100 index have negative relationship with Terrorism (Bilal et al., 2012). Further, Eldor and Melnick (2004) and Chesney et al. (2011) have also found negative relationship between terrorism and stock returns. Moreover, terrorist attacks affect the infrastructure and systems of a country. Hence, investor mood and interests are diverted by such activities. Johnston (2005) state that terrorist activities cause heavy damage to property and other systems including communication. This, in turn, forces investors into a defensive mood where they are reluctant to invest due to the prevailing uncertainty.

Defense expenditure is another important political factor which affects economic development and thereby stock market development (Hirmissa et al., 2009). Defense expenditure can influence an economy both positively and negatively. For example, defense expenditure can affect an economy positively through an expansion of aggregate demand or through increase security (Hassan et al., 2003). The increase in aggregate demand causes to increase the capital stock in the society, which leads to higher profit and induce higher investment. Thus, it affects stock market positively through raising stock returns upwards. On the contrary, arguments equally

suggested a negative relationship between defense spending and economic growth (Heo, 1996). Diversion of resources away from private and public sector development projects to military purposes would impede long-term economic productivity and hence, business profits. Defense spending is financed by taxation and hence, it reduces the amount of resources available to the public sector investments and infrastructure developments. For example, less developed countries spend about three percent of their GDP on the military while developed countries spend over four percent of their national income. However, according to Bhatia (1987), diversion of resources from productive constructions to military buildup, increased foreign debt, and balance of payment deficits resulting from capital intensive military imports are some negative effects of defense expenditure. Ward et al. (1993) suggested that increases in defense spending discourage both consumption and investment activities as it leads to increase taxes, budget deficits and interest rates, thereby negatively affects on stock market development. Therefore, defense expenditure should be controlled carefully as it has both negative and positive effects on stock market development.

Electoral uncertainty is another important political factor which affects government policies and its administration and thereby economic performances. Jensen and Schmith (2005) revealed that electoral uncertainty increases the stock market volatility. Pantzalis et al. (2000) also conclude that the stock returns in the weeks preceding the political elections are abnormally higher than usual. They also found more significant results for countries which have high media restrictions. Benton (2008) found that investors react negatively to electoral uncertainty, while no significant move is found after electoral commitments of the candidates. Two major reasons can be identified for negative relationship between electoral uncertainty and stock market development (Durnev, 2010). First, investments and elections are associated with uncertainty about future government policies, which leads to lower the information quality of stock prices. A decrease in information quality is therefore expected to lower the sensitivity of investment to prices. Second, the information contained in stock prices is less relevant during the election periods as investment is often politically motivated and hence stock prices have less room to guide investment decisions. In turn, electoral uncertainty affects investment efficiency and company performance by reducing quality and relevance of information on stock prices which leads to reduce stock market development.

4. Methodology

The political environment and stock market development were taken as the explanatory variables of this study. A number of studies have attempted to assess the relationship between the development of stock market and political stability (Zach, 2003, Perotti and Van Oijen, 2001, Pantzalis et al., 2000, Niederhoffer, 1971, Klomp, 2009). Political instability is generated by electoral uncertainty. Uncertain prospects of elections motivate politicians to engage in short sighted economic policies. This leads to inefficient paths of public expenditure, deficit and debt accumulation, distorted investment decisions and ultimately low economic growth (Carmignani, 2003). Events such as explosions, fatalities in terrorist violence, politically motivated assassinations, defense expenditure, riots and revolutions have been frequently taken as indicators of national security (Gul et al., 2010, Carmignani, 2003, Bilal et al., 2012, Abeyratne, 2004). Sri Lanka has been spending substantially high amounts of resources on national defense. Further, it is argued that military expenditure has hindered the economic growth and development (Kelegama et al., 2000). Stock market turnover is a commonly used proxy for stock market development in terms of liquidity. The turnover measures the ratio of the value of total stocks traded to market capitalization. Many analysts use the stock market turnover as a measure of transactions costs (Adenuga, 2010, Charkravarty, 2005, Yartey, 2008). Higher turnover ratios indicate higher efficiency (Cherif and Gazdar, 2010).

Accordingly, political stability and national security were taken as indicators of political environment. The study draws upon the monthly data during 2002 and 2014 published by the Colombo Stock Exchange (CSE), Department of Elections, Stockholm International Peace Research Institute's (SIPRI) defense expenditure database and South Asian terrorism portal. To measure the impact of elections on stock market, pre and post conditions of the elections during five months have been considered and data were collected from department of elections. The month of the election held was coded as three while the immediate preceding and following months were coded as two. Moreover, the next immediate preceding and following months were coded as one. Further, number of explosions, fatalities in terrorist violence, politically motivated assassinations were taken as proxies of national security and data were collected from the South Asian terrorism portal database. Further, defense expenses were taken as another proxy of national security. Since monthly data on defense expenditure was not available, annual defense expenses collected from SIPRI military expenditure database were interpolated to get monthly data. Stock market development was used as the dependent variable of this study and stock market turnover were used as the proxy of stock market development. Data were collected from the CSE data library (2014).

Recent trends of political factors and CSE were analyzed using exploratory data analysis techniques. Further, the regression model illustrated in equation one was used to investigate the impact of political factors on development of CSE.

$$\ln(\text{SMD}) = \alpha + \beta_1 (\text{EL}) + \beta_2 (\text{EX}) + \beta_3 (\text{FA}) + \beta_4 (\text{AS}) + \beta_5 \ln(\text{DE}) + \beta_6 \text{lag}(\ln \text{SMD}) + \varepsilon \text{-----}(1)$$

Where, α denotes the constant and β_1 to β_6 denotes coefficients to be estimated while EL, EX, FA, AS and DE denote elections, explosions, fatalities in terrorist violence, politically motivated assassinations and defense expenditure respectively. Further, SMD is the stock market development indicator covering stock market turnover (SMT) and ε denotes the error term. Moreover, in this study lag values SMD were used to capture the time series effect. The data used for the regression model covers the 13 year period from 2002 to 2014.

The data were screened for missing values and violation of assumptions prior to regression analysis. To have unbiased and consistent regression results, normality was tested via normal P-P plots. Variance inflation factor (VIF) and Durbin Watson (DW) test was used to detect Multicollinearity and autocorrelation respectively. Finally, homoscedasticity of the residuals was visually analyzed by using a scatter-plot of predicated values vs. residuals.

5. Results and Discussion

Inception of share trading under the Colombo Share Brokers Association in 1896 can be identified as the origin of the stock market activities in Sri Lanka. The establishment of a formal stock exchange in 1985 and the incorporation of the Colombo Stock Exchange marked a milestone in the history of share trading in Sri Lanka. The CSE is a company limited by guarantee, and was established under the Companies Act No. 17 of 1982. At present, 291 companies representing 20 business sectors have been listed in CSE. Transactions of the CSE are conducted with a completely automated system which was introduced in 1997.

After the war against terror in May 2009, CSE has grown at a considerable rate. However, development in CSE was not sustained. For an example, the ASPI increased from 500 points in 2002 to 2500 points in mid 2005 and declined to 2000 points in 2006. A remarkable boom in ASPI can be observed after May 2009. ASPI reached to 7800 points, the highest ASPI in CSE history, in February 2011. In May 2012, ASPI declined to 4800 points. Further, market capitalization as a percentage of GDP was barely 5 percent in 2002 and was around 25 percent by the end of 2009. Market capitalization as a percentage of GDP surpassed 100 percent in February 2011. Nevertheless, market capitalization came down again to 25 -30 percent level in 2013. This downturn in MCR is parallel to the behavior of ASPI which was coming down from 7800 points to below 5000 points during this period. The average market capitalization of CSE is only 30 percent of the GDP. The regional average is over 160 percent whereas the world average is over 70 percent. This clearly shows that as an undervalued market, CSE is not exploiting the full potential of the stock market to support the financing needs of the corporate sector.

Stock market turnover has increased from 11 percent in 2002 to 28 percent in 2005 and in early 2009 it had declined almost to 18 percent. In 2010, again SMT reached to 38 percent, showing more investors engaged in trading in the market during that period. For example, there were 702,838 Central Depository Accounts and 64,792 active investors in the CSE by the year 2012. However, in 2013 stock market turnover reports only a 9 percent showing a dramatic decline and inefficiency in CSE activities. During the period of 2002 and 2005, 25-35 percent foreign trades took place. Interestingly, the sudden increase of nearly 87 percent in foreign trades took place in April 2008 had declined dramatically to a level of 18 percent in the following month. Nevertheless, still foreign trade turnover contributes only a level of 30 percent to the stock market turnover in CSE. Thus, overall domestic and foreign stock turnover shows a low liquidity in the CSE which could turn out due to market inefficiencies.

According to the stock market development indicators; namely ASPI, stock market capitalization and stock market turnover, before 2009 CSE remained as an underdeveloped stock market. During 2002-2009 only 36 companies and 151,945 CDS accounts were newly listed in the CSE. Further, only 101,602 local individual investors were registered for new securities accounts during that period. Moreover, during 2002- 2009 total stock market turnover was only LKR 741 billion and total domestic and foreign turnover was LKR 506 billion and LKR 234 billion respectively. More precisely, after 2009, CSE reported a considerable growth. For example, during 2009-2013, 60 companies and 232,687 CDS accounts were newly listed in the CSE. Moreover, 179,066 local individuals were registered for new securities accounts during that period. As a result of that, market capitalization of CSE was increased in a considerable manner. Further, during 2009 - 2011 very sharp increase was recorded in the stock market turnover. During 2009-2013, LKR 1240 billion domestic stock turnover and LKR 290 billion foreign stock turnover in the CSE was reported. However, from the year 2012 it

seems a considerable drop in the CSE development. For example, annual turnover of CSE and market capitalization ratio were considerably dropped in 2012 and 2013.

Table 1 shows the regression results of the study. Normality of the data was assessed by using a P-P Plot and the close concentration of data points to the line provides the evidence of meeting the normality assumption satisfactorily. Constant distribution of variance (Homoscedasticity) was checked by using the scatter plot of residuals drawn against predicted values. The pattern-less or directionless distribution of residuals confirms that data are distributed with a constant variance depicting the homoscedasticity condition and hence, the second assumption is also met by the data. The Durbin-Watson statistic of 1.735 proves that the model is free from serious autocorrelation. Multicollinearity effect was tested with Variance Inflation Factor (VIF). Accordingly, there is no serious multicollinearity effect in data. Thus, the regression equation with the stock market turnover was significant, ($R^2 = .531$, $F(6, 143) = 683.35$, $p < .001$). This suggests that 53 percent of the variation of SMT can be explained by the explanatory variables.

Table 1: Coefficients of regression analysis with SMT

	B	Std. Error	t	Sig.
(Constant)	-23.734	2.246	-23.223	.000***
Elections (EL)	-.059	.020	-5.364	.260
Explosions (EX)	-1.373	.113	-1.752	.000***
Fatalities (FA)	-.578	.098	-3.756	.000***
Assassinations (AS)	-.245	.031	-1.437	.001***
Defense expenditure (DE)	-1.968	.174	-8.710	.000***
Lags(Log Stock Turnover) (In SMT)	.126	.075	6.468	.000***

Note: dependent variable is Stock Market Turnover (SMT)
 The symbol (***) indicates the statistical significance at 99 level.
 $R^2 = .531$, $DW = 1.735$

Explosions significantly predicts SMT ($\beta = -1.373$, $p < .001$). Every one unit increase in EX, ceteris paribus, result in -1.373 percent decrease in SMT. When there is a higher number of explosions occurred in the country, a considerable impact could be created on the investment behavior of domestic and international investors. Thus, this might be a reason for the negative impact of EX on SMT identified above.

Results indicate a statistically significant negative coefficient ($\beta = -.578$, $p < .001$) for FA. This demonstrates that when FA increases by one unit, ceteris paribus, the SMT decreases by 0.827 percent. Thus, whenever the fatalities from the terrorist violence increases, a negative trend in the stock market turnover can be observed.

In this study AS significantly predicted SMT ($\beta = -.245$, $p = .001$). Every one unit increase in AS, ceteris paribus, results in 0.245 percent decrease in SMT. Hence, whenever the politically motivated assassinations increases, a negative trend in the stock market turnover can be observed.

During the last three decades, Sri Lankan government has invested a considerable amount of money on national security because of the civil war. Hence, annual defense expenditure has also increased in a considerable manner and DE has affected negatively on the economic development of the country. Sri Lankan capital market also suffers with this and has affected the development of CSE. Regression results of this study also provide evidence for that with the significant negative coefficient for defense expenditure. Accordingly, it was found that DE significantly predicts SMT ($\beta = -1.968$, $p < .001$). Every one percent increase in DE, ceteris paribus, results in 0.984 percent decrease in SMT.

Further, Lag SMT also significantly predicts SMT ($\beta = .126$, $p < .001$). Every one percent increase in previous month SMT, ceteris paribus, results in 0.126 percent increase in SMT. Continuous improvements in stock market turnover indicates the development of stock market. Thus, investors motivated to invest in stocks and as a result further improvement in SMT can be observed. It reveals that in short-run, previous month's stock market turnover considerably influence to the investment decision.

In this study EL was not statistically significant ($\beta = -.059, p = .260$). During the sample period any significant change in the political stability could not be identified. Further, major policy changes in the political environment could not be observed during the sample period. This may be the major reason for this statistically insignificant relationship.

6. Conclusion and Recommendations

Stable political environment is essential for the stock market development. Due to peaceful environment in the country there has been a remarkable increase in the stock market operations. The rapid increase of the market capitalization is due to the listing of new companies in the stock market could be observed in post-war phase in Sri Lanka. Further, stock market liquidity increased due to more investor participation in the post-war phase of the country.

Interim developments of CSE could be observed during the ceasefire period and just after the war. During the pre-war period CSE was in a bearish phase and just after the war CSE moved to the bull phase. However, the development was not sustained and at present CSE is in a stagnant phase.

Significant differences in political environment occurred in the post-war period caused the temporary improvements in CSE by changing investors' mind. On the other hand, political stability itself could not contribute to the sustainable growth in stock markets. Stock market development is determined by both economic and political factors. Sharp increase in stock market indexes like ASPI, MPI etc. immediately after the war, signals positive impact of peace on the stock market development. Thus, stock market development can be improved by creating a secured investment environment. However, continuous increases in defense expenditure affects negatively to stock market development as it indicates the instability of political environment. Even though in post-war phase CSE has achieved remarkable growth in terms of market capitalization and liquidity, it is still tiny relative to GDP in comparison to the other countries like Singapore, Malaysia, Philippines, India etc.

This research has three main implications. Firstly, policies can be implemented to have a peaceful environment within the country while reducing defense expenditure. This will have a considerable impact on the development of the CSE and thus foster economic growth. Second, low stock market turnover implies the necessity of attracting new investors to the CSE. Thus, policy makers can implement policies and programmes to attract both local and foreign investors to the CSE. For example, conducting awareness programs on stock market investments, providing tax concessions for CSE investment income are some of them. Third, election periods were used as the proxy to measure the impact of political stability on stock market development. Even though in general political stability seems to be impacted on stock market development, findings of this study were not statistically significant. Thus, future researches can be used some other variable like election expenditure as the proxy of political stability.

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