The congressional effect and stock market behavior in emerging democracy: evidence from Taiwan

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Abstract

In this paper, we deal with the congressional effect between the pre- and post-democratization on the stock market by the AR(2)-EGARCH(1,1) model from February 24, 1984 to January 31, 2004. The results found that the congressional effect is negative effect on stock returns but volatility is not significant. However, the democratic effect on stock returns is negative and increased of volatility. However, the democratic effect on stock returns is negative and increased of volatility. Moreover, the congressional effect on stock market returns following democratization significantly exceeds that before democratization, but have no significant effect for the volatility in the same circumstances. These results provide evidences consistent with the contention of liberalization (Hayek (1945), (1948); Popper (1950)).

Keywords and phrases : Political uncertainty, congressional effect, democratization, volatility asymmetry, EGARCH.

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1. Introduction

Generally, politics significantly influences financial markets. Stock markets generally respond to new information regarding political decisions that may affect domestic and foreign policy. As such, market efficiency requires that stock markets absorb news and political trends into stock prices in anticipation of outcomes of political uncertainty. Positive stock returns are expected following the resolution of political uncertainty. In contrast, if the outcome of the political uncertainty does not allow investors to immediately measure the negative impact on the stock market, then the political outcome constitutes an uncertainty inducing surprise.

While political uncertainty takes different shapes, such as transition of ruling party, changes in its fiscal policy and various political events, this paper focuses on one particular kind of political uncertainty associated with congressional sessions (Michelson (1993); Lamb, Pace and Kennedy (1997); Lin and Wang (2004)). In mature democracies, legislative institutions are always important in curbing the powers of the president or premier and holding national stability (such as Congress; Parliament). Most of the uncertainty regarding major bills, budgets and other important affairs are determined through decisions by vote or political negotiation during congress sessions. Therefore, the information discharged from congressional sessions creates the ambiguous political situation to prevent investors from predicting the future of the country and revising their expectations. In contrast, the recess of congress brings a temporary end to political struggle and so should induce positive stock market return\(^1\).

Taiwan Congress, Legislative Yuan, is the top legislative institution and played an important role on the path to democratization. The last of the members elected in 1948 retired on December 31, 1991. Moreover, the 130 new members elected in 1989 wielded legislative power on behalf of the people. These developments represented an important step in the democratic reform of Taiwan. In December 1992, according to the Additional Articles of the Constitution, 161 members of the Second Legislative Yuan were elected. Moreover, in December 1995, 164 members of the Third Legislative Yuan were elected. Taiwanese democracy thus finally became firmly established.

\(^{1}\)Brown, Harlow and Tinic (1988) note that as uncertainty is reduced, stock price changes will tend to be positive on average.
Democratically elected legislative assemblies are empowered to decide by vote matters such as budgetary bills, auditing reports and other important affairs of state and moreover such assemblies can curb the powers of the president and premier. To discuss and decide upon budgetary bills and major bills is the best way for Legislative Yuan to supervise government administration. However, fewer academic researches have explored the stock market behavior during the lasting political uncertainty created by congressional disputes.

Facing changing international trends and domestic circumstances, the KMT government decided to move with the changing times and end the ban on opposition political parties. The following summer, in 1987, martial law was finally abolished in Taiwan and the process of political liberalization began. After a long and difficult and struggle, Democratic Progressive Party (DPP) ended over 50 years of Kuomintang rule (KMT) in ROC (Republic Of China) in the 2000 direct presidential election, marking the first democratic transfer of power and constructing democratic watershed in Taiwan. The development of democratically presidential elections reflected Taiwan’s political democratization and social liberalization.

Specifically addressing on the effect of democratization in Taiwan, the purpose of this paper is to investigate the response of stock market to political uncertainty during congressional sessions (Legislative Yuan) in Taiwan. Employing the Exponential Generalized Autoregressive Conditional Heteroscedasticity (EGARCH) model, we utilize stock return volatility as measures of the impact of political uncertainty during congressional period to explore the dynamic relationship between financial markets reaction and political behavior in Legislative Yuan. This paper is organized as follows. Section 2 presents the related literature. Section 3 then presents GARCH modeling of financial returns. Next, Section 4 describes the data and preliminary analysis. Moreover, Section 5 presents empirical evidence. Finally, Section 6 discusses the results and presents conclusions.

2. Literature review

The relationship between economic and politics was first analyzed by Nordhaus (1975), who developed the political business cycle to show that governments actively manage the economy, causing it to expand before presidential elections and then contract (Tufte (1978); Frey and Schneider (1978); Soh (1986)). Other studies have empirically examined
the influences of economic events on presidential election and generally found that the impact of different political structures significantly affect economic variables. For example, Bratsiotis (2000) conducted a study of Greece that found a clear difference in economic policies between leftist and rightist governments, which was eliminated when the SEA (*Single European Act*) was enforced. Moreover, Cover and VanHoose (2000) considered the political pressures that influence the credibility of monetary instrument choice and create differences in monetary policy.

Furthermore, recent research has examined market efficiency issues by examining stock market behavior responses to uncertain political events. Most empirical investigations have focused on tracking financial market movements in relation to elections (Gemmill (1992); Gwilym and Buckle (1994)). Major studies supported the presidential election cycle, in which US stock markets make larger gains in the third and fourth year of a presidential term (Niederhofer, Gibbs and Bullock (1970); Allivine and O’Neill (1980); Huang (1985); Stoken (1994)), while average returns in second year were found to be negative. Furthermore, Foerster (1994) found that US presidential election effect was repeated for Canadian stock market. Foerster and Schmitz (1997) provided evidence further that US presidential election cycle also affects international stock markets.

Other studies have focused on the stock market preference. Academic research on such subject reported that small stock perform better under Democrats relative to Republicans. (Reilly and Luksetich (1980); Lobo (1999); Santa-Clara and Valkanov (2003)). Further empirical studies examined the impact of various types of political information on stock markets (Bachman (1992); Chan and Wei (1996); Willard, Guinnane and Rosen (1996); Bittlingmayer (1998); Pantzalis, Stangeland and Turtle (2000); Kim and Mei (2001); Perotti and Oijen (2001)).

Based on the above, various political events significantly influence stock market behavior, however, only a few academic researches have explored the stock market behavior responses to congressional calendar. Michelson (1993) demonstrated that investors expect higher stock market returns when the US Congress is in recess and when a Democratic Congress and Democratic President are in power. Lamb *et al.* (1997) showed that average daily returns when the US Congress is in recess are approximately greater than those when Congress is in session. Nevertheless, they merely mention about stock return as result in ignoring the unexpected shocks of political impact reflected by stock
volatility. Therefore, the present study examines whether how stock market behavior reacts to political uncertainty, such as political disputes in Congress.

3. Methodology

3.1 The sample data

Daily data on the Taiwan Stock Exchange Value Weighted Index (TAIEX) movements from February 24, 1984 to January 31, 2004 were obtained from the Taiwan Economic Journal (TEJ). Daily stock returns were calculated as the difference in the logarithms of daily stock prices multiplied by 100. Dates when the legislative assembly was in session and in recess during the sample period were obtained from official records that contained about 46 sessions and 45 recess during the sample period.

3.2 Hypotheses

Michelson (1993), and Lamb et al. (1997) found that average daily returns when the congress is in session substantially differed from those when the assembly is in recess. As a result of expecting that congressional session would influence stock market behavior, this work establishes the following null hypothesis for empirical test and verifying stock returns and volatility:

\[ H_{1a}: \text{Congressional sessions exert no influence on stock returns.} \]
\[ H_{1b}: \text{Congressional sessions exert no influence on stock volatility.} \]

Recent studies demonstrated that market economics depend on democratization. Pantzalis et al. (2000) showed the stronger excess returns in the stock market when the alternation of ruling party appeared in the less freedom countries. Accordingly, we expected that democratization in Taiwan would lead to changes in fiscal policy and thus influence the stock market. Therefore, this study examines the effects of democratization on stock market returns to verify our second hypothesis:

\[ H_{2a}: \text{Democratization do not influence stock returns.} \]
\[ H_{2b}: \text{Democratization do not influence stock returns volatility.} \]

Finally, this paper provides an interesting hypothesis about that, after democratization, whether the uncertain information generated form
Legislative Yuan apparently impacts the stock market behavior. Such hypothesis presented by the interaction between congressional sessions and democratization describes as follows:

\( H_{3a} \): The interaction between congressional sessions and democratization does not influence stock returns.  

\( H_{3b} \): The interaction between congressional sessions and democratization does not influence stock volatility.

3.3 Modeling time-varying volatility

During the last two decades, economics and financial analysis have developed a broad class of conditional Heteroscedasticity models for capturing systematic patterns of variance over time. The first and most basic of these is the Autoregressive Conditional Heteroscedasticity (ARCH) model developed by Engle (1982) and the Generalized Autoregressive Conditional Heteroscedasticity (GARCH) model of Bollerslev (1986). Subsequently, Hentschel (1995) discusses a unified treatment of various symmetric and asymmetric GARCH models.

Asymmetric effects of good news (unexpected increase in price) and bad news (unexpected drop in price) were motivated by theoretical and empirical evidence presented by Black (1976), French, Schwert and Stambaugh (1987), and Nelson (1991), among others. Engle and Ng (1993) compare asymmetric volatility models, which allow good and bad news to exert different effects on future volatility. Engle and Ng recommend the concept of a news impact curve as a standard measure of how news effects predicted volatility.

An asymmetric response to shocks is made explicit in Nelson’s (1991) univariate exponential GARCH (EGARCH) model. Engle and Ng (1993) find the volatility asymmetry in stock market. Furthermore, the EGARCH model is that no parameter restrictions are required to insure positive variances at all times. This is important because Hamao, Masulis and Ng (1990) report that some of the coefficients in the conditional variance specification violate the non-negativity assumption.

Accordingly, the dummies are embedded in the EGARCH(1,1) model\(^2\) to detect the effect of congressional sessions and transition of

\(^2\)The GARCH(1,1) model was considered sufficiently specific to capture the conditional heteroscedasticity variance by Bollerslev (1987), Lamoureux and Lastrapes (1990), Baillie and DeGennaro (1990) and so on.
ruling party as follows:

\[ R_t = a_0 + (a_1 - a_0)D_1 + (a_2 - a_0)D_2 + (a_3 - a_1 - a_2 + a_0)D_3 + \sum_{i=1}^{m} b_i R_{t-i} + \epsilon_t \]

\[ = a_0 + a_1^* D_1 + a_2^* D_2 + a_3^* D_3 + \sum_{i=1}^{m} b_i R_{t-i} + \epsilon_t , \quad (1) \]

\[ \epsilon_t \mid \Omega_{t-1} \sim T(0,h_t) , \]

\[ \ln h_t = \tau_0 + (\tau_1 - \tau_0)D_1 + (\tau_2 - \tau_0)D_2 + (\tau_3 - \tau_1 - \tau_2 + \tau_0)D_3 + \alpha \left| u_{t-1} - E|u_{t-1}| + \theta u_{t-1} \right| + \beta \ln h_{t-1} \]

\[ = \tau_0 - \tau_1^* D_1 + \tau_2^* D_2 + \tau_3^* D_3 + \alpha \left| u_{t-1} - E|u_{t-1}| + \theta u_{t-1} \right| + \beta \ln h_{t-1} . \quad (3) \]

\( D_1 \) denotes the dummy of congressional sessions. Where \( D_1 \) equals 1 when it corresponds with Legislative Yuan being in session and otherwise equals 0. \( a_1^* \) and \( \tau_1^* \) represent the coefficients of stock market return and volatility respectively when Legislative Yuan is in session. Moreover, \( D_2 \) represents the dummy of democratization, the first transition of ruling party. \( D_2 \) equals 1 as the first transfer of presidential power to an opposition party (DDP) on May 20, 2000 and otherwise equals 0. Represented by the coefficients of stock market return and volatility, \( a_2^* \) and \( \tau_2^* \) denote the marginal effect of Democratization. Finally, the interactive dummy, \( D_3 = D_1 \times D_2 \), denotes the interaction between congressional sessions and Democratization. Respectively, \( a_3^* \) and \( \tau_3^* \) represent the coefficients of stock market return and volatility by means of implying the marginal effect of the interaction between congressional sessions and transition of ruling party.

The formulation of the EGARCH model in (3) is constructed as \( u_t = \epsilon_t / \sqrt{h_t} \). The news \( \epsilon_{t-j} \) impacts conditional volatility \( \ln h_t \). When \( p = q = 1 \), it captures an asymmetric response since \( \partial \ln h_t / \partial \epsilon_{t-1} = \alpha_1 (\theta + 1) \) when \( \epsilon_{t-1} > 0 \) and \( \partial \ln h_t / \partial \epsilon_{t-1} = \alpha_1 (\theta - 1) \) when \( \epsilon_{t-1} < 0 \). Volatility is minimized in the absence of news, \( \epsilon_{t-1} = 0 \). The lags of conditional mean returns of GARCH(1, 1) model is chosen as three by the minimum value of the Akaike information criterion (Akaike (1973)) and the Schwarz Bayesian Criterion (Schwarz (1978)). The parameters of the mean and time-varying conditional variance-covariance are jointly determined using the maximum likelihood estimation method. Since the log likelihood function is a nonlinear function of the parameters, the BHHH algorithm, proposed by Berndt, Hall, Hall and Hausman (1974), is used to obtain
the maximum likelihood estimates of the parameters in this investigation.

4. Preliminary analysis

This section presents a preliminary analysis of the Taiwan stock market. The trend of Taiwan stock market and return are shown as Figures 1 and 2, respectively. Table 1 lists the basic statistics of daily Taiwan stock market during the sample period. The statistics include the sample size, mean return, standard deviation, skewness, kurtosis, the median, minimum, maximum returns, Jarque-Bera test statistic and Ljung-Box Q test statistics.

The mean of TAIEX returns is not significantly different from 0 at the 5% level. The skewness of TAIEX returns series is not significantly skewed to the right or left at 5% significance level. Only kurtosis of TAIEX returns series significantly excess kurtosis at the 5% level. The skewness and kurtosis measurements are highly significant revealing departures from normality. Likewise, the Jarque-Bera statistic for TAIEX returns series reject significantly the assumption of the normality at the 5% level. Regarding the shape parameters of the distribution of TAIEX returns, this study concludes that the distributions are clearly non-normal. The rejection of normality can be partially attributed to intertemporal dependencies in the moments of the series, which is strongly supported by Jarque-Bera statistic of the returns and squared returns. The Ljung-Box Q statistics of the TAIEX returns and squared returns for 6 lags are statistically significant at the 5% level, revealing the presence of nonlinear intertemporal dependencies.

Figure 1
The trend graph of Taiwan stock market
Figure 2
The trend graph of Taiwan stock market returns

Table 1
Basic statistic for Taiwan stock market returns

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0372</td>
<td>S.D.</td>
<td>2.0086</td>
</tr>
<tr>
<td>Maximum</td>
<td>33.9070</td>
<td>Minimum</td>
<td>−33.1199</td>
</tr>
<tr>
<td>Skewness</td>
<td>−0.0113</td>
<td>Kurtosis</td>
<td>31.0890**</td>
</tr>
<tr>
<td>Q(6)</td>
<td>37.6297**</td>
<td>Q(12)</td>
<td>52.8178**</td>
</tr>
<tr>
<td>Q^2(6)</td>
<td>1169.8700**</td>
<td>Q^2(12)</td>
<td>1189.7244**</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>174005.1356</td>
<td>Sample size</td>
<td>5293</td>
</tr>
</tbody>
</table>

NOTES: 1. ** (*) denotes statistical significance at 1% (5%) level.
2. S.D. denotes standard deviation.
3. Normal test is checked by the Jarque-Bera test.
4. Q(6) (Q^2(6)) is the Linjung-Box Q statistic for the returns (the squared returns) lagged 6 trading days and its critical value at 5% significant level is 12.5916.
5. Q(12) (Q^2(12)) is the Linjung-Box Q statistic for the returns (the squared returns) lagged 12 trading days and its critical value at 5% significant level is 21.0261.

Table 2 reports the testing results for the Augmented Dickey-Fuller (ADF) and Phillips and Perron (P-P) tests. The unit root hypothesis should be rejected if the calculated statistic is smaller than the 5% level critical value. TAIEX returns are stationary under the unit root test and the lag interval is 2, which is determined based on the minimum values of AIC and SBC.
Table 2
Unit root test

<table>
<thead>
<tr>
<th>Item</th>
<th>ADF</th>
<th>Order</th>
<th>P-P</th>
<th>Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>−37.3137**</td>
<td>2</td>
<td>−66.7825**</td>
<td>2</td>
</tr>
<tr>
<td>Intercept</td>
<td>−37.3156**</td>
<td>2</td>
<td>−66.7815**</td>
<td>2</td>
</tr>
<tr>
<td>Trend and intercept</td>
<td>−37.3179**</td>
<td>2</td>
<td>−66.7809**</td>
<td>2</td>
</tr>
</tbody>
</table>

NOTES: 1. ** denotes statistical significance at 5% level by ADF and P-P tests under the hypothesis \((H_0: \text{unit root})\) which its critical value is decided on the critical value table of MacKinnon (1991).

2. The Augmented Dickey-Fuller (ADF) and the Phillips-Perron (P-P) statistics which the lag interval is determined on the criterions of minimization of AIC and SBC value. The function of AIC and SBC areas follows:

\[
\text{AIC}(k) = T \cdot \ln \sigma^2_t + 2k, \\
\text{SBC}(k) = T \cdot \ln \sigma^2_t + k \cdot \ln T.
\]

Where \(k\) denotes the lagged period \(T\) denotes the number of sample and \(\sigma^2_t\) denotes the lagged \(k\) periods of \(\sum_{i=1}^{T} \varepsilon^2_i\).

Table 3 listed the result of the volatility asymmetry effect. To test whether residual variance exerts the ARCH effect using the Lagrange Multiplier test. The statistic \(TR^2\) approximates the chi-squared distribution under the hypothesis \((H_0: \text{no ARCH effect})\), where \(T\) denotes the sample number and \(R^2\) represents the determination coefficient. \(TR^2\) is 1577.9199 at the 5% significance level, that bigger than 7.82 which the freedom is three of chi-squared distribution. Consequently, insufficient information is available to reject the ARCH effect and TAIEX return variation with time-varying conditional heteroscedastical variance. The statistic SBT is 0.5417 and thus is insignificant at the 5% level and denotes that the negative returns of unexpectation are insignificantly bigger than the positive returns for the conditional volatility effect.

The statistic NSBT is −22.1347, which is statistically significant at the 5% level and it denotes that the bigger of negatively unexpectative returns are significantly exceeded the small of negatively unexpectative returns for the conditional volatility effect. Then, the statistic PSBT is 2.6592, which is significant at the 5% level and indicates that the bigger of positively unexpectative returns are significantly bigger than the small of positively unexpectative returns for the conditional volatility effect. The chi-squared statistic of the JT test is 751.8308, which is statistically significant at the 5% level and denotes the existence of joint effectiveness on the negatively
unexpectative returns and a difference between positively and negatively unexpectative returns. Based on the above examination, the volatility of TAIEX returns exhibits conditional heteroscedasticity and asymmetry.

Table 3

<table>
<thead>
<tr>
<th>Method</th>
<th>ARCH (3)²</th>
<th>SBT³</th>
<th>NSBT³</th>
<th>PSBT³</th>
<th>JT²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>1577.9199**</td>
<td>0.6229</td>
<td>-22.1347**</td>
<td>2.6592**</td>
<td>751.8308**</td>
</tr>
<tr>
<td></td>
<td>(23.5887)</td>
<td>(0.6486)</td>
<td>(0.2468)</td>
<td>(0.2616)</td>
<td>(23.5909)</td>
</tr>
</tbody>
</table>

NOTES: 1. ** (*) denotes statistical significance at 1% (5%) level.
2. ARCH denotes the Lagrange Multiplier test of Engle (1982) and the criterion is 7.82 at the 5% significant level.
3. SBT, NSBT and PSBT denote the sign bias test, negative size bias test and positive size bias test respectively and the criterion is 2.353 at the 5% significant level.
4. JT denotes the joint test and the criterion is 7.82 at the 5% significant level.

5. Empirical results

This study applied the Likelihood Ratio (LR) Test to examine whether the Taiwanese stock market display structural changes owing to the legislative assembly and change of government effects. \( \text{LR} = -2 \ln \lambda = 2 \times [\ln L(\hat{\beta}, \hat{\sigma}^2) - \ln L(\hat{\beta}^*, \hat{\sigma}^{2*})] = 2 \times [-6982.6734 - (-7000.1134)] = 34.88 > 12.5916 = \chi^2_{0.05}(6) \), the LR test statistic is statistically significant at the 5% level. It denotes that Taiwan stock market display a structural change resulting from the congressional effect and democratic effects.

For model diagnosing, the Liung and Box statistics given \( Q(6) = 2.0323 \) and \( Q(12) = 8.3843 \) for the standardized residual process and \( Q(6) = 0.5092 \) and \( Q(12) = 0.5939 \) for the square process, where again the number in parentheses denotes p-value. Therefore, there is no correlation or conditional heteroscedasticity in the standardized residuals of the fitted model. The above AR(2)-EGARCH(1, 1) model is adequate.

Table 4 reveals that the coefficient of congressional dummy, \( \alpha^* \), is significantly negative at 5% significant level on TAIEX returns. Such negative results are consistent with Lamb et al. (1997). In this study, consequently, facing the political uncertainty generated by Legislative Yuan, such as policy disputes and violence, the investors become more conservative and hold a protective position. This kind of conservative action and behavior may reduce the equity returns. In contrast, the insignificant coefficient, \( \tau^* \), indicates that the congressional effect in Taiwan is no a crucial variable to TAIEX volatility.
Table 4
Estimation result of the AR-EGARCH model

\[
R_t = a_0 + a_1^* D_1 + a_2^* D_2 + a_3^* D_3 + b_1 R_{t-1} + b_2 R_{t-2} + \epsilon_t
\]
\[
\epsilon_t \mid \Omega_{t-1} \sim T(0, h_t)
\]
\[
\ln h_t = \tau_0 + \tau_1^* D_1 + \tau_2^* D_2 + \tau_3^* D_3 + \alpha |u_{t-1}| - E |u_{t-1}| + \theta u_{t-1} + \beta \ln h_{t-1}
\]

\(D_1\) denotes the congressional dummy, \(D_2\) represents the democratic dummy and the interactive dummy, \(D_3 = D_1 \times D_2\), denotes the interactive dummy between Congressional sessions and Democratization.

<table>
<thead>
<tr>
<th>Coefficient (Return)</th>
<th>Estimation</th>
<th>Coefficient (Volatility)</th>
<th>Estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a_0)</td>
<td>0.1164**</td>
<td>(\tau_0)</td>
<td>0.0853**</td>
</tr>
<tr>
<td>Intercept</td>
<td>(0.0410)</td>
<td>Intercept</td>
<td>(0.0105)</td>
</tr>
<tr>
<td>(a_1^*)</td>
<td>-0.0912*</td>
<td>(\tau_1^*)</td>
<td>-0.0053</td>
</tr>
<tr>
<td>Congressional coefficient</td>
<td>(0.0466)</td>
<td>Congressional coefficient</td>
<td>(0.0082)</td>
</tr>
<tr>
<td>(a_2^*)</td>
<td>-0.1630**</td>
<td>(\tau_2^*)</td>
<td>0.0041**</td>
</tr>
<tr>
<td>Democratic coefficient</td>
<td>(0.0822)</td>
<td>Democratic coefficient</td>
<td>(0.0139)</td>
</tr>
<tr>
<td>(a_3^*)</td>
<td>0.1339*</td>
<td>(\tau_3^*)</td>
<td>0.0068</td>
</tr>
<tr>
<td>Interactive coefficient</td>
<td>(0.1074)</td>
<td>Interactive coefficient</td>
<td>(0.0194)</td>
</tr>
<tr>
<td>(b_1)</td>
<td>0.0638**</td>
<td>(b_2)</td>
<td>0.0527**</td>
</tr>
<tr>
<td>(0.0136)</td>
<td></td>
<td>(0.0128)</td>
<td></td>
</tr>
<tr>
<td>(\beta)</td>
<td>0.9697**</td>
<td>(\alpha)</td>
<td>-0.1153**</td>
</tr>
<tr>
<td>(0.0041)</td>
<td></td>
<td>(0.0430)</td>
<td></td>
</tr>
<tr>
<td>(\theta)</td>
<td>0.2150**</td>
<td>VD</td>
<td>5.9677**</td>
</tr>
<tr>
<td>(0.0161)</td>
<td></td>
<td>(0.3569)</td>
<td></td>
</tr>
</tbody>
</table>

Model diagnosis

| Q(6) | 2.0323 | Q(12) | 8.3843 |
| Q^2(6) | 0.5092 | Q^2(12) | 0.5939 |

Notes: 1. Numbers in parentheses are asymptotic standard error.
2. ** (*) denotes statistical significance at 1% (5%) level.
3. VD denotes degrees of freedom.
4. Q(6) (Q^2(6)) is the Linjung-Box Q statistic for the returns (the squared returns) lagged 6 trading days and its critical value at 5% significant level is 12.5916.
5. Q(12) (Q^2(12)) is the Linjung-Box Q statistic for the returns (the squared returns) lagged 12 trading days and its critical value at 5% significant level is 21.0261.
The dummy of democratization, $a_2^*$, shows that TAIEX returns are significantly negative at the 1% level. Having replaced the KMT as the ruling party in the 2000 president election, the DPP now faces criticism owing to the recent economic recession. Moreover, the DPP has failed to prevent a large outflow of Taiwanese capital to Mainland China, resulting in the closure of many factories and rising unemployment and crime. Therefore, TAIEX returns have dropped, causing huge losses for stockholders and deeply impacting economic performance. Additionally, the significant coefficient, $\tau_2^*$, indicates that longstanding political turmoil has increased TAIEX volatility following democratization in Taiwan to significantly exceed volatility previous to such changes.

Finally, after democratization, the uncertainty generated from congressional effects, such that cabinet members are required to attend plenary and committee meetings where they must respond questions challenging from opposition parties, seem to place a negative shock on financial markets. However, our findings suggest an interesting result that during the congressional session, TAIEX returns ($a_3^*$) after democratization significantly exceed those prior to democratization, but TAIEX volatility ($\tau_3^*$) do not display significant. It seems to implicate that people maintain higher hopes for democratization, which provide a more degree of freedom for markets economics, despite the recent economic recession.

6. Conclusions

This study empirically examines the behavior in stock market returns and volatility during sessions of Legislative Yuan using the EGARCH model from February 24, 1984 to January 31, 2004. This investigation found that TAIEX returns are significantly negative 5% level, but volatility is not statistically significant at the 5% level for the congressional effect. However, the effect of democratization on Taiwan stock market returns is significantly negative at the 1% level and is significantly increased at the 1% level of volatility. Moreover, the congressional effect on stock market return following democratization significantly exceeds that before democratization, but have no significant effects for the stock market volatility in the same circumstances.

The findings above demonstrate that no legislative assemble effect exists for the Taiwan stock volatility. Perhaps the stock market was numb with this phenomenon that the political uncertainty generated while
Legislative Yuan is always debating any policy and issues. Legislative Yuan seems to be not sufficiently powerful to prevent the passage of major bills that have presidential support, which implies that the legislative assembly cannot play a balancing role in Taiwan democracy. These phenomena can be attributed to the immature development of political democratization and social liberalization in Taiwan.

Representing competition, efficiency and equilibrium, market economics profoundly believe that the optimal resource allocation will be founded automatically by market mechanics. Therefore, the authoritative organization established through democratic process, government, merely construct an order to maintain the freedom of economic, not intervene the economic activities massively. Otherwise, it will create a new distortion to destroy the whole economic order and individual freedom (Hayek (1945), (1948); Popper (1950)). Relying on the global capital, information technology and talent liquidity, democratization which impact on the old economic and social system accelerate the foundation of market economics and effective distribution of political authority. Such economic paradigm could explain our result why investors give more positive expectation on stock return after democratization, even during the congressional sessions. Future studies may further investigate how the financial markets reflect the behavioral changes of political ecology in emerging democratic countries.

References


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