Foreign Currecny Crisis and Semi-Strong Efficiency of the Korean Stock Market

By

Jinho Jeong

Associate Professor, School of Business Administration
Kyungnam University
Korea

E-mail Address. jhjeong@kyungnam.ac.kr
Fax. 82-55-223-1655
Tel. 82-55-249-2432

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Abstract

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This paper investigated the efficiency of the Korean capital market with respect to fiscal and monetary policies. For this purpose, the paper applied FIML technique to a set of monthly data over the period 1982.01 to 2000.12. The model was particularly designed to take into the problems of generated regressors and simultaneous equation bias in the test of market efficiency. The overall results indicate that the Korean stock market is efficient with respect to monetary policy. However, the result with fiscal policy is inconclusive. The study also found that market participants reacted to the macro-economic shocks more sensitively after the recent foreign currency crisis in Korea. However, there is no concrete evidence that the stock market opening contributed to the market efficiency.

1. Introduction

According to Fama (1970), the market is reasonably semi-strong efficient if the market adjusts security prices very quickly to publicly available information, whether the information is of a micro accounting nature or of a general macro-economic nature.

Since the efficiency of financial markets has extensive implications for the implementation of economic policy, it is not surprising that it has been widely tested in a variety of ways. Although most of the empirical research in this area has been primarily concerned with the US stock market, the attention to the non-US stock market has rapidly increased in recent years (e.g., Darrat (1988), and Ali and Hasan(1993), Kawakatsu and Morey (1999), Wu(2001)). Unfortunately, relatively little attention, if any, has been devoted to the semi-strong form efficiency of the Korean stock market. Analysis of the Korean stock market is useful in terms of offering some implications to the financial market deregulation policy of the Korean government. From the early 1980s, as a first step toward to the market mechanism based economy, Korean government has implemented wide ranges of deregulation policies to promote competition, liberalization and internationalisation in the financial market, and the issue of deregulation still remains a high priority for governmen since the country expericenced foreign currency crisis in late 1990's. Because the main purpose of the market deregulation is to enhance market efficiency, it will be appropriate to re-examine the issue of (semi-strong form) efficiency of the Korean stock market during this deregulation period.

The aim of this paper is to investigate empirically the efficiency of the Korean stock market with respect to macro-economic information. Unlike the previous works, this paper employs the full-information-maximum-likelihood (FIML) approach. A conventional approach is to use a two-step procedure where the movement in the macro-economic variable (i.e., money growth) is estimated by ordinary least squares (OLS) over the sample period, and the residuals from this regression are then used as the unexpected macor shocks. Then a test is performed to

see whether stock price movements only reflect the contemporaneous shock. Pagan (1984) shows that this two-step OLS procedure for estimating such models produces biased estimates of the covariance matrix of parameter estimates and may lead to erroneous conclusions in hypothesis tests. Two-step OLS technique yields inefficient parameter estimates because all the information available in the description of the system of equations is not used in the estimation procedure. An alternative source of inefficiency arises because two-step OLS estimation does not account for the fact that error terms across equations are likely to be correlated. The problem of loss of efficiency can be resolved by using the FIML method. Unlike the two-step OLS method, the FIML method used in this paper is a system method, where all the equations of the structural model are estimated simultaneously by maximizing the likelihood function subject to restrictions on all the parameters in the model. The advantage of using the FIML method is that FIML estimates is consistent as well as (asymptotically) efficient.[1] The utilisation of the FIML method in this paper is motivated by this property of asymptotic efficiency in the FIML estimates. Another important aspect of this study is the use of monthly data for a deregulation period ranging from January 1982 to December 2000. During this period, the Korean stock market has experienced various government deregulation policies and, as a result of the government measures it has expanded very rapidly. For instance, the total market value of shares listed in the Korean Stock Exchange has increased by almost 2000% during this period. The ratio of the market value to the nation's GNP increased to 52.2 % in 2000 from 5.9% in 1982. Therefore, this period provides an interesting research case whether the remarkable financial market expansion and government deregulations experienced during this period were accompanied by corresponding market efficiency. In addition, quarterly or a yearly period used in previous works is a fairly long time, particularly when one is analysing the efficiency of the stock market where the stock prices are determined on a daily basis. The extended quarterly period stock returns is more likely to be contaminated by the other information besides the shock in the macro policy while this contamination will be much less when monthly data are used.

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[1] See Schmidt, P. (1976,pp. 216-236). For a general discussion of OLS estimation problem in testing market efficiency, see Oxley, L., and M. McAleer (1993)

The paper is organised as follows. The following section provides a framework for testing the semi-strong efficency. Section 3 reports the results of FIML methods used to test the Korean stock market efficiency. Section 4 provides some concluding remarks.

2. Model and Methodology

By assuming that the efficient market follows a fair game model, we describe one-period return to an asset, Rt at time t, as the sum of two components, the expected return at last period t-1, $E_{t-1}(R^e_t)$, and an unexpected or "abnormal" component, Zt.

$$Rt = E_{t-1}(R^e_t) + Zt; \quad (1)$$

where E_{t-1} is the conditional expectation operator with the conditioning set consisting of information up to and including period t-1. Thus

$$E_{t-1}(Rt) = E(Rt \mid \Phi t\text{-}1) \quad (2)$$

where Φt-1 denotes the set of information available to agents at time t-1. If the market is efficient it must be true that

$$E(Zt \mid \Phi t\text{-}1) = 0 \quad (3)$$

Equation (3) indicates that the excess return sequence {Zt} is a fair game with respect to the information sequence {Φt-1}.

The weak form of the efficient market hypothesis requires the information set Φt-1 to include only past prices and returns. In a semi-strong efficient market, the set of information, Φt-1, available to investors at time t-1 would contain all publicly available information. Thus equation (3) can be expressed alternatively as

$$E(Z_t \mid X_{t-1}, \ldots, X_{t-n}) = 0 \qquad (4)$$

where X_t is a vector of publicly available information excluding return R_t. According to this semi-strong efficient condition, the abnormal return, Z_t, is influenced only by current information (i.e. the current unanticipated value of some variables thought to influence share prices) and it is independent of all past information since this news would already have been incorporated into share prices in past periods. One of the methods for testing semi-strong market efficiency is to test the effect of the past information exclusion on Z_t. The available information set in period t is

$X_t - E_{t-1}(X_t)$, in which X_t is the vector of variables thought to influence stock prices. Therefore, exclusive of past information, the abnormal return Z_t can be written as following:

$$Z_t = \sum_{i=1}^{k}\sum_{s=0}^{m}\beta_{is}[X_{i,t-s}E_{i,t-s-1}(X_{t-s})] + e_t \qquad (5)$$

where e_t is a random error term, serially independent and uncorrelated with the expectation errors, m denotes the lag on the vector X, k is the element number of information variables vector which defines how many macro-economic variables will influence the stock returns.

Recalling equation (1), the semi-strong market efficiency test can be based on the following regression:

$$R_t = E_{t-1}(R^e_t) + \alpha V_t + \sum_{i=1}^{k}\sum_{s=0}^{m}\beta_{is}[X_{i,t-s}E_{i,t-s-1}(X_{t-s})] + e_t \qquad (6)$$

where **V** is a vector of other potential determinants of stock returns including time trend, short-term interest rates, inflation measured by GDP growth rate, exchange rate, money (m2) demand, budget deficit. Since GDP and budget deficit are only available on quarterlyly basis, these varibles are converted into monthly data by

using SAS PROC EXPAND procedure. To conserve degrees of freedom, m is restricted to 3.

The testable hypothesis is to investigate whether only unexpected shock in period t, $X_t - E_{t-1}(X_t)$ influences the movements of stock return, R_t ; that is, to investigate whether for all i, $\beta_{is} = 0$ for $S \geq 1$ and $\beta_{is} > 0$ for $S=0$.

The problem in the implementation of the testing procedure identified by (6) is the generation of the unanticipated components of the variables in the vector X as the regressors. Economic theory might not be very valuable in generating an accurate model of expectations formation because it is difficult on theoretical grounds to exclude any piece of information available at time t-1 as a useful predictor of a policy valuable. We resolve this problem by using ad hoc forecasting equations, which are based on the assumption that rational agents will form their one-period-ahead forecast on the basis of any information which is easily available and useful in predicting the variable of interest. Thus an appropriate prediction equation should rely on only lagged explanatory variables. We use an approach relatively common in the macro-economic rational-expectations literature. The first step is to choose the macro-economic variables in the X vector. It is generally made in an ad hoc way, determined as much by data availability as by theoretical considerations. Most of the early empirical research in this area has been primarily concerned with whether stock prices fully reflect available information on interest rates and inflation in particular. Some recent studies pay attention to the monetary aggregates. Yet, on purely theoretical grounds (e.g., Tobin (1969)), both monetary and fiscal policy could have important effects on the returns of assets, including equities. In his well-known general equilibrium model of the financial sector, Tobin emphasised stock returns as an important link between the real and financial sides of an economy. In that model, Tobin demonstrated how stock returns may respond to changes in the monetary and fiscal policy variables of the model. Tobin's theoretical analysis, when consistently applied, suggests that both money growth and budget deficits may have significant impacts upon stock returns.

Expectation of money growth is measured by;

$$M_t = \sum_{i=1}^{k}\sum_{s=1}^{m} \beta_{is} X_{i,t-s} + u_t \qquad (7)$$

Expectation of fiscal policy is measured by;

$$F_t = \sum_{i=1}^{k}\sum_{s=1}^{m} \Psi_{is} X_{i,t-s} + w_t \qquad (8)$$

where X_t is the vector of variables employed for predicting monetary and fiscal policies, u_t and w_t are white noises. The variables included in vector X are as the following.

F : Fiscal Policy
M : Monetary Policy
U : Unemployment Rate,
CPI: consumer price index
I : Interest rate ,
GDP: Gross Domestic Product
EXCH : Exchange Rate,

Except interest rate, every variable is expressed by the rate of change. This particular list of variables was chosen because it contains readily available information which many researchers have cited as being of potential use in explaining policy responses (i.e., Fair (1978). The short-term interest rate is used as a proxy for the required return on equity during that period. To insure that the contemporaneous interest rate only captures the effect of changes in the expected rate of return on equity, this variable is instrumented using lagged interest rates, inflation rates, and fiscal and monetary variables as instruments. Inflation is measured by the monthly growth rate

in consumer price index. The optimal lag distribution of policy forcasting model was identified as two.[2]

3. The Results

The tests of the semi-strong form market efficiency in the text use monthly data over the 1982-2000 period. All variables are obtained from the Korea Bank Database. The first step is to specify the variables in the monetary policy equation (7) and fiscal policy equation (8). Second step is to jointly estimate equation (6), (7), and (8), imposing the cross-equation rationality constraints (that is, estimated values in equation (7) and (8) should be equal to E(X) in equation (6). In simultaneous systems of equations, endogenous variables are determined jointly rather than sequentially. Estimation of the model involves joint estimation of equation (6), (7), and (8) as a system using FIML. Unlike the two-step OLS estimate, the FIML estimate is not only consistent but efficient since estimation imposes cross-equation restrictions. Table 1 reports the results of FIML estimates. Approximately 14.8% of the variance in stock return is accounted for by the equation. With respect to monetary policy, only unexpected contemporaneous shock is significant while all lagged shocks are not significant . This finding for monetary policy is consistent with the efficient market hypothesis. That is, given the publicity of the view that money growth can influence stock returns, participants in the Korean stock market appear to have incorporated all available information about monetary policy moves. More specifically, market participants in Korea stock market view that unexpected increase in money supply as a negativ shock to the market. However, the evidence of efficiency with respect to fiscal policy is somewhat mixed. Insignificant lagged fiscal shocks support efficient market hypothesis while insignificant contemporaneous fiscal shock show the opposite evidence. Therefore, fiscal policy does not have any statistically significant role in impacting on stock market in Korea. Among the variables in **V**, exchange rate and short-term rate are significant in explaining stock returns. To isolate the effect of foreign currency crisis in late 1990's, I apply the same model to 1982~1997 period.

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[2] Both AIC (Akaike Information Criterion) and SBC (Schwarz Bayesian Criterion) values for forcasting equations reached to the minimum when lagged term is two. In emplementing forecasting equation, lagged term of twelve is added to control the yearly effect.

Table 1. Semi-strong Effciency of Stock Market for Entire Period (1982-2000)

Monetary Policy R^2/adj R^2 =70.25%/68.7% DW=2.069			Fiscal Policy R^2/adj R^2 =80.2%/79.1% DW=2.542			Stock Market Return R^2/adj R^2 =30.9%/14.8% DW=2.043		
Varible	Estimates	P - value	Varible	Estimates	P - value	Varible	Estimates	P -value
C	-0.31	0.64	C	-0.03	0.98	C	12.76	0.00
M(t-1)	-0.01	0.91	M(t-1)	0.00	0.99	T	-0.02	0.10
M(t-2)	0.06	0.60	M(t-2)	0.42	0.02	I	-0.67	0.01
M(t-12)	-0.02	0.86	M(t-12)	-0.14	0.43	CPI	0.79	0.38
CPI(t-1)	0.04	0.84	CPI(t-1)	0.69	0.04	EXCH	-0.41	0.01
CPI(t-2)	-0.02	0.90	CPI(t-2)	0.41	0.20	M	-1.34	0.00
CPI(t-12)	0.30	0.09	CPI(t-12)	0.17	0.57	F	0.05	0.68
F(t-1)	-0.05	0.14	F(t-1)	-0.48	0.00	UM	-1.87	0.00
F(t-2)	-0.03	0.32	F(t-2)	-0.31	0.00	UM(t-1)	-0.55	0.32
F(t-12)	-0.01	0.74	F(t-12)	0.61	0.00	UM(t-2)	-0.43	0.42
GDP(t-1)	-1.04	0.00	GDP(t-1)	0.04	0.89	UM(t-3)	-0.27	0.58
GDP(t-2)	0.56	0.00	GDP(t-2)	0.30	0.31	UF	0.36	0.18
GDP(t-12)	-0.27	0.07	GDP(t-12)	-0.27	0.27	UF(t-1)	0.01	0.98
I(t-1)	-0.53	0.00	I(t-1)	-0.24	0.17	UF(t-2)	0.19	0.53
I(t-2)	0.02	0.87	I(t-2)	0.30	0.21	UF(t-3)	-0.24	0.36
U(t-2)	-0.04	0.86	U(t-2)	0.10	0.77			
U(t-12)	-0.13	0.54	U(t-12)	0.14	0.70			
EXCH(t-1)	0.00	0.05	EXCH(t-1)	0.00	0.23			
EXCH(t-2)	-0.06	0.17	EXCH(t-2)	-0.02	0.77			
EXCH(t-12)	-0.28	0.00	EXCH(t-12)	-0.02	0.80			

F : Fiscal Policy
M : Monetary Policy
U : Unemployment Rate, CPI: consumer price index
I : Interest rate , GDP: Gross Domestic Product
EXCH : Exchange Rate, UM: Monetary shock, UF:Fiscal shock
T : Month

The results are shown in Table 2. Table 2 shows that coefficients of contemporaneous shocks are not significant, implying that stock market is not efficient with respect to the macro-economic shocks during this period. The results indicate that stock marekt efficiency with respect to monetary policy is mainly driven by the period during foreign currecncy crisis. That is, stock market reaction to the monetary shock seems to be more sensitive since the foreign currency crisis in Korea. Table 3 shows the efficiency of Korean stock market before the opening of stock market to foreign

investors.[3] The results show that both coefficients of contemporaneous monetary shock and t-3 lagged shocks are not significant, implying that stock market is not efficient with respect to the monetary shock during this period. In addition, contemporaneous fiscal shock is not significant while all of the lagged fiscal shocks are significant. The results indicate that Korean stock market is not efficient with respect to the fiscal shock during this period.

Table 2. Semi-strong Effciency of Stock Market for the Period 1982-1997 (Before the Foreign Currency Crisis)

Monetray Policy R^2/adj R^2 =47.77%/44.85% DW=1.992			**Fiscal Policy R^2/adj R^2 =81.9%/80.9% DW=2.554**			**Stock Market Return R^2/adj R^2 =25.1%/6.3% DW=2.037**		
Varible	Estimates	P - value	Varible	Estimates	P - value	Varible	Estimates	P -value
C	1.32	0.40	C	-6.37	0.01	C	10.64	0.00
M(t-1)	-0.05	0.71	M(t-1)	0.15	0.43	T	-0.02	0.02
M(t-2)	0.13	0.29	M(t-2)	0.55	0.01	I	-0.52	0.01
M(t-12)	0.00	0.97	M(t-12)	-0.05	0.79	CPI	-0.10	0.90
CPI(t-1)	0.00	1.00	CPI(t-1)	0.86	0.01	EXCH	-1.67	0.00
CPI(t-2)	0.09	0.67	CPI(t-2)	0.49	0.15	M	0.45	0.40
CPI(t-12)	0.25	0.18	CPI(t-12)	0.18	0.54	F	0.01	0.92
F(t-1)	-0.05	0.20	F(t-1)	-0.48	0.00	UM	0.20	0.77
F(t-2)	-0.03	0.36	F(t-2)	-0.31	0.00	UM(t-1)	0.68	0.14
F(t-12)	-0.02	0.61	F(t-12)	0.61	0.00	UM(t-2)	0.51	0.27
GDP(t-1)	-1.11	0.00	GDP(t-1)	0.02	0.95	UM(t-3)	-0.08	0.87
GDP(t-2)	0.59	0.00	GDP(t-2)	0.54	0.09	UF	0.33	0.17
GDP(t-12)	-0.25	0.12	GDP(t-12)	-0.03	0.89	UF(t-1)	0.18	0.49
I(t-1)	-0.52	0.00	I(t-1)	-0.19	0.48	UF(t-2)	0.37	0.15
I(t-2)	0.24	0.20	I(t-2)	0.23	0.42	UF(t-3)	-0.12	0.62
U(t-2)	0.06	0.77	U(t-2)	0.17	0.63			
U(t-12)	0.06	0.80	U(t-12)	0.28	0.42			
EXCH(t-1)	0.00	0.77	EXCH(t-1)	0.01	0.05			
EXCH(t-2)	-0.10	0.41	EXCH(t-2)	-0.20	0.32			
EXCH(t-12)	0.09	0.56	EXCH(t-12)	-0.22	0.35			

F : Fiscal Policy, M : Monetary Policy
U : Unemployment Rate, CPI: consumer price index
I : Interest rate , GDP: Gross Domestic Product
EXCH : Exchange Rate, UM: Monetary shock, UF:Fiscal shock
T : Month

Table 3. Semi-strong Effciency of Stock Market for the Period 1982-1992 (Before Stock Market Opening to Foreign Investors)

[3] Although it is somewhat ambiguous to pinpoint the openning period, it is usually known that Korean government gradually opens the stock market to foreign investors since 1992.

Monetary Policy R^2/adj R^2 =16.99%/9.3% DW=1.997			Fiscal Policy R^2/adj R^2 =85.05%/83.07% DW=2.554			Stock Market Return R^2/adj R^2 =43.1%/18.05% DW=2.024		
Varible	Estimates	P - value	Varible	Estimates	P - value	Varible	Estimates	P -value
C	1.87	0.03	C	-2.61	0.36	C	-4.38	0.51
M(t-1)	0.18	0.08	M(t-1)	0.18	0.42	T	0.04	0.13
M(t-2)	0.01	0.89	M(t-2)	0.40	0.07	I	0.29	0.52
M(t-12)	-0.02	0.72	M(t-12)	-0.33	0.08	CPI	-1.11	0.27
CPI(t-1)	0.11	0.24	CPI(t-1)	0.43	0.21	EXCH	-0.70	0.39
CPI(t-2)	0.10	0.33	CPI(t-2)	0.31	0.38	M	-7.93	0.01
CPI(t-12)	0.28	0.01	CPI(t-12)	0.21	0.52	F	-0.05	0.86
F(t-1)	-0.08	0.01	F(t-1)	-0.36	0.00	UM	-9.59	0.00
F(t-2)	-0.08	0.01	F(t-2)	-0.27	0.00	UM(t-1)	-2.49	0.03
F(t-12)	-0.06	0.06	F(t-12)	0.72	0.00	UM(t-2)	-0.51	0.60
GDP(t-1)	-0.29	0.02	GDP(t-1)	-0.14	0.68	UM(t-3)	0.88	0.15
GDP(t-2)	0.10	0.32	GDP(t-2)	0.58	0.11	UF	0.10	0.81
GDP(t-12)	-0.14	0.08	GDP(t-12)	-0.32	0.24	UF(t-1)	0.69	0.13
I(t-1)	-0.08	0.42	I(t-1)	0.38	0.22	UF(t-2)	-0.22	0.60
I(t-2)	0.16	0.13	I(t-2)	-0.03	0.92	UF(t-3)	-0.61	0.10
I(t-12)	0.05	0.42	I(t-12)	-0.16	0.53			
U(t-1)	-13.4	0.13	U(t-1)	36.83	0.20			
U(t-2)	0.16	0.14	U(t-2)	-0.02	0.95			
U(t-12)	-0.25	0.02	U(t-12)	0.10	0.76			
EXCH(t-1)	0.00	0.12	EXCH(t-1)	0.00	0.75			
EXCH(t-2)	0.15	0.06	EXCH(t-2)	0.09	0.73			
EXCH(t-12)	0.10	0.19	EXCH(t-12)	-0.22	0.47			

F : Fiscal Policy, M : Monetary Policy, U : Unemployment Rate, CPI: consumer price index, I : Interest rate , GDP: Gross Domestic Product, EXCH : Exchange Rate, UM: Monetary shock, UF:Fiscal shock, T : Month

To investigate the effct of stock market opening to the market efficiency, I apply the same model to 1992~2000 period. Comparison of this result with the result for table 3 shows that stock market became more sensitive to the various lagged macro shocks after stock market opening. For instance, only t-1 lagged monetray shock was significant before the opening while all lagged shocks except t-2 lagged monetary shock were significant for the opening period. The statistical significancy of lagged macro shock shows that the inseminnation of macro-economic informations into stock market becomes more delayed and complicated after the opening of Korean stock market to foreign investors. The results show no evidence that market became more efficient by its opening to foreign investors. But this study does not take this result as an evidence that liberalization has no effect on market efficiency since

liberalization is a gradual process and has a structural impact on stock market that includes other policy changes (i.e., trade liberalization, banking liberalization, and etc). In fact, the results indicate that the market was inefficent before the stock market opening. It is unknown whether the market is in a process of being efficient since the market opening.

Table 4. Semi-strong Efficiency of Stock Market for the Period 1992-2000(After Stock Market Opening to Foreign Investors)

Monetray Policy R^2/adj R^2 =77.19%/72.93% DW=1.98			**Fiscal Policy R^2/adj R^2 =79.31%/75.66% DW=1.90**			**Stock Market Return R^2/adj R^2 =89.58%/76.84% DW=2.28**		
Varible	Estimates	P - value	Varible	Estimates	P - value	Varible	Estimates	P -value
C	0.86	0.24	C	0.94	0.57	C	-2.68	0.85
M(t-1)	0.71	0.00	M(t-1)	0.14	0.74	T	0.12	0.06
M(t-2)	-0.30	0.06	M(t-2)	0.20	0.54	I	-1.82	0.00
M(t-12)	0.08	0.45	M(t-12)	-0.24	0.36	CPI	-1.71	0.30
CPI(t-1)	-0.42	0.08	CPI(t-1)	2.49	0.00	EXCH	0.50	0.03
CPI(t-2)	-0.71	0.00	CPI(t-2)	0.58	0.32	M	0.18	0.81
CPI(t-12)	0.22	0.18	CPI(t-12)	-0.14	0.76	F	0.06	0.82
F(t-1)	0.13	0.06	F(t-1)	-0.57	0.00	UM	4.38	0.00
F(t-2)	0.12	0.03	F(t-2)	-0.40	0.00	UM(t-1)	6.81	0.00
F(t-12)	0.11	0.02	F(t-12)	0.38	0.00	UM(t-2)	-0.38	0.67
GDP(t-1)	-0.67	0.00	GDP(t-1)	0.59	0.23	UM(t-3)	-5.12	0.00
GDP(t-2)	0.54	0.01	GDP(t-2)	0.19	0.68	UF	0.49	0.30
GDP(t-12)	-0.56	0.00	GDP(t-12)	-0.64	0.13	UF(t-1)	1.66	0.00
I(t-1)	-0.08	0.44	I(t-1)	-0.37	0.15	UF(t-2)	2.58	0.00
I(t-2)	-0.55	0.00	I(t-2)	1.20	0.00	UF(t-3)	1.42	0.01
U(t-1)	20.18	0.27	U(t-1)	89.54	0.02			
U(t-2)	0.50	0.10	U(t-2)	0.71	0.36			
U(t-12)	-2.02	0.00	U(t-12)	3.06	0.02			
EXCH(t-1)	0.00	0.85	EXCH(t-1)	0.00	0.06			
EXCH(t-2)	0.13	0.00	EXCH(t-2)	-0.33	0.00			
EXCH(t-12)	-0.18	0.00	EXCH(t-12)	-0.23	0.01			

F : Fiscal Policy, M : Monetary Policy
U : Unemployment Rate, CPI: consumer price index
I : Interest rate , GDP: Gross Domestic Product
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T : Month

4. Conclusion

This paper investigated the efficiency of the Korean capital market with respect to fiscal and monetary policies. For this purpose, the paper applied FIML technique to a set of monthly data over the period 1982.01 to 2000.12. The model was particularly designed to take into the problems of generated regressors and simultaneous equation bias in the test of market efficiency. The overall results indicate that the Korean stock market is efficient with respect to monetary policy. However, the result with fiscal policy is inconclusive. The study also found that market participants reacted to the macro-economic shocks more sensitively after the recent foreign currency crisis in Korea. However, there is no concrete evidence that the stock market opening contributed to the market efficiency.

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