POLITICAL EXCHANGE RISK IN TAIWAN

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Abstract

This article introduces new concept of political exchange rate risk and empirically test whether this political risk exists in Taiwan foreign exchange market. In many business journals and newspapers, we easily find that the foreign exchange rate are increased because of `-nomics` such as `Reagonomics`, `MBnomics` and `Abenomics`. However, in academic journals, it is not easy to find some article empirically to show that the political factor can affect foreign exchange rate. Still less, comparing to `Reagonomic` in U.S. economy, `MBnomics` in Korea Economy, and `Abenomics` in Japanese Economy, there is no `-nomics` in Taiwan Economy. Therefore, the empirical findings of the relationship between Taiwan government change and Taiwan dollar-U.S dollar exchange rate despite of no '-nomics' in Taiwan economy, can present meaningful evidence of political risk existence in foreign exchange rate.

Keywords: Political exchange risk, Government change, Political risk, `-nomics`

1. INTRODUCTION

1.1. Background

In order to study political factor in foreign exchange rate change, a Korean government change effect has been empirically tested in my previous studies as controlling the other economic factors such as inflation, interest, current account, capital account, and yen-dollar exchange rate, etc.

The result shows that Korean government changes influence the Korean won-dollar exchange rate. This empirical result presented the possibility that the political risk of government change can affect foreign exchange rate in other Asian countries.

However, comparing Korea which government has been suspicious to manage foreign exchange rate as we can see `Mbnomic[1]`, Taiwan has not have `-nomics` in its economic policy.

[1] "President Lee Myung-bak's growth-oriented external economic policies, known as MBnomics, ...A weak won policy, rash drive of free trade agreement (FTA), ..", Jae-kyung Kim(2008), Economist Dissect Mbnomics, The Korea Times, June 13, 2008 (accessed November2, 2014), [available at www.kreatimes.co.kr/www/news/.../123-2583.ht] " Lee Myung-bak, referred as MB in the media, was inaugurated as Korea's tenth president on February 25, 2008", Sang-Hee Ja(2008), "Mbnomics':A Review and the Road Ahead, International Journal of Korean Studies, Vol 12, No.1, Fall/Winter 2008 "'Mbnomics' is the term applied to Lee's macroeconomic policy. The term is a portmanteau derived by combining his initials (Myung-bak, Mb) and the term economics (-nomics) to form "Mbnomics". Macroeconomic policy. "Mbnomics", Wikipedia

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Therefore, if we find any relationship between Taiwan government change and Taiwan dollar-U.S dollar exchange rate, despite of no '-nomics' in Taiwan economy, it can present meaningful evidence of political risk existence in foreign exchange rate.

Therefore, the main purpose of this study is to empirically test whether a change in the Taiwanese government has an influence on the Taiwan dollar-U.S dollar exchange rate.

If we empirically prove the relationship between Taiwanese government change and the Taiwanese dollar-U.S dollar exchange rate, a secondary purpose of this paper is to show political exchange risk in Taiwan

Together with empirical result in Korean Won-dollar exchange rate, if we can show that a change in government affect foreign exchange rate in case of Taiwan despite of no '-nomics' in Taiwan, these results can become one of milestone to generalize the existence of political risk in foreign exchange rate.

Finally, with this milestone, we can introduce the new concept of political foreign exchange exposure different from transaction foreign exchange exposure, translation foreign exchange exposure and economic foreign exchange exposure before studying a similar relationship in other countries such as U.S. which has `Reagonomics[2]` and `Yellenomics[3]` and Japan which has `Abenomics[4]`.

1.2 Taiwanese Government change

After the liberalization of foreign exchange in 1987 and the gradual liberalization of Taiwanese capital market in 1989, there have been three presidents and four governments: Li Deng-hui, Chen Shui-bian and Ma Ying-

[2] "'Reaganomics' denotes the economic policies of President Ronald Reagan in the 1980s. He sought to remedy the high inflation and recessions of the 1970s, which conservatives attributed to the heavy burden government imposed on private enterprise. Reagan called for sharp reductions in federal taxes, spending, and regulation as well as a monetary policy that strictly limited the growth of the money supply.", Dictionary of American History(2003), "Reaganomics" (accessed November 2, 2014), [available at encylopedia.com/topic/Reaganomics.aspx]

[3] 'Yellenomics' – the second coming of Keynes at the Fed, Janet Yellen's confirmation is an historic shift toward a more activist Fed, a reinstatement of Keynesian economics and expanded government in general, Centralbanking(2013), 'Yellennomics'-the second coming of Keynes at the Fed, (accessed November2, 2014), [available at www.centralbanking.com>Opinion]

[4] "The plan – called "Abenomics," named after newly-elected Prime Minister Shinzō Abe – is three-fold. It involves a massive increase in fiscal stimulus through government spending, a massive increase in monetary stimulus through unconventional central bank policy, and a reform program aimed at making structural improvements to the Japanese economy. While fiscal stimulus and structural reform are essential components of the experiment, monetary policy is expected to do most of the heavy lifting in the short term. So, let's take a look at the monetary policy behind the plan first. The goal of easy monetary policy is to reduce real interest rates. In Japan's case, it has a significant side effect of weakening the yen. So, the yen is weakening.", Boesler, Matthew(2013), The truth about Abenomics, Business Insider, March 16, 2013, (accessed November2, 2014), [available at www.businessinsider.com/what-is-abenomics-2013-3#ixzz3Ht24TTu2

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jeou and non-elected Li government, elected Li government, Chen government and Ma government. Chen shui-bian led Democratic Progressive party government while the other two headed Kuomintang. Therefore, the impact of each party`s change as well as government change on Taiwan Dollar-U.S Dollars exchange rate can also be analyzed. After liberalization of Marshall law in 1989, the Taiwanese government changed as follows:

Table 1. Taiwanese Government change

Government	From	To	Party
Li Deng-hui (Non-Direct Election)	January 1988	April 1996	Kuomintang
Li Deng-hui (Direct Election)	May 1996	April 2000	Kuomintang
Chen Shui-bian	May 2000	April 2008	Democratic Progressive party
Ma Ying-jeou	May 2008		Kuomintang

-source : office of president, Republic of China(Taiwan)

2. LITERATURE REVIEW

As a long-term theory of exchange rate determination, PPP seems to support its validity in the academic and business world. It means the inflation gap between Taiwan and the United States can influence the Taiwan dollar-U.S. dollar exchange rate. Besides PPP, the International Fisher Effect has been often explained as a long-term theory of exchange rate determination in international finance textbooks. According to this theory, interest difference between Taiwan and the United States can influence the long-term Taiwan dollar-U.S. dollar exchange rate equilibrium.

Besides these two popular factors above influencing exchange rates, Mundell(1963) and Fleming(1962) said current account and capital account can determine foreign exchange rate in the case of free capital movement among countries. Especially in small open economy like Taiwan, Edwards(1994) said that capital account and terms of trade(tot) can determine foreign exchange rates. In addition to these general foreign exchange determination theories, in Korean won-dollar exchange rate studies, Park(1999) said foreign purchase of Korean equity can influence Korean won-dollar exchange rate in the Korean foreign exchange market and Kwon(2002) reported the synchronization effect of the Korean won-dollar rate and the Japanese Won-Dollar rate.

Considering that the Taiwan economy is somewhat similar with Korean economy in such points as smaller economy scale than major developed countries, higher dependency on other countries and the stronger capital account effect after the Asian financial crisis in 1997, the mixed model of Edwards, Park and Kwon could also be suitable Taiwan dollar-U.S. dollar study.

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However, these economic models do not include political factors such as government change. Despite that there is no '-nomics' in Taiwan, we can often see articles that show how the yen-dollar exchange rate policy has adapted after the Abe government in Japan and Myung-Bak Lee government in Korea in economic magazines and newspapers. Therefore, in order to study political factor in foreign exchange rate change, this study will empirically test Taiwanese government change effect as controlling the other economic factors such as inflation, interest, current account, capital account, and yen-dollar exchange rate, etc in spite of no '-nomics' in Taiwan

3. RESEARCH HYPOTHESES AND RESEARCH METHODOLOGY

3.1. Research Hypotheses

The existing research pertaining to dollar exchange rate in various models outlined in the previous chapters are summarized in the following hypotheses:

Hypothesis 1. Government change influences foreign exchange rate in the case of Taiwan.

The above hypotheses were tested by Regression Model and ANCOVA. H1 was also expected to check whether the exchange rate responds positively or negatively due to government change, in addition to the significance.

3.2. Research Methodology

3.2.1. Data and Sample Description

For empirical analysis, monthly data are used from 1990 to 2014 in the Economic Statistics System of Bank of China(Taiwan). For specific variables, M1 statistics of China(Taiwan) and the United States are used for monetary volume since monetary volume is largely related to monetary demand for transaction. As for short-term interests, the 31- 90 Days CP interests in Taiwan and the 30 Days CD interests in the United States are taken while the 10 year government interests in Taiwan and the 5 year Treasury bill are taken for the long-term interest rate. The terms of trade are used as the index of export price/the index of import price. The seasonable variable such as monetary volume is adjusted by the seasonal adjustment variable.

3.2.2. ANCOVA Analysis

In order to test Hypothesis 1, the following ANCOVA model was used. One reason for using the ANCOVA model is that our analytical focus looks at whether or not the continuous data EX(the Taiwan dollar-U.S. dollar Exchange Rate), can differ according to the government variable of non-metric data of GVN(Li-non-elected, Li-elected, Chen, Ma). The other reason is that the continuous data PPP, CD, CA(Current Account), KA(Capital Account) and FP(Foreigner's Net Purchase of Taiwan Equity), and so on can be expected to strongly affect the dependent variable EX and used as the control variable for the analysis.

ANCOVA formulas are as follows.

$EX=b0+b1(GVN)+\varepsilon$ ---------- (1)

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EX=b0+b1(CA)+b2(GVN)+ε ---------- (3)

EX=b0+b1(CA)+b2(KA)+b3(GVN)+ε ---------- (4)

EX=b0+b1(PPP)+ b2(GVN)+ε ---------- (6)

EX=b0+b1(PG)+ b2(GVN)+ε ---------- (8)

EX=b0+b1(PG) +b2(CD)+b3(GVN)+ε ---------- (9)

EX=b0+b1(M1)+b2(UM)+b3(CD)+b4(GVN)+ε ---------- (10)

EX=b0+b1(M1)+b2(UM)+b3(CD)+b4(LCD)+b5(GVN)+ε ---------- (12)

EX=b0+b1(M1)+b2(UM)+ b3(CD)+b4(LCD)+ b4(TOT)+b5(GVN)+ε ---------- (16)

EX=b0+b1(M1)+b2(UM)+b3(CD)+b4(LCD)+b4(TOT)+b5(FP)+b6(YEN)+b7(GVN)+ε (18)

EX : Taiwan Dollar-U.S. Dollar Exchange Rate

GVN : Dummy Variable for each government. Li-non-elected:1, Li-elected:2, Chen:3, Ma:4

CA : Current Account

KA : Capital Account

PPP : Purchasing Power Parity =

Consumer Price Index in Taiwan/ Consumer Price Index in the United States

PG : Price Difference =

Consumer Price Index in Taiwan - Consumer Price Index in the United States

CD : Short-term Interests Difference between Taiwan and the United States=

the 3 month yield on CD in Taiwan - the 3 month yield on CD in the United Sates

M1 : M1 statistics of Taiwan for monetary volume

UM : M1 statistics of the United States for monetary

LCD : Long-term Interests Difference between Taiwan and the United States=

the 10 year government interests in Taiwan - the 5 year Yield of U.S. Treasury Notes

TOT : Net Barter terms of trade Index= the index of export price/the index of import price

FP : Foreigners' Net Purchase of Taiwan Equity(Trading Value)

YEN : Japanese Yen-Dollar Exchange Rate

4. EMPIRICAL RESULTS AND CONCLUSION

The empirical results are that the GVN of the Dummy Variable for each government are significant at 1% significance level in every regression and ANCOVA models <Table 3>. These results empirically support Hypothesis 1; Government change influences foreign exchange rate in the case of Taiwan. It means that, if a government changed, the new government adapted their own economic policy and it resulted in a different Taiwan Dollar-U.S. Dollar exchange level. In other words, economic factors such as inflation rate, interest rate and other Balance of Payment factors affect the exchange rate. However, Taiwan government change can also affect the Taiwan dollar-U.S. dollar exchange Taiwan exchange rate.

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Besides the GVN variable, CA, KA, PPP, PG, M1, UM, CD, and LCD, FP are largely significant in most regression and ANCOVA models. It means that, the variables to influencing exchange rate in most academic models such as the Purchasing Power Parity, the price level differences, short-term and long-term interest differences, and monetary volume difference are also shown to be important in Taiwan.

In addition, the FP and the Yen variable's significance demonstrate that the foreigners' net purchase of Taiwan Equity and Japanese Yen-Dollar movement are also important in Taiwan Dollar-U.S. Dollar exchange determination in a small open economy environment.

Table 2.

Taiwan Dollar-U.S. Dollar Exchange Rate Basic Statistics of Each Government from 1990 to 2014.

	Number	Mean	Standard Deviation
Li	72	26.40392080	0.76287124
Li (elected)	48	30.6098146	2.58699761
Chen	96	33.1538792	1.20977882
Ma	73	30.7976164	1.45573386

Table 3.

ANCOVA and REGRESSION Results

Number of observation from 1990 to 2014. (N=289)

Independent Variable	Dependent Variable		
	(1)	(2)	(3)
Coefficient Variable	4.949280	9.22275	4.957820
CA		0.00022962(5.89)***	273.921386(120.15) * **
KA			
PPP			
PG			
M1			
UM			
CD			
LCD			
TOT			
FP			
YEN			
CVN	1890.588(277.39)***		616.710178(236.39)***
R2	0.744890	0.1079	0.74490
F-Value	277.39***	34.72***	207.33***

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Independent Variable	Dependent Variable		
	(4)	(5)	(6)
Coefficient Variable	4.840105	8.62645	4.952626
CA	273.9213(126.07)***		
KA	423.6804(195.00)***		
PPP		-34.88337(-8.99)***	557.235338(244.94)***
PG			
M1			
UM			
CD			
LCD			
TOT			
FP			
YEN			
CVN	1225.5823(188.02)***		1334.751988(195.57)***
R2	0.757733	0.2196	0.745441
F-Value	177.03***	80.74****	207.91***

Independent Variable	Dependent Variable		
	(7)	(8)	(9)
Coefficient Variable	8.59130	4.893844	4.813423
CA			
KA			
PPP			
PG	-0.06163(-9.15)***	573.3461(258.12)***	1573.346(266.81)***
M1			
UM			
CD			1534.107(248.55)***
LCD			
TOT			
FP			
YEN			
GVN		333.8868(200.17)***	3822.491(127.58)***
R2	0.2259	0.751448	0.760397
F-Value	83.75***	214.65***	179.62***

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Independent Variable	Dependent Variable		
	(10)	(11)	(12)
Coefficient Variable	7.34392	6.64123	4.590288
CA			
KA			
PPP			
PG	0.06101(4.63)***		
M1		-0.00007818(-1.80)***	1196.1263032(100.36***)
UM		-0.00095595(-2.06)**	1370.6453401(189.66)***
CD		-1.07415(-14.13)***	1805.4489628(442.15)***
LCD	-1.07026(-10.33)***		
TOT			
FP			
YEN			
GVN			3614.7539065(104.86)***
R2	0.4363	0.5407	0.782866
F-Value	110.70***	111.82***	169.46***

Independent Variable	Dependent Variable		
	(13)	(14)	(15)
Coefficient Variable	5.60097	4.599833	4.44434
CA			
KA			0.01109(5.16)***
PPP			
PG			
M1	-0.00015391(-3.48)***	13.2247303(6.31)**	0.000288440(4.45)***
UM	-0.00048110(-0.92)	98.1833202(46.61)***	-0.003140(-6.23)**
CD	-1.05795(-11.67)***	463.0528901(220.77)***	-1.02106(-12.45)***
LCD	0.24892(1.37)	5.8781357(2.80)*	0.44912(3.10)***
TOT			10.99955(7.20)***
FP			
YEN			
GVN		235.0825444(37.36)***	
R2	0.4523	0.635487	0.6582
F-Value	46.65***	55.54***	71.89***

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Independent Variable	Dependent Variable		
	(16)	(17)	(18)
Coefficient Variable	4.007902	3.64922	3.397058
CA			
KA	43.5197595(27.33)***	0.00788(4.35)***	43.5197595(38.04)***
PPP			
PG			
M1	13.2247303(8.310)***	0.00011039(1.17)	13.2247303(11.56)***
UM	98.1833202(61.66)***	-0.00174(-3.71)***	98.1833202(85.83)***
CD	463.0528901(290.80)***	-1.0331(-10.211)***	463.0528901(404.78)***
LCD	5.8781357(3.690)*	0.82122(6.61)***	5.8781357(5.14)**
TOT	72.2977806(45.40)***	2.01511(11.19)	72.2977806(63.20)***
FP		-0.00000416(-0.44)	3.3845979(2.96)*
YEN		0.09848(9.96)***	97.9970036(85.67)***
GVN	235.5625444(49.21)***		235.0825444(68.50)***
R2	0.725747	0.7716	0.804757
F-Value	64.98***	93.75***	82.06***

REFERENCE LIST

Bank of China (2014), The Economic Statistics System of Bank of China

Boesler, Matthew(2013), The truth about Abenomics, Business Insider, March 16, 2013, (accessed November2, 2014), [available at www.businessinsider.com/what-is-abenomics-2013-3#ixzz3Ht24TTu2]

Centralbanking(2013), 'Yellennomics'-the second coming of Keynes at the Fed, (accessed November2, 2014), [available at www.centralbanking.com>Opinion]

Dictionary of American History(2003), "Reaganomics" (accessed November 2, 2014), [available at encylopedia.com/topic/Reaganomics.aspx]

Fleming, M.(1962), Domestic Financial Policies under Fixed and Floating Exchange Rates, International Monetary Fund Staff paper 9(3), 1962, pp. 369-380

Giddy, Ian H.(1976), An Integrated Theory of Exchange Rate Equilibrium, Journal of Financial and Quantitative Analysis, December 1976, pp. 883-892

Hae-Sik Park(1999), The Effect of Foreigner's Purchase of Stocks to Exchange Rate Change, Financial Research, 18.2, Korea Financial Research Institute, 2579-639

Jae-kyung Kim(2008), Economist Dissect Mbnomics, The Korea Times, June 13, 2008 (accessed November2, 2014), [available at www.kreatimes.co.kr/www/news/.../123-2583.ht]

ISBN: 978-605-64453-2-3

Jon-Won Lee and Hyun-Jib Choi(1997), Statistic Analysis Using SAS Edwards, S(1994). Real and Monetary Determinants of Real Exchange Rate Behavior: Theory and Evidence from Developing Countries, in J. Williamson (ed.), Estimating Equilibrium Exchange Rates, ILE, 1994

Mundell, R.(1963), Capital Mobility and Stabilization under Fixed and Flexible Exchange Rates, Canadian journal of Economics and Political Science 29, 1963, pp. 475-485

Officer, Lawrence H.(1976), The Purchasing-power-Parity Theory of Exchange Rates : A Review Article." IMF Staff Papers, March 1976, pp. 1- 60

Sang-Hee Ja(2008), " Mbnomics": Areview and the Road Ahead, International Journal of Korean Studies, Vol 12, No.1, Fall/Winter 2008

SAS Institute Inc.(1985), SAS User's Guide : Statistics, Version 5edition, Cary. N.C.:SAS Institute

Soon-Woo Kwon (2002), Synchronization of Won to Yen and the effect, Issue paper, SERI, 2002.11

Shapiro, Alan C.(1991), Foundation of Multinational Financial Management, Allyn and Bacon

Wikipedia(2014), "Mbnomics"(accessed November 2, 2014), [available at en.wikipedia.org/wiki/Lee_Myung_bak#Economic_policy]

ISBN: 978-605-64453-2-3