국토연구 제54권 (2007. 9): pp157~174

Exchange Rates and Housing Market : Korean Case

환율과 주택시장: 한국의 경험

Dong-Geun Han Professor, School of Economics and Finance, Yeungnam Univ.

※ Keywords: Exchange Rate, Housing Market, Relative Price of Housing, Housing Investment, Tradable / Nontradable Model

Contents

※ This research was supported by Yeungnam Univ. research grants in 2007

Ⅰ. Introduction

As globalization proceeds, foreign exchange market shocks have wide impacts on various economic aspects. Especially the effects of foreign exchange rate movements have drawn a lot of attentions since the Asian financial crisis in 1997, because misaligned currency values were often blamed for the cause of the crisis. This study examines how the exchange rates are related to the housing market. In specific, the impacts of foreign exchange rates on housing investment and housing price are evaluated with an empirical investigation into Korean experience.

There are two periods of time when soaring housing prices in Korea became a social as well as economic problem. The first period was from 1988 to 1990, and recently from 2003 to 2006. During the first period, average housing price in Seoul area skyrocketed by 53.8%, and it soared again by 24% in the second period of time. Interestingly enough, the periods of the hot housing market coincide with the periods of strong Korean won. During the year 1986 to 1990 Korean won appreciated 24% against US dollar. Korean won has been strong again recently with 26% appreciation rate during 2001 to 2006.

With the observations, this study examines how the exchange rates and housing market are related each other. Specifically, is the correlation between housing price and exchange rate movements simply by chance, or is there a systematic mechanism through which the two are inter-connected? If there is a mechanism connecting the two, is it causal-effect relationship or not? Those are the questions addressed in this paper.

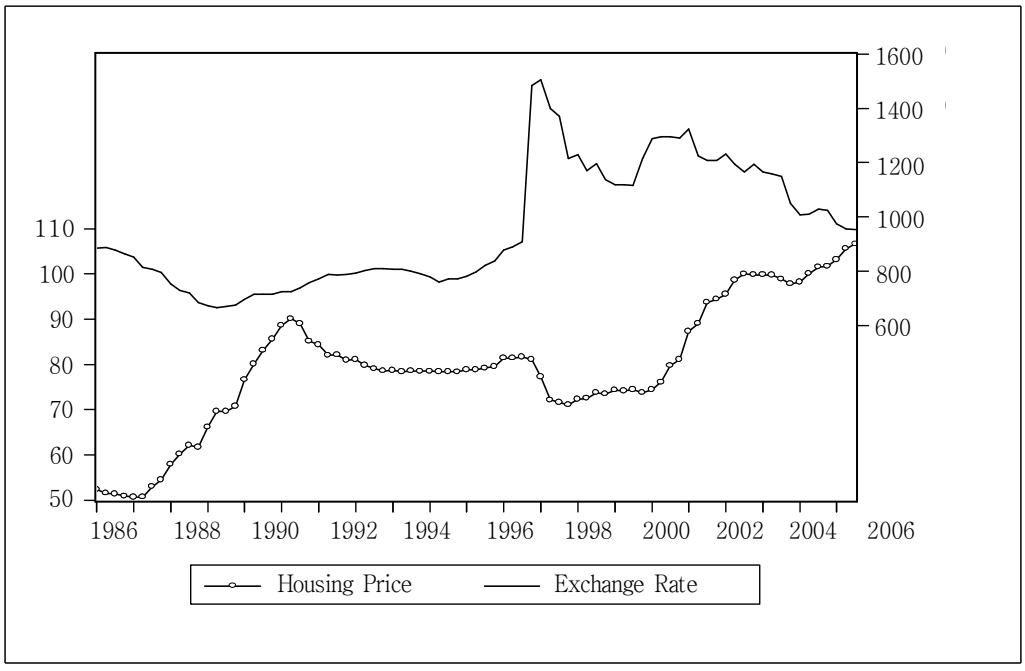
Ⅱ. Factual Relationship between Exchange Rate and Housing Market

This section graphically presents some factual relationships between exchange rate, housing price, and investment in housing sector. <Figure 1> plots historical data on housing price index and exchange rates in Korea. The figure suggests that there has been a negative relationship between movements of housing price and exchange rate. That is, housing price goes up when Korean won is strong, whereas the housing price goes down when the Korean currency is weak.

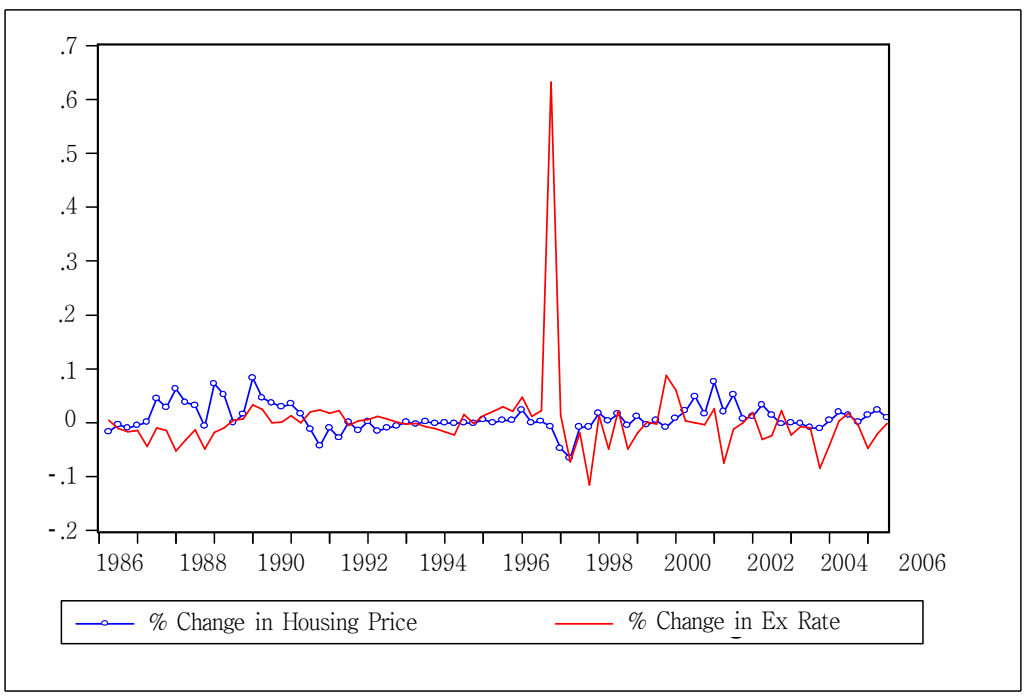
<Figure 2> shows percentage changes in housing price index and won/dollar exchange rate from previous period. As in the case of the level variables in <Figure 1>, the housing price and exchange rate expressed in percentage changes also move in opposite directions

<Figure 3> shows the movements of housing investment and exchange rates. Interestingly, it also appears that the investment in housing sector is negatively correlated with the won / dollar

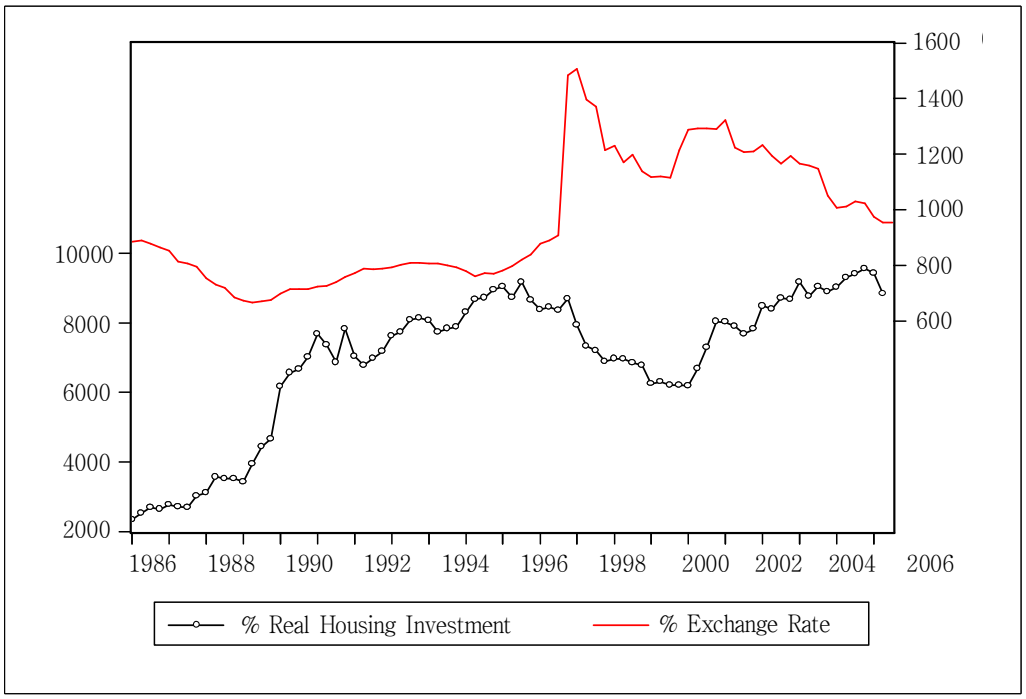
<Figure 1> Real Housing Price Index(left axis, year 2002=100) and won/dollar Exchange Rate(right axis)



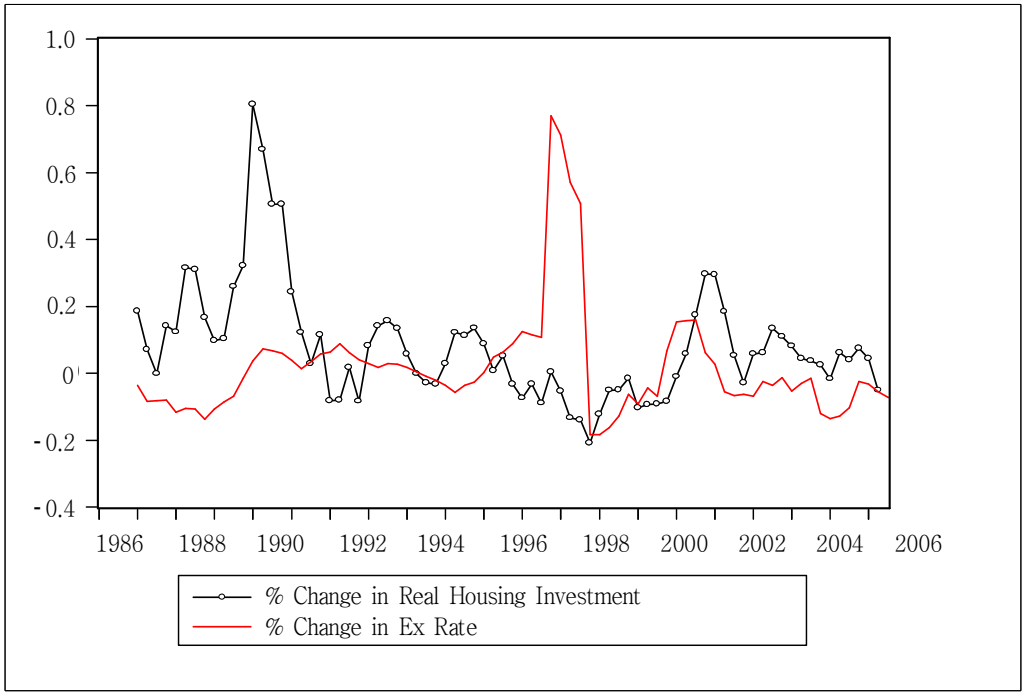
<Figure 2> Real Housing Price and won/dollar Exchange Rate in Terms of Percentage Changes



<Figure 3> Real Housing Investment(left axis) and won/dollar Exchange Rate(right axis)



<Figure 4> Real Housing Investment and won/dollar Exchange Rate in Percentage Term



exchange rate, except for a few years of late 1990s and early 2000s. That is, the amount of investment in housing sector increases with the appreciation of the Korean won. <Figure 4>, describing the change rates of housing investment and exchange rate, also suggests the overall negative correlation between the two variables.

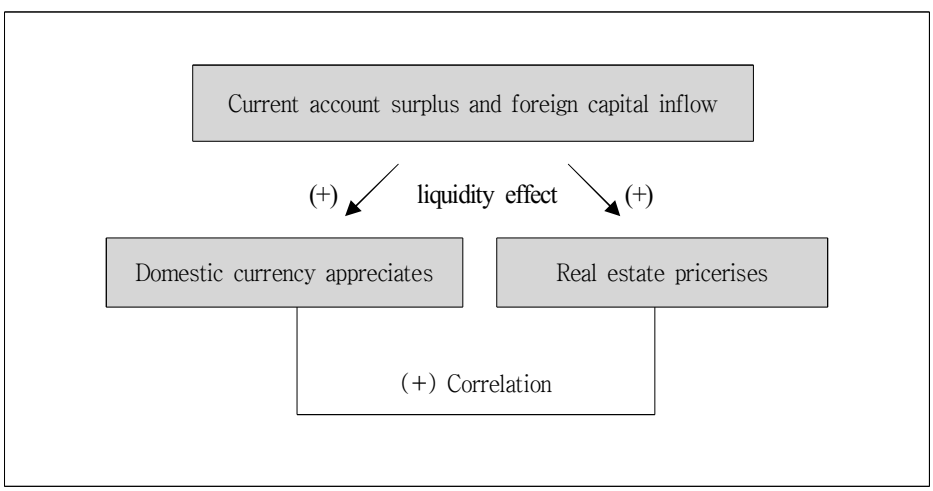
Examining the historical data, one can obtain the following stylized fact: when the Koran won appreciates, both housing price and housing investment tend to increase. Prior studies report similar cases. For example, Xiuzhi(2006) argued that Japanese real estate bubble in late 1980s was triggered by strong yen followed by the Plaza Accord in 1985. During 1985 to 1988 period, Japanese yen appreciated by 86%, and during the same period of time land price of Tokyo almost doubled. According to Xiuzhi(2006), Taiwan also faced similar situation. Taiwanese NT dollar appreciated by 51% and housing price in Taipei went through the roof during 1985 to 1989. Housing price rose 36.5% in 1987, 96.5% in 1988, and 78.2% in 1989.

Having found the fact described above, the next task is to figure out the mechanism through which housing market and the value of domestic currency against US dollar are interconnected, in order to explain the factual relationship found in the historical data. Following section discusses theoretical frames.

III. Theoretical Framework

There could be two possible explanations on the linkage of housing market to exchange rate. One is what is referred as 'liquidity view', and the other is 'relative price view'.

<Figure 5> Domestic Currency Value and Real Estate Price by Liquidity View



1. Liquidity View

Liquidity view states that abundant domestic liquidity caused by current account surplus and/or foreign capital inflows leads real estate market to boom, and at the same time, leads domestic currency to appreciate. Based on the liquidity view Jeon(2003) presented an empirical evidence that current account surplus in late 1980s had a positive impact on the Korean housing price. They argued that the current account surplus induced domestic credit to expand, resulting in large liquidity being fed into the housing market. According to the view, the co-movement of the currency value and housing market stems not from a cause-effect relation, but from the fact that the domestic currency value and housing market react to the common factor: abundant foreign exchanges. <Figure 5> illustrates how the positive correlation between currency appreciation and housing market boom can be produced from the liquidity view point.

But the liquidity view has a difficulty in explaining why the large sum of the liquidity generates boom only in housing sector, not in manufacturing or service sectors.

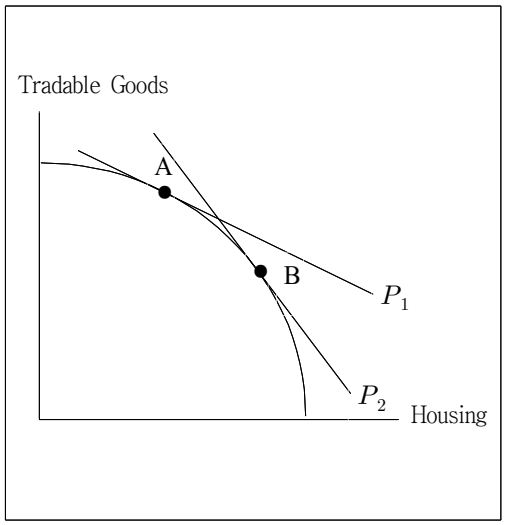
2. Relative Price View

This approach emphasizes the role of relative price changes of housing to general commodities (tradable goods) in order to explain how the movements of exchange rates are related to the housing market. A change in exchange rate results in the change of relative housing price to the price of tradable goods. This is because general commodity price level is influenced by the prices of imported goods and raw materials. For instance, consumer price index tends to fall when foreign exchange rate declines. But the prices of non-tradable goods like housing are not directly influenced by the change of exchange rate since the non-tradable goods are not in competition with imported goods.

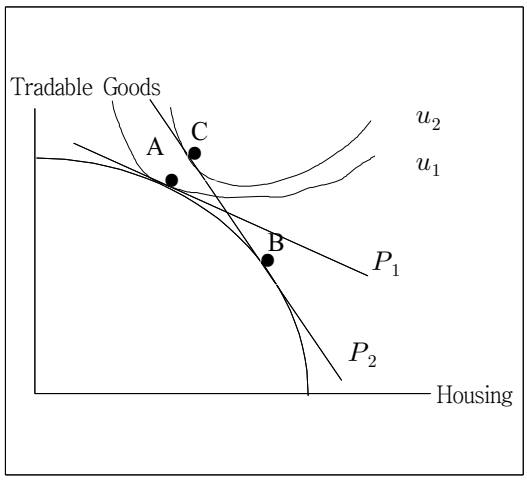
The relative price change, that follows the exchange rate change, in turn prompts economic agents to alter resource allocation, affecting housing market. If this is the case, the change in exchange rate has a causal effect on the housing market. Daianu(2006) contended that the real appreciation of the domestic currency induces a rise in the relative price of non-tradable and the raise of the value of non-tradable producers' assets feeding into real estate price bubbles and credit booms. Similarly, Das(1993) suggested that decreasing exchange rate improves profitability in nontradable sector and induces resource allocation toward the nontradable sector. Ghosh(2005) also argued that an appreciating exchange rate encourages investment in non-tradable sectors, the most obvious being real estate.

<Figure 6> uses the traditional tradable-nontradable framework to illustrates how the

<Figure 6> Change in Relative Price and Optimal Production

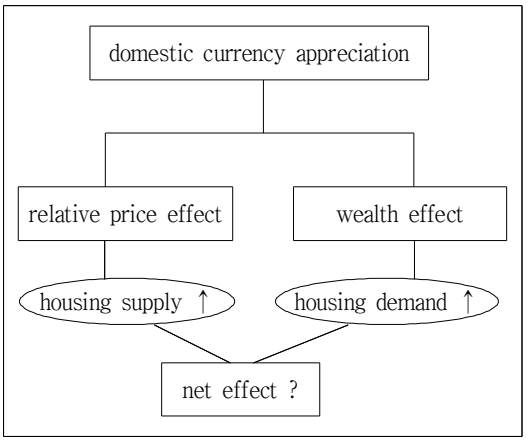


<Figure 7> Change in Relative Price and Optimal Consumption



relative price change affects the resource-allocation decision. For simplicity, it is assumed that only two sorts of goods are produced in a country: tradable and non-tradable goods. For

<Figure 8> Channels of Exchange Rate Effect on Housing Market



the purpose of the study, housing is considered as a representative non-tradable good. The bowed-out curve represents the production possibility schedule in the <Figure 6>. Let the slope of the line P_1 denote an initial relative price of housing against the price of tradable goods. At the relative price P_1, the optimal production is given at point A. Basic microeconomic theory characterizes the point A as satisfying the condition that the opportunity cost of producing one unit of housing is equal to the relative price of housing.

Now suppose that domestic currency appreciates(that is, foreign exchange rate measured by the domestic price of one unit of foreign currency drops) so that relative housing price to general commodity price rises. This change of the relative price is reflected in the steeper slope of line P_2. With the higher relative

price of housing, the optimal production point moves to point B, which means that more houses are being built while fewer tradable goods are being made. The <Figure 6> obviously suggests that exchange rate movements have a direct causal effect on the housing market.

<Figure 7> expands the analysis to determine an optimal consumption combination, where u represents indifference curve. The <Figure 7> assumes that the point A is the initial optimal consumption combination, attaining utility u_1 with the initial relative price P_1. If the domestic currency appreciates and as a result the relative price of housing changes to P_2, the optimal consumption changes to point C. Comparing the point A with C, one knows that people want higher level of housing consumption with appreciation of domestic currency. This is referred as wealth effect of currency appreciation. The wealth effect means that people feel richer with domestic currency appreciation because they can consume more of foreign goods[1]. When the positive wealth effect occurs, people would increase their consumptions including housing.

From the analysis of the <Figure 6> and <Figure 7>, the following statements are derived.

(1) domestic currency appreciation(i.e, exchange rate drop) induces larger housing investment
(2) domestic currency appreciation causes higher demand for housing

The first effect increases housing supply while the second increases housing demand. Therefore, from the theoretical point of view, the housing price could be either increasing or decreasing when domestic currency appreciates, depending on which of the two forces is stronger. In reality, however, there is a considerable time gap between starting and completing construction of the housing, and so housing price is likely to rise in a short run.

IV. Empirical Analysis

1. Hypotheses and Data

In this section empirical test results are presented. The hypotheses of the tests are summarized as follows.

(1) Declining exchange rate raises the relative price of housing to tradable goods.
(2) Increasing relative price of housing encourages investment in housing sector.
(3) Housing investment reduces the housing price in the long run.
(4) But declining exchange rate tends to increase the housing price in the short run due to the time lags in housing construction.

For empirical work, quarterly data from 1986 to 2005 was collected from Kookmin Bank, the Bank of Korea, and Korea National Statistical

1) The wealth effect of currency appreciation is often discussed in the literature. For example, Xu(2006) discussed the wealth effect of currency appreciation with an experience of Taiwan.

Office. The paper used nation wide housing price index. The index incorporates prices of apartments, single-detached houses and multi-family houses. Data was seasonally adjusted, and log-differences were taken to produce stationary series. Variables denominated in monetary value were transformed to real terms using consumer price index.

2. Empirical Results

Firstly, regression models were run to test the hypothesis (1): declining exchange rate raises the relative price of housing to tradable goods. The

<Table 1> Exchange Rate and Relative Price Dependent Variable: Relative Price of Housing to General Commodity Price

Classificaion	Model 1	Model 2
constant	−0.00158 (−0.370)	−0.00191 (−0.422)
nominal exchange rate	0.00466 (0.134)	
nominal exchange rate(−1)	−0.19024 (−5.466)***	
real exchange rate		0.01648 (0.468)
real exchange rate(−1)		−0.17652 (−5.023)***
Adj. R^2	0.433	0.426
D.W statistic	2.153	2.153
Prob(F−test)	0.000	0.000

Note: all variables are in log−difference, t−values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

<Table 2> Granger Causality Test Results

Null hypothesis	F−statistic	Direction of Granger Causality
nominal exchange rate does not Granger cause relative price	9.870 (0.00)***	nominal exchange rate →relative price
relative price does not Granger cause nominal exchange rate	0.164 (0.95)	no causal relation
real exchange rate does not Granger cause relative price	9.884 (0.00)***	real exchange rate →relative price
relative price does not Granger cause real exchange rate	0.136 (0.96)	no causal relation

Note: all variables are in log−difference, p−values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively. Up to Lag 4 used.

test results are reported in <Table 1>. The relative price of housing is measured by the housing price index divided by CPI[2]. The regression results in Table 1 show that the exchange rate of previous period, regardless of being measured in nominal or real term, has a negative impact on relative price of housing in current period. This means that housing price becomes more expensive than tradable goods in relative sense when domestic currency appreciates. The reason for the existence of one quarter time - lag for the exchange rate to affect the relative price is that it takes time for the general price to fully reflect the pass-through effect of the exchange rate change.

The Granger causality test in <Table 2> also indicates that a change of foreign exchange rate causes the change in relative housing price to general commodities, but it does not hold vice versa.

In sum, the exchange rate change is found to

<Table 3> Relatiave Housing Price and Housing Investment Dependent Variable: Real Value of Investment in Housing Sector

Classificaion	Model 1	Model 2	Model 3
constant	0.0178 (2.89)***	0.0147 (1.32)	0.0294 (2.52)**
relative price of housing	0.4037 (1.52)	0.3917 (1.35)	−0.4551 (−1.17)
relative price of housing(−1)	0.6958 (2.61)***	0.6543 (2.27)**	1.1244 (2.88)***
real GDP		0.0036 (0.01)	−0.6569 (−1.36)
real GDP(−1)		0.1845 (0.40)	−0.3118 (−0.62)
real rent			1.2705 (3.10)***
real rent(−1)			−0.4225 (0.25)
Adj. P^2	0.155	0.134	0.215
D.W statistic	1.94	1.94	1.71
Prob(F−test)	0.000	0.000	0.00

Note: all variables are in log−difference, t−values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

2) A referee rightly pointed out that the relative price of housing in this paper is not different from 'real housing price'. In fact the two concepts are identical. For instance, suppose that both the nominal housing price and general price level have increased by 10%, respectively. Then the relative housing price compared to general commodities remains the same. At the same time, the real housing price does not change, either.

<Table 4> Relatiave Housing Price and Housing Investment Dependent Variable: Housing Investment / GDP

Classificaion	Model 1	Model 2
constant	0.0026 (0.41)	0.0008 (0.12)
relative price of housing	0.0967 (0.30)	−0.4386 (−0.94)
relative price of housing(−1)	0.7588 (2.35)**	1.0092 (2.19)**
real rent		0.5753 (0.15)
real rent(−1)		−0.2316 (−0.36)
Adj. R^2	0.11	0.14
D.W statistic	1.99	1.89
Prob(F−test)	0.01	0.02

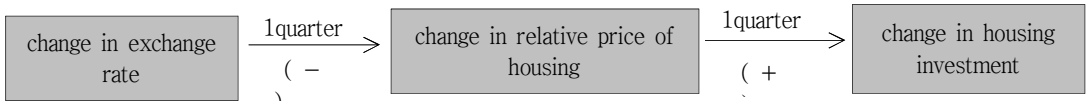
Note: all variables are in log−difference, t−values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

alter the relative housing price to general price with one quarter lag.

Now the hypothesis (2), ‘increasing relative price of housing encourages investment in housing sector’ is tested. <Table 3> reports the regression results where real value of investment in housing sector is used as the dependent variable. In every regression model, the relative housing price of previous period is found to be highly significant in influencing housing investment. The positive sign of the coefficient indicates that the hypothesis(2) holds. The model 3 shows that higher real rent also induces more investment in housing sector[3].

The ratio of housing investment to GDP is also regressed against relative housing price to test the hypothesis(2). <Table 4> summarizes the results. The results is consistent with the results obtained by previous models where real value of housing investment is used as dependent variable. That is, the portion of housing investment in GDP increases with the relative housing price.

<Figure 9> Time Lag between Exchange Rate Change and Housing Investment



3) Here, real rent means real value of down−payments required for renting houses.

<Table 5> Granger Causality Test Results

Null hypothesis	F-statistic	Direction of Granger causality
relative price does not Granger cause housing investment/GDP ratio	2.553 (0.04)**	relative price → housing investment/GDP ratio
housing investment/GDP ratio does not Granger cause relative price	0.723 (0.57)	no causal relation

Note: all variables are in log-difference, p-values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

The Granger causality test in <Table 5> also shows that the relative housing price generates higher housing investment ratio in GDP.

Empirical investigations done so far suggest that it takes about 2 quarters of time period(six months) for the exchange rate change to have an impact on the housing investment. <Figure 9> summarizes the time lag and the mechanism through which exchange rate change affects the housing investment. It is worthy noting that increasing investment in housing does not mean that more houses are supplied right away in the market. It is known that construction of apartments takes at least two years. Therefore, during the construction period, housing price may rise in spite of increasing housing investment because higher demand appears quickly due to the wealth effect, whereas supply increases slowly.

Now we test the hypothesis(3) and(4): housing investment reduces the housing price in the long run. But appreciation of domestic currency tends to increase the housing price in the short run.

As discussed earlier, with the domestic currency appreciation, not only housing investment increases, but also demand for housing is on the rise thanks to the wealth effect. Thus whether housing price would rise or fall during the period of currency appreciation depends on the net effect of the two factors that move in opposite directions. If there is a time lag between starting of the housing investment and completion of the construction, the housing price is likely to rise in the short term.

To test the hypothesis(3) and(4), regression models are constructed. Dependent variable is housing price index in real term. Explanatory variables include exchange rate, housing investment, real GDP, interest rate, rent, and expectation on future capital gain. Change rate of housing price for the past 12 months is used as a proxy for the expectation on the future capital gain. <Table 6> shows the regression results.

As shown in the <Table 6>, real exchange rate of previous period, housing investments of six

<Table 6> Housing Price Determination Dependant Variable : Real Housing Price Index

Classificaion	Model 1	Model 2
constant	0.0052 (2.05)*	−0.0001 (−0.03)
real exchange rate	−0.0416 (−1.95)*	−0.0101 (−0.36)
real exchange rate(−1)	−0.0580 (−1.97)*	−0.0781 (−2.15)**
real exchange rate(−2)	−0.0243 (−0.94)	−0.0220 (−0.64)
real exchange rate(−3)	0.0255 (1.16)	0.0252 (0.94)
real GDP	−0.1860 (−1.55)	0.0942 (0.65)
real GDP(−1)	−0.3458 (−2.95)***	−0.1094 (−0.79)
housing investment(−6)	0.0519 (3.00)***	0.0488 (1.99)*
housing investment(−8)	−0.0363 (−2.75)***	−0.0476 (−2.55)**
change rate of housing price for the past 12 months	0.1745 (7.34)***	0.2415 (7.79)***
real rent	0.4093 (6.17)***	
real rent(−1)	−0.0161 (−0.23)	
real interest rate	0.0230 (1.43)	0.0019 (0.09)
real interest rate(−1)	−0.0414 (−2.83)***	−0.0584 (−3.20)***
Adj. R^2	0.84	0.73
D.W statistic	1.95	2.00
Prob(F−test)	0.000	0.000

Note: all variables are in log−difference, t−values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

and eight periods earlier, expectation on the future capital gain, real rent, and real interest rate of previous period are found to be statistically significant. The sign of the coefficient on the real exchange rate turns out to be negative, which means that domestic currency appreciation raises the housing price. The housing investment done about two years earlier is found to have a

<Table 7> Granger Causality Test Results

Null hypothesis	F-statistic	direction of Granger causality
real exchange rate does not Granger cause real housing price	9.05 (0.00)***	real exchange rate → real housing price
real housing price does not Granger cause real exchange rate	0.35 (0.84)	no causal relation

Note: all variables are in log-difference, p-values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

<Table 8> Granger Causality Test Results

Null hypothesis	F-statistic	direction of Granger causality
real housing investment does not Granger cause real housing price	1.16 (0.33)	no causal relation
real housing price does not Granger cause real housing investment	1.98 (0.06)*	real housing price → real housing investment

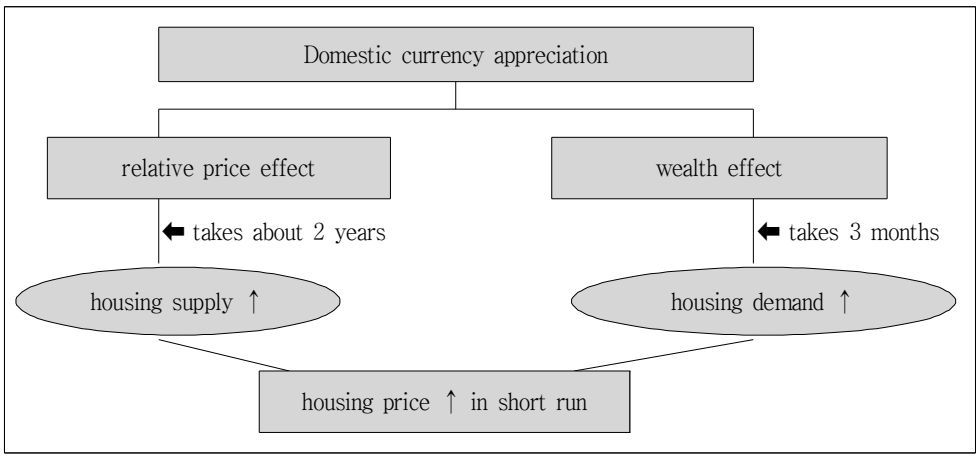
Note: all variables are in log-difference, p-values in ( ), *, **, *** represent significance level at 1%, 5%, and 10%, respectively.

price-stabilizing effect in current period since the coefficient has a negative sign. On the contrary, however, the investment of one and half year earlier has a positive impact on the housing price. The results suggest that it takes about two years for the housing investment to have a price-stabilizing effect. In addition, it is also suggested that housing investment raises housing price in the short run[4]. This supports the argument that large housing development projects such as new town development and redevelopment of old apartment complex, increase housing price in short term. The regression results also indicates that higher rent leads to higher housing price. Real interest rate is found to have a negative impact on the housing price as the conventional asset-price theory anticipates[5]. Expectation on future capital gain is estimated to increase the housing price. Real GDP variables are found to be insignificant or to have a negative sign. The negative sign on the GDP with one-period lag does not conform to the

4) A referee of the first version of the paper recommended that regression analysis needed to be run on the housing investments from lag one to six to assure the short-run positive impact on the housing price. But the six lagged variables are serially correlated each other and as a result, the efficiency of coefficient estimation becomes low. Therefore, the p-values of the coefficients turned out to be insignificant. Nevertheless, four coefficients out of the six had positive signs; −0.073, 0.037, −0.028, 0.012, 0.023, 0.033(in order of lagged periods).

5) Conventional theory on asset price determination suggests that the interest rate has a negative impact on the asset price, because the interest rate is a discounting factor in capitalization of the expected future income from the asset.

<Figure 10> Effect of Exchange Rate on Housing Market



conventional wisdom. But previous studies, like Jeon(2003) also report that the real GDP is found to have a negative sign on estate price or to be insignificant.

In summary, although domestic currency appreciation increases both housing demand and housing investment, the demand appears in the market right away whereas supply lags behind two years. Therefore during the period of strong domestic currency, the short term net effect would be housing price on the rise. The Granger causality test, reported in <Table 7> and <Table 8> confirm that conclusion, too. <Table 8> shows that housing investment does not Granger cause housing price, indicating that increasing investment in housing sector does not contribute to the price stabilization in the short run.

Ⅴ. Summary and Concluding Remarks

This paper is motivated by the Korean experience that housing market has been booming during the periods of strong domestic currency. In order to address the issue, the paper makes use of the trade - nontradable model. Unlike the traditional liquidity view, the trade - nontradable model predicts a causal relation between foreign exchange rate and housing market situation. The theoretical model suggests that declining foreign exchange rate(appreciation of currency) induces investment in housing sector to grow, because the declining exchange rate makes the relative price of housing to general commodities higher. Therefore, the stronger domestic currency tends to produce more houses in the long run. But thanks to the legal procedures required for permissions and construction time, it takes considerable time before the larger supply of

housing is added to the market. In the short run, on the other hand, higher demand for housing hits the market, raising the housing price. This is because of the wealth effect of currency appreciation. As exchange rate falls, the prices of importable goods and raw materials become cheaper and so the general domestic price level also falls. This in turn improves the purchasing power of domestic residents, through what we call the wealth effect of the currency appreciation.

Considering the supply and demand side effects all together, short term net impact would be housing price that is rising during the period of strong domestic currency[6].

Quarterly data from 1986 to 2005 was used for empirical tests. The empirical results can be summarized as follows.

(1) Declining exchange rate raises the relative price of housing to tradable goods.

(2) Increasing relative price of housing encourages investment in housing sector.

(3) Higher investment in housing sector reduces the housing price in the long run.

(4) But declining exchange rate tends to increase the housing price in the short run due to the time lags in housing construction.

This paper looks only at the Korean case. but the model and methods used in the paper can be easily applied to other nations as well.

Reference

Chang, Dong Gu and Young Jun Choi. 2004. "Analysis on Growing Export and Sluggish Domestic Demand with tradable-nontradable model"(Korean). *Research in Fiance and Economics,* vol.202. The Bank of Korea.

Corden, Warner M. and J. Peter Neary. 1982. "Booming Sector and De-industrialization in a Small Open Economy". *Economic Journal* vol.92. Dec.

Corden, Warner M. 1977. *Inflation, Exchange Rates, and the World Economy*. Chicago: The University of Chicago Press.

Daianu, Daniel and Ella Kallai. 2006. "Financial Openness between Blessing and Curse for Catching up in EU". *the Seventh Annual GDN Conference*. Russia : St. Petersburg.

Das, Dilip K. 1993. *The Yen Appreciation and the International Economy*. London: Macmillan.

Ghosh, Jayati. 2005. "The Economic and Social Effects of Financial Liberalization: A Prime for Developing Countries". *DESA(Department of Economic and Social Affairs of UN) Working Paper,* no.4. Oct.

Imai, Hiroyuki. 2002. "Hongkong's High Inflation Under the US Dollar Peg: The Balassa-Samuelson Effect or the Dutch Disease?". *Department of Economics Working paper* no.126. Stanford University.

Jeon, Gang Soo and Dong Geun Han. 2003. "Land Price and Credit: Comparison of Korea and Japan"(Korean). *Korean Economic Review.* vol.51, no.4.

Salter, W.E.G. 1959. "Internal and External Balance: The Role of Price and Expenditure Effects". *Economic Record* no.35. Aug.

Xiuzhi, Zhang and Wu Xiaoguang. 2006. "The Analysis: the Influence of RMB Exchange Rate Fluctuation on Real Estate Price in China". *Paper prepared for XXIII FIG Congress.* Germany : Munich.

6) It is needless to say that this conclusion holds only when other conditions being equal. For instance, if interest rate rises or property tax increases, the housing price may go down while domestic currency appreciates.

Xu, Yingfeng. 2006. "Taiwan's Experience of Currency Appreciation". *Department of Economics and the Institute for Public Economics Working paper series* 06 - 01. University of Alberta.

• 논문 접수일 : 2007. 7. 9
• 심사 시작일 : 2007. 7. 23
• 심사 완료일 : 2007. 8. 9

ABSTRACT

환율과 주택시장: 한국의 경험

한동근 영남대학교 경제금융학부 교수

※ 주요단어: 환율, 주택시장, 주택의 상대가격, 주택투자, 교역재 / 비교역재 모형

본 연구는 환율변동이 주택시장에 어떤 영향을 미치는가를 밝히기 위해 전통적인 교역재 / 비교역재 모형을 이용한다. 한국의 경우 과거의 자료를 보면, 원화강세(환율하락) 시기에는 주택가격이 상승하고 주택부문에 대한 투자가 증가하는 현상이 관찰되었다. 이와 같은 규칙성이 우연한 것인가, 아니면 체계적인 것인가? 본 연구는 환율과 주택시장이 체계적인 관련성을 가지고 있다는 주장을 펼치며, 구체적으로 환율변화와 주택시장이 어떻게 연결되어 있는가를 밝힌다. 이론적 틀로서 본 연구는 환율변화에 따른 주택의 상대가격 변화효과와 부의 효과(wealth effect)가 발생한다는 가설을 제시한다.

실증분석을 통해 상대가격 변화효과와 부의 효과를 확인하였는데, 원화가 강세를 보일 때는 주택과 같은 비교역재에 대한 수요(부의 효과)와 투자(상대가격 효과)가 모두 증가한다는 것이 발견되었다. 나아가 각 효과가 발생하는 시차 때문에 원화강세 시기에는 단기적으로 주택가격이 상승하는 현상이 발생한다는 것을 밝힌다.