Impact of Fed's Decision on the Korean Real Estate Market

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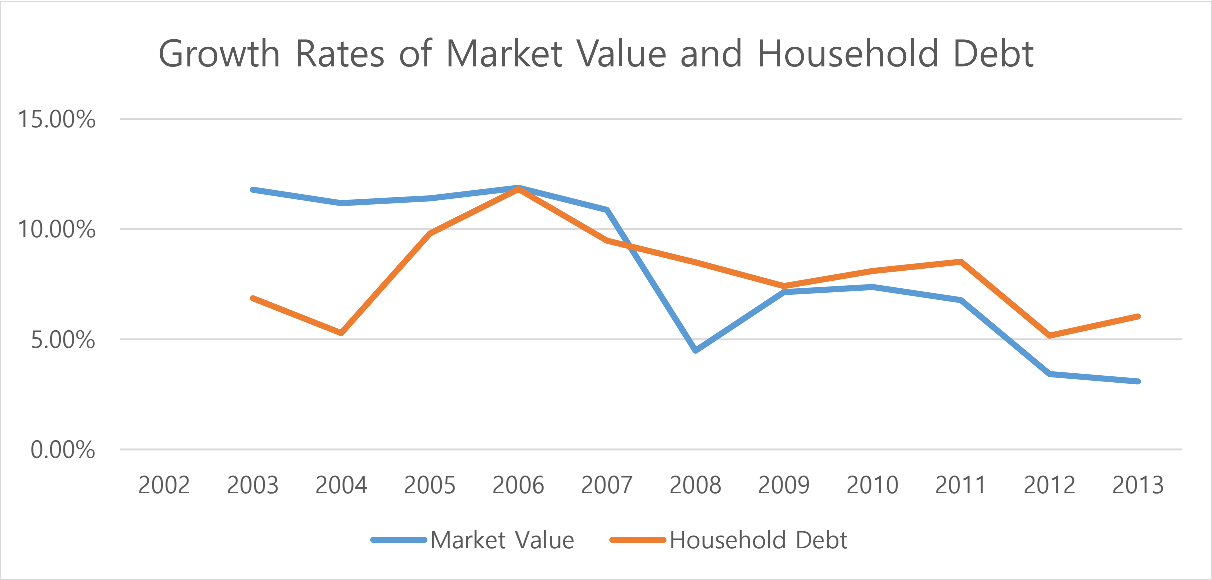
Abstract:

After the recovery from the Asian Financial Crisis of 1997, the economy of South Korea underwent structural change in investment, from the fixed capital formation of firms to the residential speculation of households. The trend became evident after the Global Financial Crisis of 2008, when both the market value of the real estates and borrowing rate dropped significantly. Now, in 2015, the Global Financial Crisis came to end, followed by the completion of the latest Quantitative Easing, and the hike in the Federal Funds Rate is impending. This paper examines the mechanism of which the Federal Fund Rate affects the Household Borrowing Rate in South Korea and how that will affect the Real Estate Market of South Korea, through understanding key characteristics unique in South Korea including types of borrowing rate, types of loans, tools of government regulation, and Jeonse, in order to formulate expectation about the future Real Estate Market in South Korea.

1. Trend in the Korean Real Estate Market

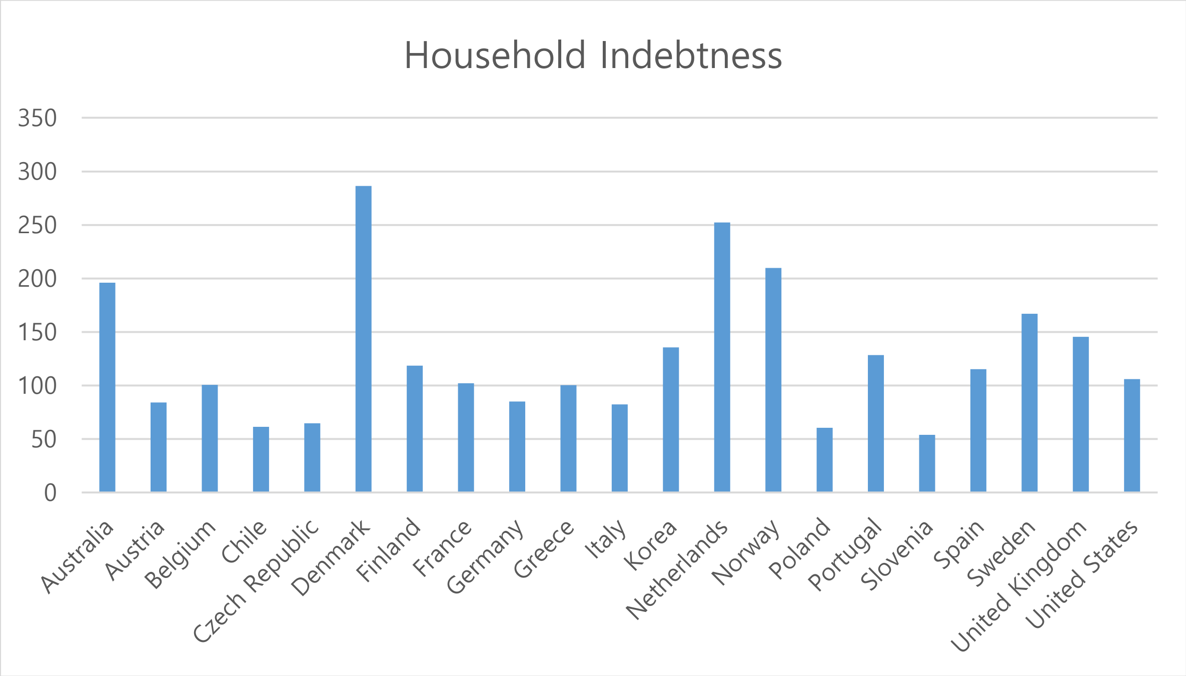
About 30 years ago, the Japanese economy seemed to be chasing that of the United States, when Gross Domestic Product of Japan was about 70% of that of the United States. However, the economic growth based on the growth of mere financial asset and real estate prices led to the long term recession of the Japanese economy in which further growth was impossible with severely devalued properties.

Now, we have to look closely into the rapid growth level of national household debt in South Korea. Although the prospect of Korean real estate market is not that optimistic, the household debt, mostly to purchase housings for the investment purpose, is increasing rapidly even after the global financial crisis hit the market in 2008.



<**Figure 1.1** Growth Rates of Market Value of Real Estates and Household Debt>

According to the graph, the household debt is increasing at the faster rate than the market value of the real-estates from 2007. The correlation between the two variables is 0.47, reflecting not strong relationship; the increase in household debt is not necessarily followed by the increase in the market value, and vice versa.

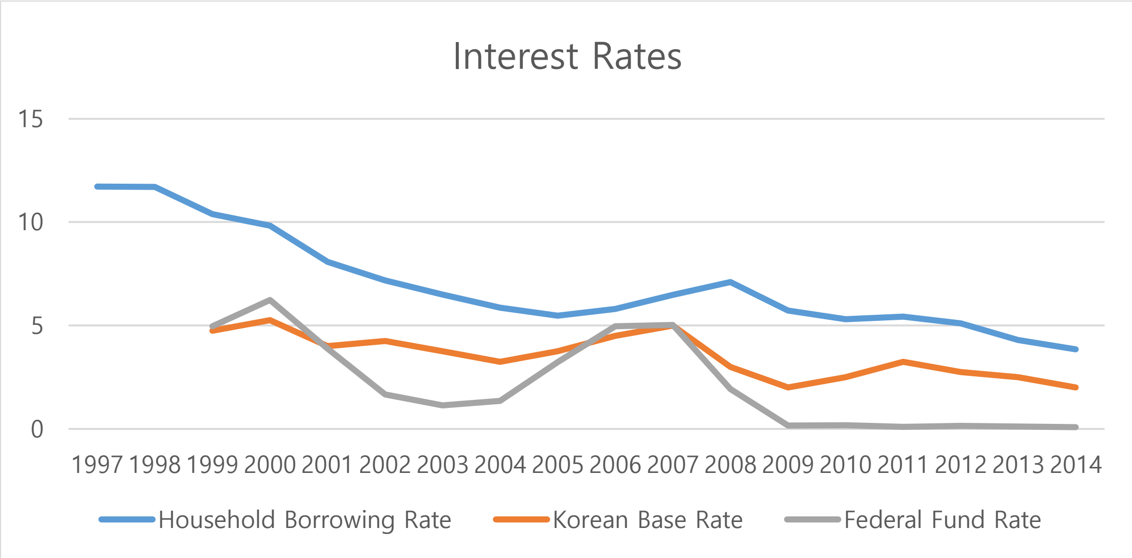


<**Figure 1.2** Growth Rates of Market Value of Real Estates and Household Debt>

Not only the speed of the household debt is high, but also the size of the debt. The latest record of 2nd quarter of 2015 shows that the household debt is 1 trillion U.S dollars in total. Indeed, it is higher than that of Japan during the 'Bubble Economy'.

Let's leave the inquiry to the cause of such an irrational behavior of the market as future topic. For this time, we will find out how the real estate market will be affected as a result of the increase in the Federal Fund Rate, which will take place within this year.

2. The Effects of Federal Fund Rate on Household Borrowing Rate in Korea



<**Figure 2.1** Growth Rates of Market Value of Real Estates and Household Debt>

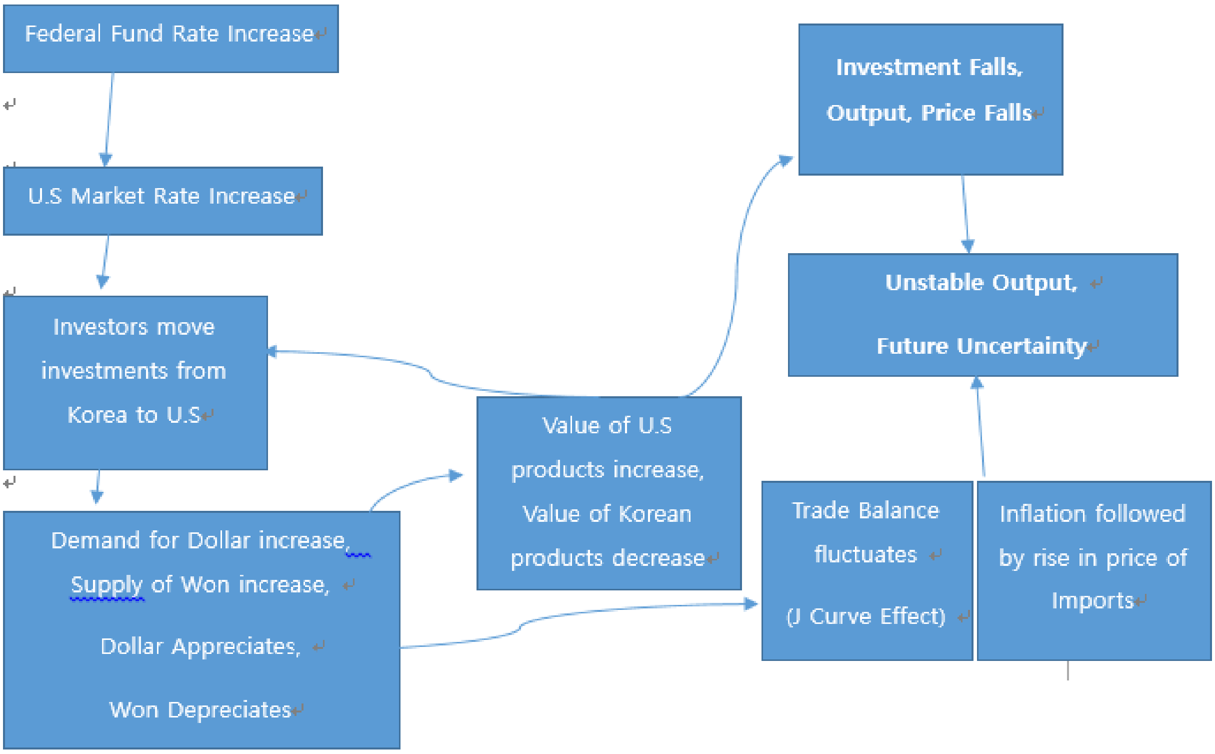
To put it straightforward, all interest rates derive from the base rate, the lending rate of the central bank to the commercial banks. Since banks should charge the interest rate higher than the base rate to realize profits, and low enough to attract more borrowers, it can be concluded that general interest rates follow the trend of the base rate. According to the graph, the correlation between the household borrowing rate and the base rate is 0.74.

For central bank, base rate is an effective tool for handling the economy. In a borrower's point of view, an interest rate is the cost. When the economy is in downturn, a central bank can lower the base rate, thereby reducing all the interest rates, to encourage more borrowing from the banks (investment) than lending to the banks (savings).

What happened in the Unites States was that the Federal Reserve, the central bank of the United States, reduced the discount rate to almost zero since 2008. The economy is now recovered, and the Federal Reserve stated that it will eventually increase the discount rate within this year in order to catch up the future inflation.

In an open economy, things get trickier. In an investor's point of view, easy money can be made by borrowing money at the lower interest rate and lending money at the higher interest rate, which is known as arbitrage opportunity. For an international investor, this can be done across the border. In extreme case, all the capitals invested in the country with the lower interest rate can be all moved into the country with the higher interest rate. The increased demand for the currency of the country with higher interest rate will essentially lead to the appreciation of that currency, and conversely, the depreciation of the currency of the country with lower interest rate.

As a result, investment in a domestic economy will decrease, which will result in decrease in output and price. Although depreciation of domestic currency can boost economy through increasing net exports, J-curve effect dictates that trade balance will be worsened in short run and rise in import prices only brings inflation of foreign goods consumed in domestic market. Overall impact on the domestic market is uncertainty about the output and price level in the economy, which can possibly result in further capital outflow in an economy like South Korea where capital mobilization is free.



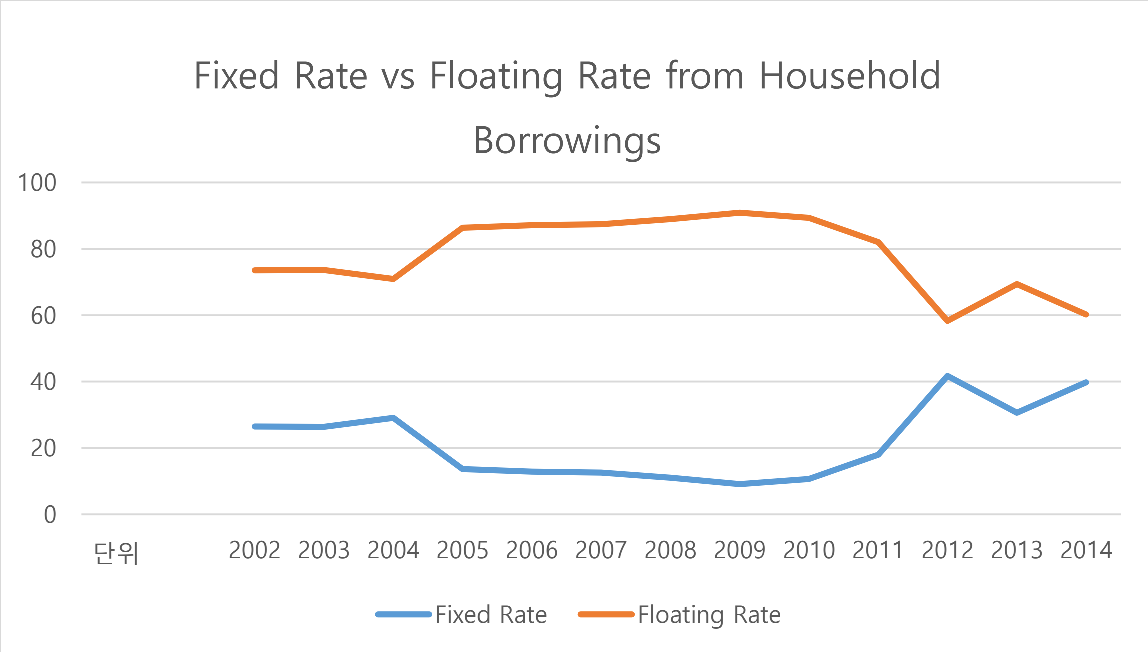
<**Figure 2.2** Flow Chart of Interest Rate Dynamics in an Open Economy Without Response to Federal Fund Rate>

To prevent the sudden outflow of the massive amount of the foreign capitals, the counterparty central bank should increase the interbank rate along with the increase of Federal Fund rate. For that reason, the Korean Base rate is highly consistent with the Federal Fund rate, with the coefficient 0.90. The market conditions of the United States, with the largest financial market in the world, affects that of the other countries, including South Korea.

With the relationships between the household borrowing rate and base rate, and the base rate and the federal fund rate, it can be also concluded that the Korean household borrowing rate is correlated to the Federal Fund rate. Statistically, the correlation between the two is 0.73.

3. Types of Household Borrowings in the Market

The key part of predicting how the increase of Federal Fund Rate will affect the real estate market in South Korea is to understand the fluctuation of the household borrowing rate.



<**Figure 3.1** Types of Household Borrowings in the Market>

In general, there are two types of loans provided by the Korean commercial banks: fixed-rate loans and floating-rate loans. As its name implies, a fixed rate loan is a loan in which the borrowing rate does not change during the fixed rate period of the loan. However, according to South Korea's Financial Supervisory Commission, only 33% of the household loans in Korea are fixed-rate loans[1]. The rest are the floating-rate loans, in which the borrowing rates fluctuate based on a reference rate. The chart also indicates that the percentage of fixed-rate loans are comparatively low, and has just started to increase due to the government's recent policy reform, which will be further discussed in the next topic.

Most households in Korea get floating-rate loans instead of fixed-rate ones due to several factors. One obvious factor is the decline in base rate since 2008. After the Global Financial Crisis, the Bank of Korea subsequently lowered the base rate from 5.25% to 2.00%, and by June this year, it cut the base rate to a record-low of 1.50%. Thus, such constant decline in base rate would surely provide incentives for the existing fixed-rate loan takers to change their fixed-rate loans to floating-rate ones despite the expensive commission, and simultaneously attract new borrowers to get floating-rate loans. As it is evident in the chart, the loan based on deposit-rate-indexation, which is the major floating-rate loan, has increased since 2008, when the base rate, thereby the market rates, dropped significantly.

Another factor for the preference of floating rate loans is due to the relatively high interest rate of fixed-rate loans. According to a commercial bank official, the fixed-rate was 0.85% higher than the

[1] Kyeonggi Online News Team. "가계대출 건전성 개선, 원인은...분할상환, 고정금리 비중증가." *Kyeonggi Daily News* 2015.08.14: http://www.kyeonggi.com/news/articleView.html?idxno=1014883.

floating rate in this June, and since then, the base rate has been at a record-low; the lowest fixed rate was 3.41%, and floating rate was 2.56%.[2] Due to such interest rate difference, households are strongly inclined to take the advantage of current low market rates, and choose to get floating-rate loans instead.

The risk of the current overwhelming percentage of floating-rate loans is that if the Federal Funds Rate increases, the base rate, thereby the floating rate, will increase subsequently, leading to much bigger expansion of the national household debt.

[2] Hankyoreh Online News Team. “주택담보대출 아직은 '변동금리 유리'.” *Daum Finance* 2015.06.15: http://finance.daum.net/news/news_content.daum?docid=MD20150615110019461.

4. Implemented Policies and policies to be implemented

Several policy reforms have been and are being planned to be implemented by the government to cope with the aftereffect of the forthcoming increase in Federal Funds Rate towards the Korean market. One fundamental reform the government has already carried out since last year is to induce transition from floating-rate and bullet loans to fixed-rate and amortizing loans. This policy reform has been successfully implemented to the market by selling more fixed-rate based and amortizing loan products through the commercial banks. According to the Financial Services Authority, the government plans to increase the percentage of fixed-rate loans from current 33% to 40% or above, and 45% or above for amortizing loans.

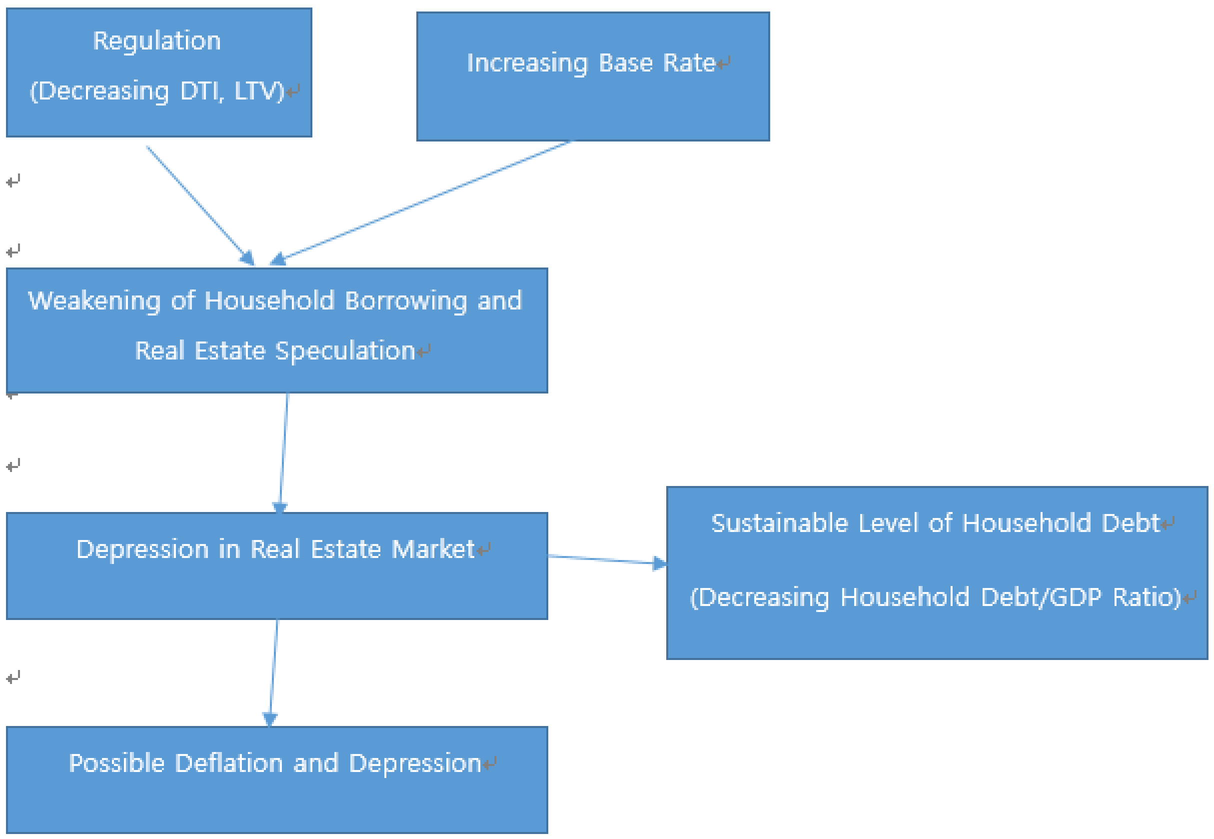
The government is also planning to fortify the lending regulations such as DTI and LTV ratios. Both DTI and LTV ratios are common measures used by commercial banks to verify one's loan repayment capability. The DTI ratio, which stands for the Debt-to-Income ratio, indicates the percentage of debt in one's gross annual income. For example, if someone's gross annual income is $50,000 and the DTI ratio is 40%, then the maximum amount the person can borrow would be $20,000 ($50,000 * 0.4). On the other hand, the LTV ratio, or the Loan-to-Value ratio, indicates the percentage of a loan in the value of purchased asset. If someone wants to take out a mortgage on his house worth $300,000, and the LTV ratio is 60%, then the maximum loan amount would be $180,000 ($300,000 * 0.6). Obviously, higher DTI and LTV ratio would mean larger amount of money lent to the borrowers.

Along with the decline of base rate to a record-low of 1.50%, the government's decision to increase the LTV and DTI ratios from 60% to 70% last year is considered to be one of the biggest factors that have led to the rapid expansion of the household debt. Therefore, the realistic solution to cope with the potential risk of the increase in Federal Funds Rate towards the Korean real estate market would be to fortify the lending regulations according to the borrower's loan repayment capacity by decreasing the DTI and LTV ratios.

5. Expectations of the Market

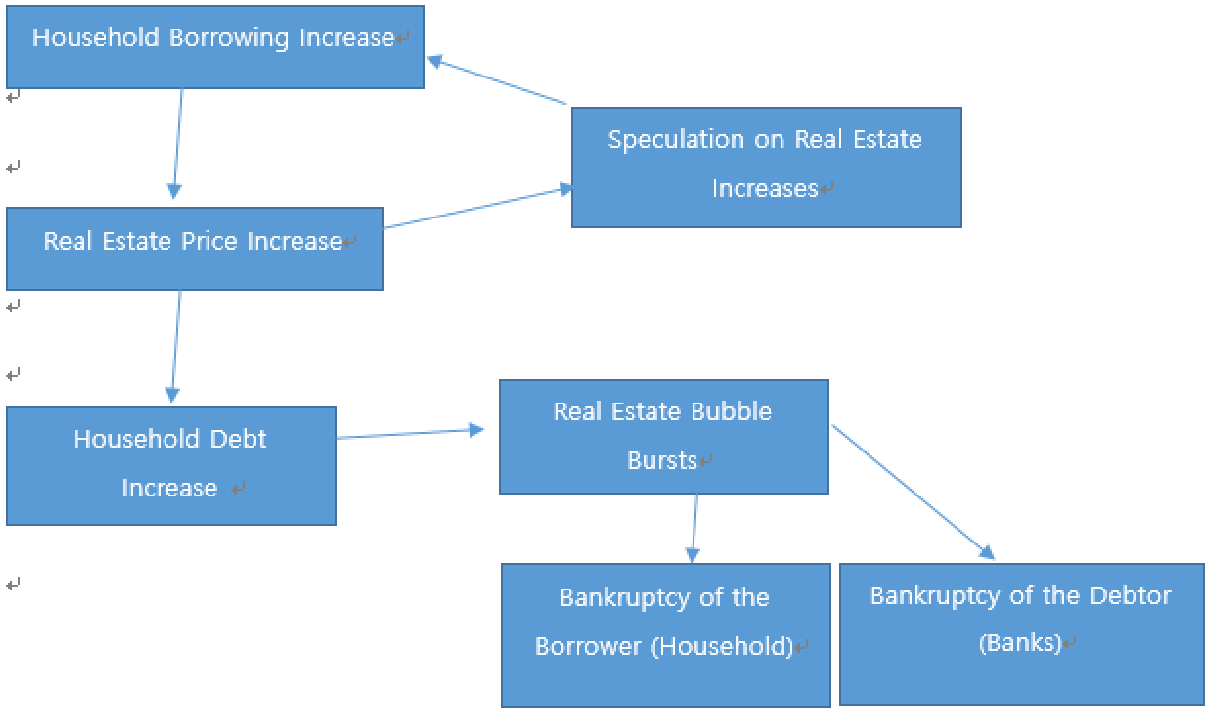
The impact of the Fed's decision to increase the Federal Funds Rate depends on the role of Korean government's policy in the market. Although it is evident that the increase in the Federal Funds Rate will increase the household borrowing rate, and thus the overall level of the household debt, the impact on the market value of the real estates is indeterminate.

Regulation seems to be necessary, in order to stabilize the market and guarantee the sustainability of the financial system. Although the regulatory measures could slow down the expansion of the household debt, the measures can negatively impact the current debt holders of the real estates. Altogether with the increase in the borrowing rate, the regulations would deter individuals from purchasing estates from current holders. This will eventually lead the current holders to decrease the price of their own estates, which will ultimately lead to the deflation.



<**Figure 5.1** Flow Chart of the Market with further Regulation>

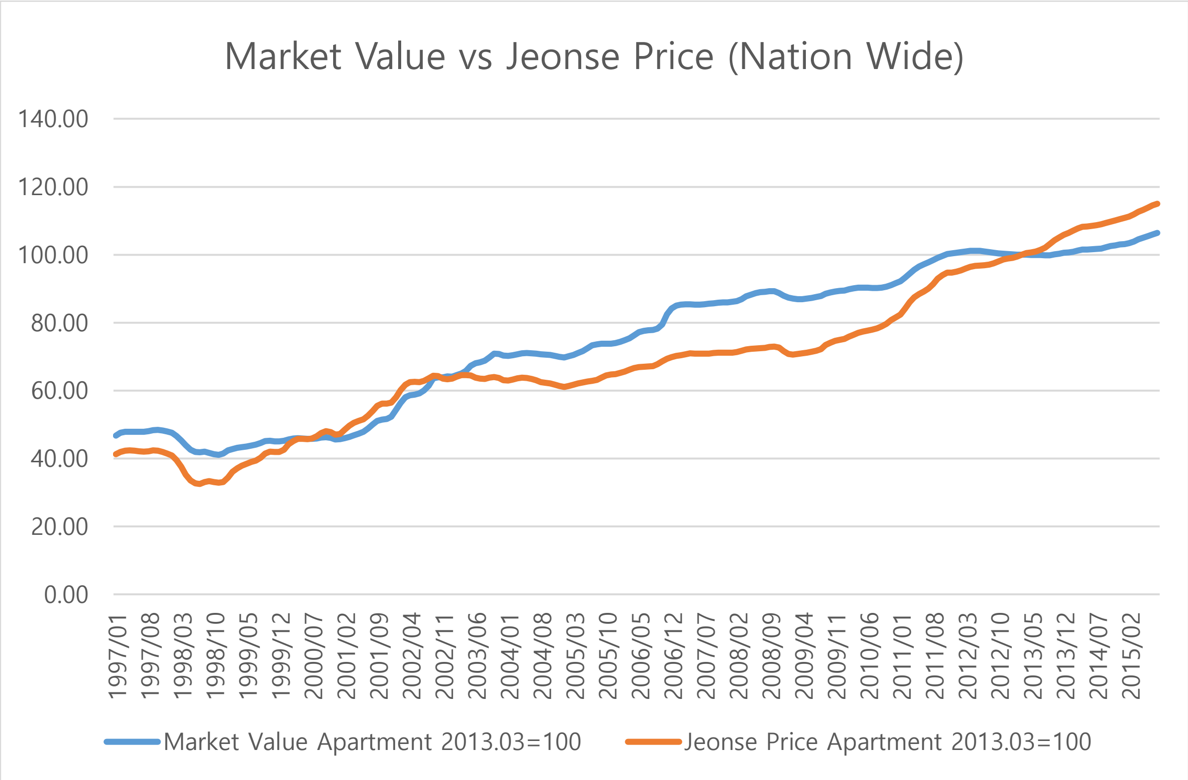
Without government intervention, the household debt will increase consistently with the increase in the market value of the real estates. In this situation, although the current holders can exit the market with some profits, this is only done in sake of the introduction of new debt holders with even more debts. This process cannot perpetuate but stops when the bubble in the market bursts, like what happened in 2008~2009 in the Korean real estate market. Not only the individuals who hold the estates when the bubble bursts would go bankrupt, but also the banks who made all the loans would be affected.



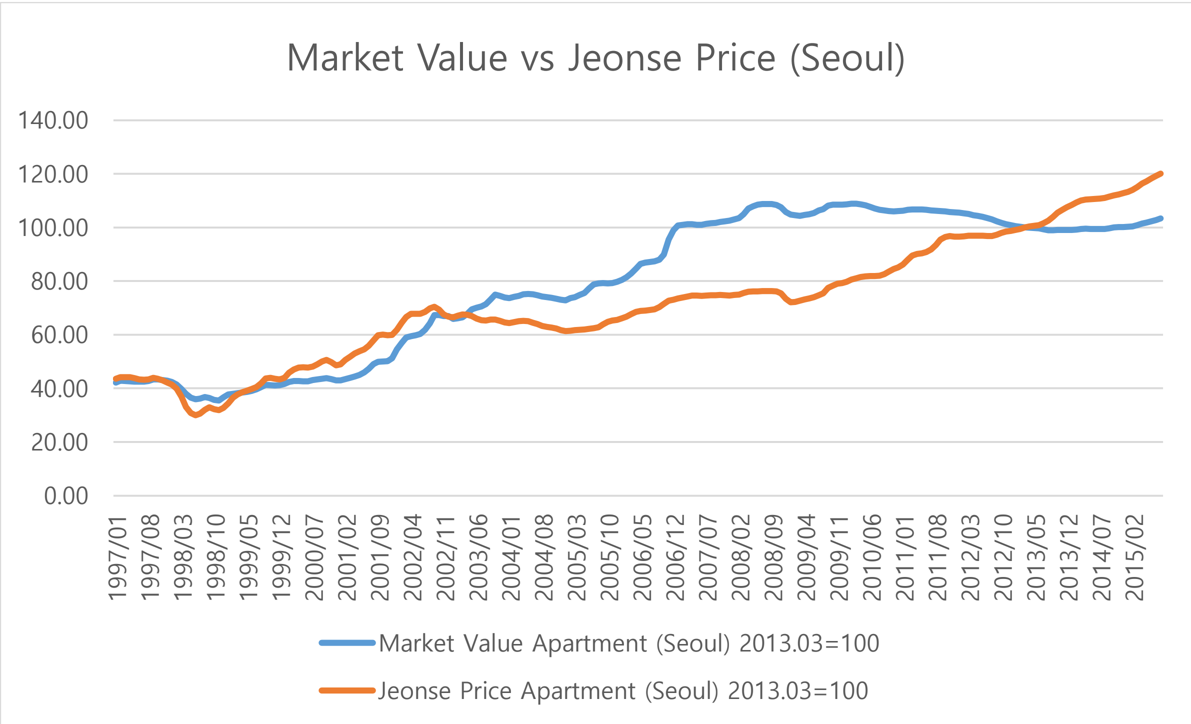
<**Figure 5.2** Flow Chart of the Market without further Regulation>

Therefore, the trend of the market is dependent on the prediction of the government policy and the timing of the bubble burst. The official stance of the vice-chancellor of the economic department demonstrates that the government takes the expansionary policy in the household market, reasoning that the market is undergoing the downturn[3]. His perception in the market, in fact, is consistent with the prospect of the market. Jeonse is the rental contract between a landlord and a tenant where the latter gives certain amount of money (usually about 50~80% of the market value of the household) to the former for certain amount of time (usually 2 years), only found in Korean real estate market. Until recently, the price of Jeonse has been rising so fast that some landlords imposed Jeonse price higher than the market value of the estates.

[3] Ohmynews. http://www.ohmynews.com/NWS_Web/View/at_pg.aspx?CNTN_CD=A0002137206



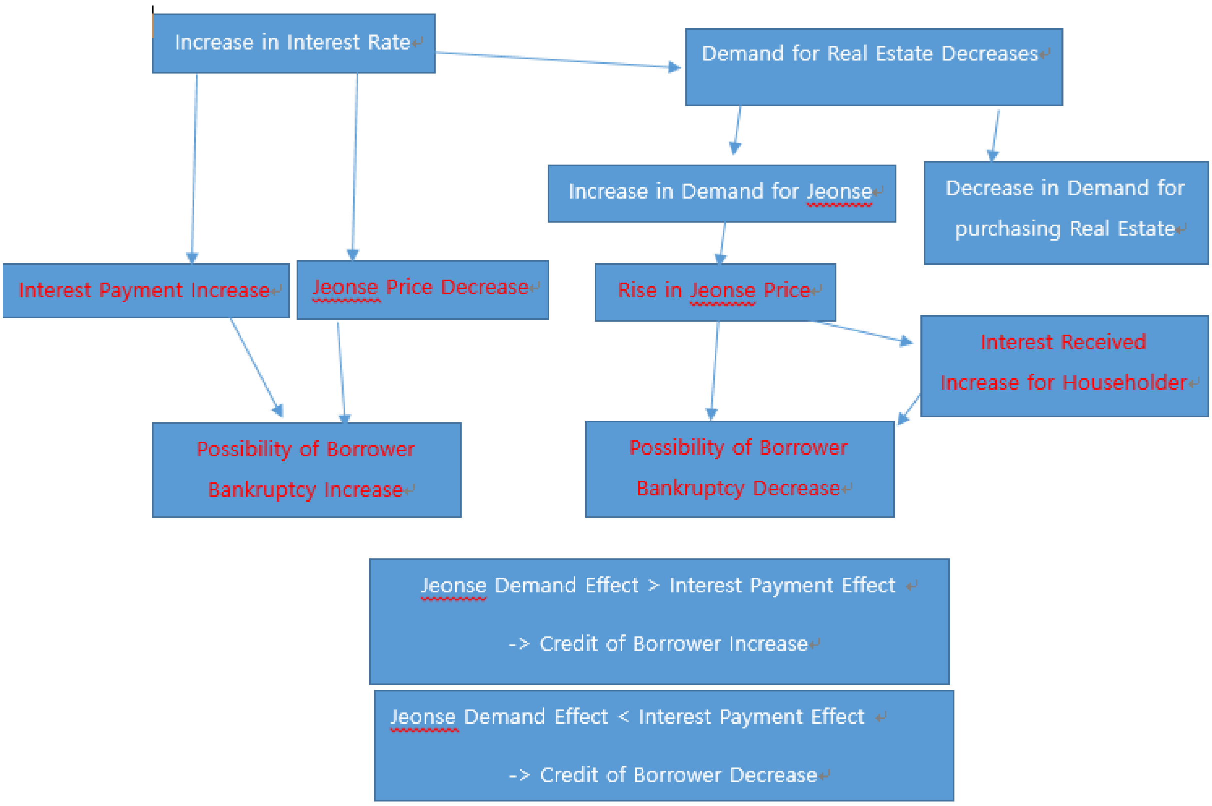
<**Figure 5.3** Trend of Market Value and Jeonse Price of the Real Estates Nationwide>



<**Figure 5.4** Trend of Market Value and Jeonse Price of the Real Estates in Seoul>

This is the evidence that the market's prospect of the future price of the real estates is not positive, in spite of the government's expansionary policy. The trend is even clear in the real estate market of Seoul, the capital city of South Korea where the trading of the real estates is done vigorously in the purpose of the investment and the speculation.

However, we should note the effect of Jeonse's price on the selling price of the real estates in the market. It is fortunate for South Korea to have such system because it functions as leverage when the market is in downturn. For a speculator who invests in an estate by purchasing it with bank loans and Jeonse, thereby investing only the half the price to purchase the estate, the rise in the price of Jeonse and the increase in the bank interest rates means that new deposits can be made by profits between the new price and the old price. This new profits might offset the negative impact on floating-rate borrowers. More importantly, this might ensure the debtors to maintain the price given the profits from the Jeonse rent interests, thereby soothing the market expectation. To put it simply, increasing in the borrowing rate can be burden for real estate speculator, but increasing in the receiving rate of Jeonse as a result of increased demand for Jeonse can form a buffer effect for speculator to delay his exit strategy.



<**Figure 5.5** Flow Chart of the Expected Impact of Fed's Rate Hike on the Korean Real Estates Market>

Decelerating market value of the estates already signals the stability of the market, which, in other words, stands for the stagnation of the market. Instead of nefarious bubble burst, which is likely to happen in most economies, soft-landing of the market is more likely to happen, given that the rise in Jeonse price leverages the possibility of household debt bankruptcy.