# The Impact of Non-Traditional Monetary Policies on Different Property Sectors of Japanese REIT Market

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Part 1 ☆

## 1. Purpose of Part Ⅰ

The first two Real Estate Investment Trusts (REITs) were listed on the Tokyo Stock Exchange (TSE) in September 2001. Subsequently, the number of REITs gradually increased, and the REIT market in Japan expanded significantly up until 2007. However, due to the global financial crisis in 2007 and the Great East Japan Earthquake in 2011, the REIT market experienced a downturn and endured a stagnation phase. Since the second half of 2012, the REIT market has been on a rising trend again. According to the Association for Real Estate Securitization (ARES) , as of the end of March 2018, 60 REITs have been listed in Japan, and the total market capitalization has reached ¥11.95 trillion (US$103.5 billion), making Japan the second largest REIT market in the world after the US.

The TSE started to publish the REIT Property Sector Index Series on February 26, 2010. The constituents of the REIT Property Sector Index Series are selected from the constituent universe of the TSE REIT Index on the basis of the use of the properties subject to investment by each REIT. The series is composed of three indexes: the TSE REIT Office Index, the TSE Residential Index, and the TSE Retail & Logistics Index. This paper conducts a comparative analysis of determinants in the Japanese REIT market on different property sectors under three non-traditional monetary policy regimes, namely comprehensive easing, quantitative and qualitative easing, and negative interest rate.

Two important issues are examined (see also Ito, 2013 and 2016). First, what is the REIT

☆ This part is based on Ito,T. (2018), "Comparison of Determinants in the Different Property Sectors of Japanese REIT Market under Non-Traditional Monetary Policy Regimes," International Journal of Financial Markets and Derivative,Vol.6,No.4,pp.365-375.

property sector market's relationship with stock price? Investors are supposed to hold REITs and stocks as risk assets. Kapopoulos and Siokis (2005) suggest that one of the mechanisms for interpreting the relationship between investment in real estate and stock is the wealth effect. Investors who make unanticipated gains in share prices will invest in real estate. Hence, the stock market will lead the housing market. Ross and Zisler (1991), Ennis and Burik (1991), Gyourko and Keim (1992), and Ito (2013, 2016) all conclude that returns on REITs are highly correlated with stock market returns.

Second, what is the REIT property sector market's relationship with interest rates? REIT investment corporations obtain funds through loans made up to a certain level of LTV (loan to value). They usually set the upper limit of LTV at about 60 to 70 percent. Thus, higher interest rates increase management costs. Studies show that returns from real estate and REITs are influenced by interest rate movements. The results obtained by Chen and Tzang (1988), Chan et al. (1990), Mueller and Pauley (1995), Liang and Webb (1995), Ling and Naranjo (1997), Brooks and Tsolacos (1999), and Ito (2013, 2016) generally support the proposition that interest rates are a significant factor in REIT pricing.

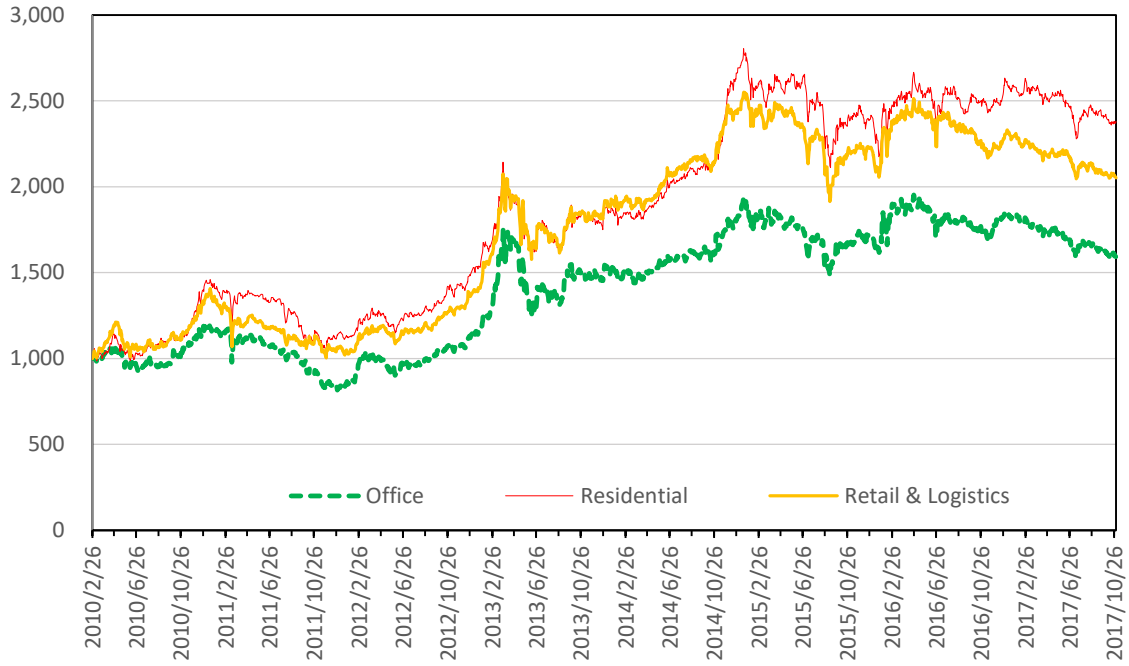
This paper makes three original contributions to the literature. First, it is the first paper to analyze the determinants of the REIT property sector market in Japan. The studies of Su et al. (2010), Ito (2013), and Ito (2016) analyze the TSE REIT Index, which is divided into three REIT property sector indexes. This paper brings more insights into the analysis of the structure of the REIT market in different properties.

Second, the sample period of Su et al. (2010) ends before the collapse of Lehman Brothers, while that of Ito (2013) ends just after the introduction of Abenomics. Ito (2016) covers the sample period from November 26, 2010 to January 19, 2015, so the Abenomics period is included. This paper covers the sample period from February 20, 2010 to October 31, 2017.

Third, the whole sample period is divided into three on the basis of the monetary policy regimes conducted by the BOJ: comprehensive easing, quantitative and qualitative easing, and negative interest rate policy. To date, no related literature has analyzed the impact of the negative interest rate policy on the REIT market in Japan. This policy has brought unexpected movements in the financial market which might have influenced the REIT market.

Figure1 REIT Different Property Sector

point




Notes : Sample period is from February 26, 2010 to October 31, 2017.
Data source : Thomson Reuters Datastream.

Figure 2 Swap Rate 10 Year

%


Notes : Sample period is from February 26, 2010 to October 31, 2017.
Data Source : Nikkei Quick.

Figure 3 TOPIX

point


Notes : Sample period is from February 26, 2010 to October 31, 2017.
Data source : Thomson Reuters Datastream.

## 2. Conclusion

This paper focuses on the impact of stock price and interest rate on the REIT property sector market in Japan by comparing three periods under different monetary policy regimes. The whole sample from February 26, 2010 to October 31, 2017 is divided into three on the basis of the monetary policy regime adopted by the BOJ. The first period (Sample A) runs from February 26, 2010 to April 3, 2013, during which time the BOJ adopted a comprehensive easing policy. The second period (Sample B) runs from April 4, 2013 to January 28, 2016; during this period, the BOJ adopted a quantitative and qualitative easing policy. The third period (Sample C) runs from January 29, 2016 to October 31, 2017; the BOJ adopted a negative interest rate policy during this time.

The results of this paper are consistent with most of the related literatures but also contain some interesting findings with further implications. Other work in this area has analyzed markets other than Japan, except for the studies of Su et al. (2010) and Ito (2013, 2016), which focus on the REIT market as a whole by analyzing the TSE REIT Index. On the other hand, this paper analyzes the REIT Property Sector Index Series: the TSE REIT Office Index, the TSE REIT Residential

Index, and the TSE REIT Retail & Logistics Index. As regards the sensitivity of the three REIT property sectors to stock price and interest rate, no significant differences are found in any of the samples; the three different sectors are almost equally influenced by stock price and long-term interest rate in each sample.

The finding that stock price has a positive impact on the REIT Property Sectors Index Series in all three sample periods indicates that the wealth effect is demonstrated and that the stock market leads the REIT market. As Kapopoulos and Siokis (2005) note, the wealth effect is one of the mechanisms that can be used to interpret the relationship between investment in real estate and stock. This is true of the Japanese REIT property sector. As for the comparison of the three samples, the positive impact of stock price is larger for Sample A; this is consistent with the fact that the REIT market was as bearish as the stock market before the introduction of the quantitative and qualitative easing policy.

The finding that interest rate has no significant impact on the REIT property sectors under the comprehensive easing regime indicates that the REIT market is not sensitive to interest rate. On the other hand, the finding that interest rate has a negative impact on REITs indicates that an increase in the interest rate causes the price of REITs to decline under the quantitative and qualitative easing and negative interest rate regimes.

The comparison of the samples shows that the negative impact of interest rate on the REIT market is larger under the quantitative and qualitative easing policy regime than it is under the negative interest rate policy regime. This is consistent with the fact that the BOJ had started to buy Japanese Government Bonds (JGBs) aggressively to flatten the yield curves of JGBs and swaps through the quantitative and qualitative easing policy. On the other hand, after the BOJ introduced a negative interest rate policy, the 10-year swap rate decreased to minus 0.11% in July 2016.

However, the BOJ introduced a yield curve control policy on September 21, 2016. The yield curve control policy is as follows: The BOJ will (a) apply a negative interest rate of minus 0.1% to the policy-rate balances in current accounts held by financial institutions at the BOJ and (b) purchase Japanese JGBs so that the 10-year JGB yields will remain at around 0%. This policy reduced the volatility of long-term interest rates such as JGB and swap markets. Thus, it resulted in the reduced sensitivity of the REIT market to long-term interest rates.

In addition to monetary policy, the sales of REITs by asset management companies under indirect pressure from the Financial Services Agency (FSA) contributed to the sluggish price movement of REITs[1]. This factor also resulted in the reduced sensitivity of the REIT market to long-term interest rates.

This paper focused on the determinants of the REIT property sectors in Japan under different non-traditional monetary policy regimes. In a further study, the co-movement and causalities of the three REIT property sectors will be analyzed to investigate price formation in the REIT market in Japan.

Part 2☆

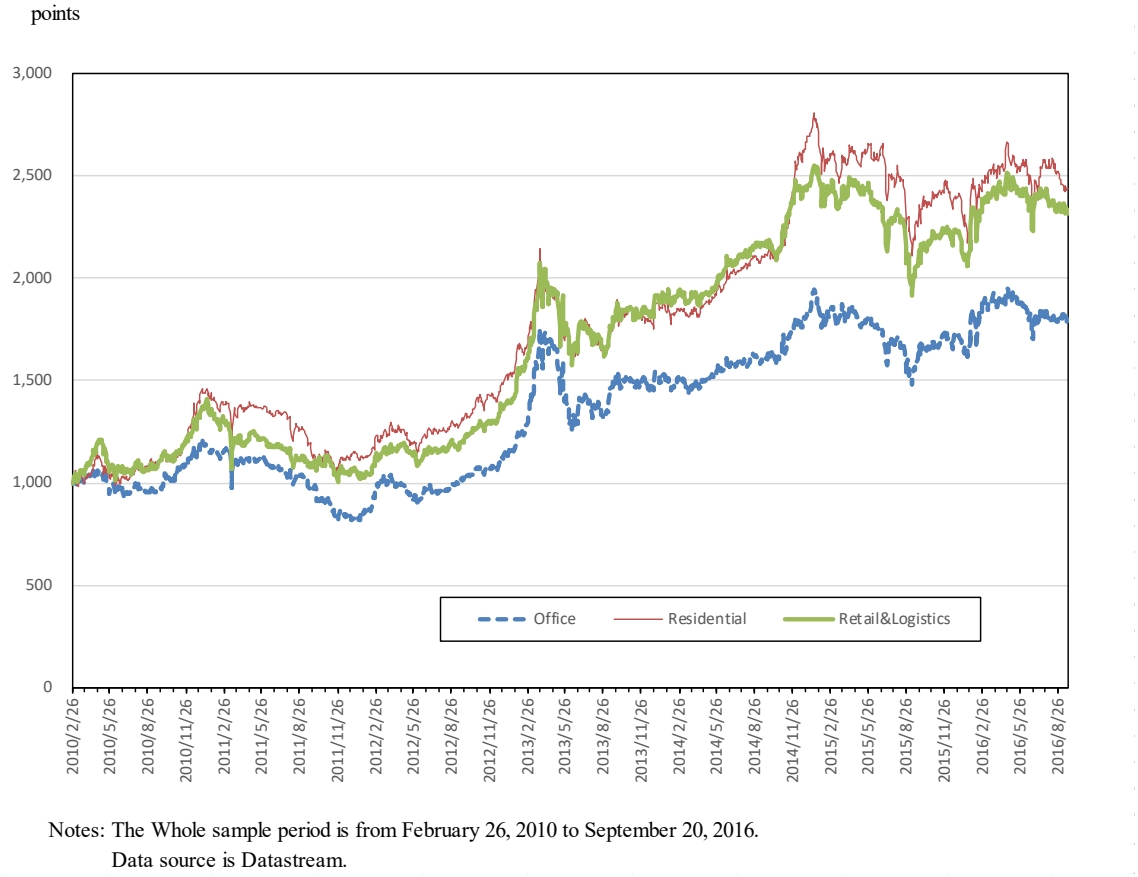
## 1. Purpose of Part 2

This paper investigates the formation of the Japanese REIT market in different property sectors by analyzing the co-movement and transmission of three REIT markets: Office, Residential, and Retail & Logistics. In the process of analysis, the entire sample period is divided into two, depending on different monetary policy regimes. This analysis provides implications regarding the asymmetrical impact of monetary policy regimes on the formation of the Japanese REIT market in different property sectors.

[1] The FSA pressured banks and security houses not to sell investment trusts (mutual funds) paying a monthly dividend. The decreasing balance in this kind of investment trust caused asset management companies to sell REITS. Thus, the REIT market showed sluggish movement in comparison with the stock market.

☆ This part is based on Ito,T.(2018), "Co-Movement and the Transmission of the Japanese REIT Market in Different Property Sectors: A Comparative Analysis of Different Monetary Policy Regimes" International Journal of Bonds and Derivatives,Vol.4,No.1, pp.63-73.

Figure 1 Movement of Three REIT Indices on Different Property Sector




Notes: The Whole sample period is from February 26, 2010 to September 20, 2016.
Data source is Datastream.

## 2. Conclusion

The entire sample period is divided into two, depending on the monetary policy regime adopted by the BOJ. The first period, Sample A, runs from February 26, 2010 to April 3, 2013, during which time the BOJ adopted a comprehensive easing policy. The second period, Sample B, runs from April 4, 2013 to September 20, 2016. The BOJ adopted a quantitative and qualitative easing policy on April 4, 2013. They introduced a quantitative and qualitative monetary easing with a negative interest rate policy on January 29, 2016. The sample period ends on September 20, 2016, when they decided to introduce a yield curve control (YCC) policy.

Three REIT markets in different property sectors do not co-move in Sample A. They move almost independently with a few mutual transmissions. REIT market was sluggish after the impacts of the Lehman shock and the Great East Japan Earthquake as shown Figure 1 and Table 1. At the same time, monetary policies were not as powerful as in the period of Abenomics. On the other hand, three REIT markets co-move and mutual transmission is confirmed in Sample B

except for from Retail & Logistics to Residential. With the introduction of strong monetary policies, such as the quantitative and qualitative easing and negative interest rate policies, REIT markets became bullish as shown in Figure 1and Table 1.

Aggressive monetary policies, as a common factor, play important roles in the co-movement and mutual transmission of three REIT markets in different property sectors. In other words, three REIT markets in different property sectors are formed through mutual dependence and influence. The results of this paper imply that large scale easing policies contribute to mitigating asset deflation by increasing the prices of Japanese REIT market.

This paper does not consider the impact from overseas REIT markets on the Japanese REIT markets in different property sectors. I would like to investigate this impact in a further study.