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The Financialization of Real Estate in Japan: The Formation of a Core-Periphery Structure

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ABSTRACT

The term “financialization of real estate” (FoRE) refers to the method of connecting financial markets with the geographical location of real estate assets. Therefore, the unevenness of regional development is closely tied to FoRE. In Japan, FoRE’s initial focus was Tokyo; however, the interest has recently spread to the periphery. This shift occurred owing to changes in investment actors and their strategies, which also changed the impact of the penetration of FoRE on regional economies. This article will elucidate the factors that constitute the FoRE core-periphery structure, focusing on regional real estate market characteristics and investment actors’ attributes.

KEYWORDS: Real Estate Investment Trust, investment actors, international financial center, local real estate market, global financial market

INTRODUCTION

The financialization of the economic system has been a central theme of economic geography since 2000 (e.g., Dymski, 2006; Harvey, 2006; Lizieri, 2009; Aalbers, 2019). “Financialization” is a concept created to explain how the financial market has been exerting influence on the economy, society, and politics (French, Leyshon, & Wainwright, 2011). Financialization has been attracting increasing attention following the global financial crisis of the 2000s. In particular, the financialization of real estate (FoRE) has a major effect on regional economies and the urban structure on a local scale (Van Loon, 2016; Clark, 2017). FoRE is a process wherein real estate, which is chunky and spatially fixed, is turned into a financial asset that is “unitized” and liquid through a range of regulatory and socio-technical changes and constructions (Aalbers, Fernandez, & Wijburg, 2020). The new standards, trade practices, and interactions among actors associated with this process will contribute significantly to alter socio-spatial arrangements and create a new built environment (Aveline-Dubach, 2020).

In the past, real estate was typically held as an investment target on the long-term balance sheet of certain investment actors who had specific knowledge and networks related to the local real estate market. However, the emergence of FoRE has lowered the spatial and institutional barriers of real estate investments, making it possible for global investors with an enormous number of funds to access local markets (Lizieri, 2009; Theurillat, Corpataux, & Crevoisier, 2010; Stevenson, 2013). FoRE contributes to the provision of a large number of funds from the capital market to specific regions where real estate assets are located. For this reason, the expansion of FoRE is closely tied to the unevenness of regional development and the resultant disparities (e.g., Harvey, 2006; Dörry & Handke, 2012; Sokol, 2017; Lin, 2017).

When executing FoRE, real estate assets must be standardized by their risk and return and converted into an investable financial instrument, unaffected by the individual characteristics and geographical locations of the underlying assets. This process requires various financial intermediaries that possess expertise in each conversion phase. The expansion of FoRE has bloated the real estate industry and its related financial intermediary sector. At present, the sector players have become key actors who have a substantial impact on the rise and fall of local economies (Krippner, 2005; Dörry, 2016). In particular, investors and asset managers

who raise funds from various investors (to acquire, manage, and sell real estate assets) have a tremendous influence on regional economies through their selection of target assets and locations (Sanfelici & Halbert, 2019).

One of the often-cited structural characteristics of FoRE is that investment destinations are concentrated in certain geographical locations. The progress of FoRE strengthens the hierarchy among cities and regional districts, with International Financial Centers (IFCs) at the top (Lizieri, 2009; Deverteuil & Manley 2017). Unlike traditional real estate capital, which owned and managed individual real estate directly, FoRE investors indirectly own real estate, by investing in a vehicle that holds multiple real estates (Andonov, Eichholtz, & Kok, 2015). Therefore, real estate becomes a highly liquid financial asset, similar to stocks and bonds and different from real assets that are fixed to land. This means that the liquidity and stability of investment units are more important than the risk-return of individual real estate (Lizieri, 2009; Theurillat, Corpataux, & Crevoisier, 2010; Pani & Holman, 2014). Meanwhile, many institutional investors that manage long-term funds, such as pension funds and insurance, emphasize stability and low risk. Consequently, they concentrate their investments in global cities with large markets and high liquidity, rather than selecting individual real estate objects (e.g., Lizieri and Pain, 2014; Theurillat, Rerat, & Crevoisier, 2014; Clark, 2017; Van Loon & Aalbers, 2017). At the same time, financial intermediaries also play a major role in the formation of geographical concentrations. Asset managers' networks, search range, and the amount of key location information, strongly prescribe their selection of investment targets (Pike & Pollard, 2010; Henneberry & Mouzakis, 2014). Real estate assets are individually distinct and often traded through private networks (Farole, Rodriguez-Pose, & Storper, 2011). Therefore, networks and transaction locations, related to decision-making, are path-dependent; meaning that asset managers strongly prefer assets located in familiar geographical areas (Sanfelici & Halbert, 2019). For example, in London, a global real estate investment center, offshore investors focus on central London, thereby widening the disparities in asset prices between the central and surrounding areas (Pain, 2008). In North America, capital inflows from overseas investors are predominantly concentrated in certain locations, such as IFCs and information-industry hubs, thus contributing to localized asset bubbles (Fields & Uffer, 2016; Kalman-Lamb, 2017).

On the other hand, this does not mean that the surrounding areas are immune to FoRE. For example, major global real estate brokers, such as CBRE, Cushman &Wakefield, Jones Lang LaSalle, and DTZ have taken indicators developed for IFCs and applied them to less transparent markets to simplify the risk and incorporated them into global finance as submarkets (Henneberry & Mouzakis, 2014; Sanfelici & Halbert, 2019). This allows global investors to optimally allocate capital across space and receive the maximum benefit from local real estate markets. FoRE, which extends to the periphery of the Global North and most regions of the Global South, can be understood in this context (Adair et al., 2006; Rodrigues et al., 2016; Büdenbender & Aalbers, 2019). Also in Japan, FoRE is mainly being developed in Tokyo, which is an IFC, but it is also spreading to suburbs and regional cities as real estate prices rise (Kikuchi & Tani, 2013; Tang & Mori, 2017). In addition, after the financial crisis, FoRE has expanded not only to urban commercial real estate but also to infrastructure and rural spaces (Fairbairn, 2014; Adisson, 2018). Behind this typical spatial diffusion of FoRE is the investor's strategy to maximize their returns. Numerous studies have been conducted regarding the quantitative aspect of FoRE's regional disparities. However, few have attempted to study qualitative differences, such as the attributes of investment actors and the types of assets (Lin, 2017). This is mainly due to the lack of data given the high degree of anonymity of actors and investment targets related to FoRE (Van Loon, 2016). Therefore, it is necessary to clarify the changes in investment actors, and their strategies in the local real estate market to identify the impact of capital flows through FoRE on the local economy.

Another characteristic of FoRE is that it provides a link between local real estate markets and global financial markets (Tickell, 2000; Gotham, 2006). Particularly, an expansion of real estate investments by overseas investors does not only contribute to a rise in land and real estate prices but also improves the quality of the real estate development and increases market transparency (e.g., Keivani, Parsa, & McGreal, 2001; Adair et al., 2006; Yabe, 2008; Poon, 2017). However, the increase in cross-border real estate investment contributes to the instantaneous spread of financial crises in deep local real estate markets (Liow, 2010; Pani & Holman, 2014; Stevenson et al., 2014). Opinions regarding the effect of FoRE on regional economies during recessions are divided, especially concerning the global financial crisis that occurred in 2008, which

triggered a widespread plunge in real estate prices.

In other words, there is a view that FoRE strengthens the ties between regional economies and the global financial markets, thereby increasing volatility and other risk factors associated with regional economies (e.g., Beitel, 2000; Lizieri & Pain, 2014; Lin, 2017). An alternative viewpoint is that FoRE contributes to the reconstruction of regional economies allowing investors to dispose of their distressed assets faster and forming a new market that corresponds to the post-crisis environment (e.g., Byrne, 2016; Fields, 2018). Such an effect varies, depending on the penetration of FoRE and the attributes of the investment actors involved. The selection of investment targets and risk sensitivities differ, depending on the investment actor. Some investors are traditional real estate enterprises that are dependent on local markets, whereas others are financial intermediaries that grew in tandem with FoRE. Still, others are fund managers, who invest in various assets worldwide (Clark, 2017; Wijburg & Aalbers, 2017; Van Loon & Aalbers, 2017). Consequently, global investors who quickly move a vast amount of capital, have a greater influence—both positive and negative—on local real estate markets, over domestically based investors (Engelen, Konings, & Fernandez, 2010).

However, the form of FoRE varies not only among countries, but also among regions within the same country (Pain, 2008; Theurillat, Rerat, & Crevoisier, 2014; Lin, 2017). This is because, just as the real estate markets in each region are diverse in terms of size and quality, the actors involved in FoRE are also different in terms of investment strategies (long-term and stable, short-term and speculative, etc.), amount of information on the local market, and operational know-how. Therefore, it is important to identify the differences in investment actors in the real estate markets of each region to determine how FoRE will create a new built environment.

Conversely, FoRE began to expand in Asia, including Japan, only after the Asian financial crisis of 1997, with the initial objective of disposing of bad loans (Ooi, Newell, & Sing, 2006; Stevenson, 2013; Buchanan, 2017). For this reason, the progress of FoRE in Asia is significantly different from Europe or North America, both chronologically and institutionally. Therefore, it is important to clarify the spatial structure of FoRE in the Asia-Pacific region, as a means to foresee what will happen to regional economies as a result of the linkage to global real estate markets brought about by financialization. For this reason, this study uses

Japan (where FoRE has rapidly progressed since 2000) as an example to quantitatively capture the spatial distribution of the real estate subject to financialization in relation to investment actors. We then clarify how FoRE strengthens the core-periphery structure by focusing on the distribution mechanism of financialized real estate and the strategies of different investment actors.

THE EXPANSION OF FoRE IN JAPAN

From the standpoint of investors, there are three methods to acquire real estate through financial markets: (1) Investments in traditional real estate companies that develop and operate real estate assets; (2) Investments in private (unlisted) funds that raise capital directly from institutional investors; (3) Investments in REITs, which raise capital publicly, through securities exchanges. Of these, FoRE refers to (2), investments in private (unlisted) funds, and (3), investments in REITs. These vehicles allow investors to earn returns directly from real estate without assuming any risks associated with managing companies. Private (unlisted) funds, which are mainly funded by institutional investors and wealthy individuals, have a longer history than REITs. In particular, private funds managed by large private equity real estate firms based in London and New York include real estate in IFCs around the world as assets under management through financial intermediaries (Lizieri, 2009). However, it was only after the Asian currency crisis of 1997 that the presence of private funds increased in East Asia, where traditional real estate capital was relatively strong and real estate liquidity was low (Seki, 2007; Aveline-Dubach, 2020).

REITs were first established in the US in 1960. The REIT market has existed in certain countries, such as the Netherlands and Australia, for a relatively long period. However, REITs did not spread around the world until the 1990s, as a newer format compared to private funds (Mazurczak, 2011). In East Asia and Southeast Asia (such as in Singapore, Hong Kong, Japan, and South Korea), the REIT mechanism was established rapidly, following the 1997 Asian financial crisis. In the past, domestic real estate interests in these countries were owned by major domestic real estate capital, such as primarily developers, life insurers, and railroad operators (Ooi, Newell, & Sing, 2006). For this reason, real estate investment through the financial markets was limited to investment in these real estate companies. These actors generally held the real estate

for a prolonged period on their balance sheet. However, after the collapse of Japan's bubble economy in 1991, a currency crisis occurred in Thailand in 1997 and spread to other parts of Asia. The Asian currency crisis led to a plunge in asset prices and produced a massive amount of bad loans. As a result, companies were exposed to the risk of holding real estate on their balance sheet (Aveline-Dubach, 2014). To address such problems, the government of each nation began to establish a system of investing in real estate through financial markets, with the use of instruments such as REITs (Ooi, Newell, & Sing, 2006).

In contrast to private (unlisted) funds, which target a relatively closed community of investors, REITs allow global investors to enter local real estate markets relatively easily. Accordingly, countries with an established REIT mechanism have seen the rapid penetration of FoRE within a short period. In Japan, the legal system for REITs was established in 2000, and the first REIT was listed in 2001.[1] Foreign investors' share of the purchase volume in Japan's REIT market exceeded 45% in 2017,[2] doubling their share in the government bond market. This expansion of foreign investment has greatly contributed to the growth of the REIT market, and the rapid growth of private (unlisted) funds that sell assets to REITs (Yabe, 2008; Kikuchi, 2014). Thus, the REIT market in Japan has played an important role in the development of FoRE.

REITs and private funds have similar business models as they both purchase earnings-producing real estate and distribute the profits to investors. However, REITs are operated under the assumption that they will be managed "perpetually." Therefore, they usually hold assets long term, except for cases in which these assets are replaced (such as when reconstructing buildings). Conversely, many private funds have a time limit of 5 to 10 years, after which the assets are sold (Aveline-Dubach, 2020). Consequently, not only are real estate sold to REITs in many cases, but real estate acquired by private funds is often selected on the premise of selling to REITs (Yabe, 2008; Kin, 2013). In this regard, Wijburg et al. (2018) distinguish between short-term investments mainly by private funds (financialization 1.0) and long-term investments by REITs and others (financialization 2.0). Financialization 2.0 by REITs can be said to bring structural changes to local economies by permanently integrating local real estate markets into financial markets.

Therefore, this article analyzed real estate assets acquired by 88 REITs listed on the securities exchange in Japan, from 2001 to 2017 (see Table A2 under Appendix A). The data used for the analysis were securities

reports released by REIT operators. These reports list the location of real estate, the value, how the property is being used, and the major corporate shareholders. Previously, the biggest impediment to research on FoRE was the lack of data on individual investment targets and equity investors. In particular, information disclosure by private unlisted funds is extremely limited (Lizieri, 2009). In contrast, listed REITs are required to disclose a certain amount of information from the standpoint of investor protection. Although there are certain differences in how REITs are operated among countries, the total assets have trended upward in many nations.[3] Therefore, analyzing the investment targets of REITs can shed light on the impact of FoRE on the local built environment.

INVESTMENT ACTORS OF REIT

REIT real estate acquisition strategies are effectively determined by their "sponsors" (Figure 1). Japanese REITs (as in the case of REITs in many other Asian countries) are "captive REITs" that are managed by external asset-management firms (Tang & Mori, 2017). The acquisition, administration, and management of real estate assets are entrusted to such asset-management firms. The parent companies of these asset-management firms are called sponsors. Formally, the equity investors select the asset managers, and the sponsor is merely the parent company of the asset-management firms. In practice, however, most REITs are established at the initiative of sponsors and acquire real estate from the sponsors and begin operating them. Therefore, equity investors use the sponsor as a basis for their investment decisions (Ooi, Ong, & Neo, 2011; Chen et al., 2016).

Figure.1

REITs in Japan started in 2001 with two companies. Since this period, the number of publicly traded REITs has fluctuated because of mergers and acquisitions, reaching 63 as of 2017 (see also Table A2 under Appendix A). Regarding the attributes of these sponsors, the most common—numbering 42—are traditional

real estate companies that have been in the property development business for a long period. Many are major developers (e.g., Mitsubishi Estate and Mitsui Fudosan) that have been holding dominant shares in the Japanese real estate market since before WWII, or railroad operators (e.g., Tokyu and Hankyu) with vast land holdings around their train tracks, or banks and insurers (e.g., Nomura and Orix) that have owned many rental properties for a long period. They still maintain their presence in the current real estate market, which has been undergoing a process of financialization (Ooi, Newell, & Sing 2006). Three REITs were sponsored by emergent financial intermediaries, established after 1990. These companies received funding from global investors and pension funds and developed and managed properties in the Japanese real estate market. For example, DaVinci Advisors, founded in 1998, entered the REIT market as a sponsor in 2005. By the middle of the 2000s, the company possessed assets rivaling those of traditional real estate companies in size. However, due to the global financial crisis that occurred in 2008, the REIT was sold to Daiwa Securities, a major financial institution, in 2010 (Kin, 2013). Thus, many REITs sponsored by emergent financial intermediaries were subsequently acquired and absorbed by REITs owned by larger sponsors with stronger financial profiles (Aveline-Dubach, 2014).

Fourteen sponsors, constituting the largest group after domestic real estate interests, were foreign-affiliated companies. Many of these foreign-affiliated companies are global players (e.g., LaSalle, UBS AG, and Kennedy Wilson) that invest in real estate all over the world. In the Japanese REIT market, global players have been making their presence felt as equity investors. Their trading caused huge volatility in the Japanese real estate market during the 2008 financial crisis (Miyakoshi, Shimada, & Li, 2016). Following the outbreak of the financial crisis, some of these foreign-affiliated companies (e.g., CBRE, GMAC, and Trinity Investment Trust) left Japan, and their presence as sponsors waned at some point (Douvas, 2012). However, their presence has recently been increasing ever since 2010, with the entry of new players such as Fortress, GLP, and Invesco.

Other sponsors include four non-financial companies, such as Aeon (a major Japanese retailer), Hoshino Resort (a hotel chain), and the medical and welfare services industry, which entered the market in 2013. These companies sold real estate on their balance sheet to the REITs that were established by them and continued

using the same facilities as tenants. Thus, whereas REIT sponsors are primarily traditional developers, the numbers of global investors and non-financial companies are also rapidly increasing.

FoRE WITHIN REGIONS AND IMPACTS ON REGIONAL ECONOMIES

In Japan, REIT was created as a governmental measure to establish a mechanism that disposed of bad loans, which had accumulated throughout the 1990s as a result of a decline in asset prices, and to provide underlying support for real estate prices (Ooi, Newell, & Sing 2006; Buchanan, 2017). Assets under management by REITs and private funds grew 17-fold between 2003 and 2008,[4] contributing significantly to the disposal of bad loans of major real estate capital (Kin, 2013; Aveline-Dubach, 2020). Land prices, which had been falling for 16 years prior, began to rise in 2007. Therefore, the progress of FoRE, caused by the introduction of REITs, has resulted in the normalization of the financial system and asset price inflation.

Nevertheless, as shown in Figure 2, on a regional scale, there are disparities concerning the penetration of FoRE through REITs. Until 2017, REIT's cumulative acquisition amount by prefecture shows that the figure for Tokyo was 10.3 trillion yen, which was the highest in the nation. This implied an acquisition amount of 75.3 billion yen per 100,000 people. Conversely, the amount was zero for Tokushima Prefecture. Additionally, in 14 prefectures, the acquisition amount per 100,000 people did not exceed 1 billion yen.

Figure.2

Therefore, the effects of FoRE on regional economies varies considerably, depending on the region. The relationship between the cumulative acquisition amount for each prefecture, and the changes in land prices, will be examined in this section (refer to Figure 3). Between 2001 (when the nation's first REIT was listed) and 2007 (immediately before the outbreak of the global financial crisis), the land price decline that continued since the 1990s reached its lowest point, and prices began to recover within major urban areas. During this

period, 7.3 trillion yen in assets were acquired nationwide. Ninety-two percent of these assets were located within the three metropolitan areas of Tokyo, Osaka, and Nagoya. Some assets were also located in regional center cities. In provincial areas, the acquisition amount was extremely low (except for Okinawa Prefecture, which is an international tourist resort). The areas where land prices rose during this period were located in a handful of prefectures within the orbit of a metropolis. Peripheral prefectures, where land prices continued to decline since the 1990s, saw more than a 50% decline in prices. This means that there is a clear correlation between REIT's cumulative acquisition amount in each prefecture and the rate of increase in land prices.

Figure.3

Between 2008, when the global financial crisis occurred, and 2012, when FoREs became active once more, an additional 3.4 trillion yen in real estate assets were acquired; implying the acquisition of 670 billion yen a year. On average, this is a significant decline from an earlier period, when 1 trillion yen a year in assets were acquired. During this period, metropolitan areas continued to comprise 91% of the total acquisition amount. Land prices declined nationwide because of the effects of the global financial crisis (Miyakoshi, Shimada, & Li, 2016). The rate of decline for metropolitan areas, and those of provincial areas, were similar. As a result, the relationship between land prices and the cumulative acquisition amount seems to have been small.

Finally, between 2013 and 2017, a total of 8.3 trillion yen in real estate assets was acquired, implying an average acquisition of 1.7 trillion yen a year, significantly exceeding the past period. The amount of acquisition rose not only in the three metropolitan areas, but also in prefectures with regional centers, prefectures with the booming tourism industry, and prefectures that had constructed new bullet train lines. Land prices also rose in these areas. Such a development scenario may indicate that FoRE, along with the entry of investment actors with various strategies, facilitated market reconstruction even during the period following the recession (Byrne, 2016; Fields, 2018). However, in peripheral prefectures, where REITs did not

actively acquire real estate, land prices remained stymied. Consequently, a correlation began to surface again between areas involved in the surge in the cumulative acquisition amount, and an increase in land prices.

These findings suggest that there is a significant difference in the progress of FoRE between the various groups: the core region centered in Tokyo as an IFC, the semi-peripheral regions with domestic financial centers, and other peripheral regions. About 90% of the total amount of assets acquired by REITs is concentrated in Tokyo and two major metropolitan areas in which half of Japan's population lives, contributing to the rise in asset prices. Consequently, the built environment in metropolitan areas plays an increasingly important role as a capital absorber. Meanwhile, the decline in land prices in the peripheral regions suggests a stagnation in real estate transactions and an outflow of capital. This is a spatial manifestation of real estate value for investment actors who seek liquidity in financial markets (Theurillat, Rerat, & Crevoisier, 2014). In the next sections, we will examine how FoRE functions in the formation of such a pattern based on the behavior of REITs.

STANDARDS AND TRADE PRACTICES BY REITs

From the viewpoint of investors, this geographical maldistribution can be explained by the regional disparities in the expected cap rate (ECR) (Theurillat, Vera-Büchel, & Crevoisier, 2016). ECR is the ratio of expected net earnings relative to the capital invested. The risk-return balance can be achieved when future earnings are expected to remain stable. However, the risk-return balance cannot be achieved when the rent-fluctuation risk, or the vacancy risk, is high unless the ECR is also high. In other words, the lower the ECR, the lower the perceived risk (Halbert & Rouanet, 2014). The risk-return of real estate investment in Japan is based on the prime area of Tokyo. For example, in 2017, Tokyo's prime was lowest at 3.5%.[5] This was followed by Osaka and Nagoya and then the regional centers of Fukuoka, Sapporo, Sendai, and Hiroshima. The ECR for the cities in other peripheral regions was 7.4%. This means that the asset value of lower-ranking cities was half of Tokyo's asset value, even for assets that generated the same amount of rental income. Tokyo, an IFC, has fresh supplies of many large office buildings and commercial facilities. The area is a preferred investment destination for the market size and liquidity, which investors consider important (Jones

Lang LaSalle, 2017). Hence, it is seen that any sudden rent fluctuations due to a new supply of assets can be held in check by the market size. The existence of many real estate investors also means that assets can be sold efficiently (Kikuchi & Tani, 2013; Sanfelici & Halbert, 2019). The concentration of investment in IFCs leads to an expansion of the Finance, Insurance, and Real Estate (FIRE) sector, including financial intermediation. The FIRE sector is the highest-order office demander, and the growth in real estate investment itself acts as a device to generate space demand (Lizieri, 2009).

However, this does not mean that investment destinations did not change in the long term. Changes in regional percentages of the acquisitions' amounts indicate that these shares go through certain cycles (Figure 4). Changes since 2000 indicate that the share for Tokyo peaked in 2004 and trended downward thereafter until 2008. During that time, the shares for Nagoya, Osaka, and regional center cities peaked in 2005, 2006, and 2008, respectively. The recovery from the global financial crisis followed a similar pattern. This may indicate the order of preference for these regions. First, the real estate activities increased in the Tokyo area, and when prices begin to rise after certain transactions, the boom spread to Nagoya, Osaka, and regional center cities. The characteristics of these regional shares are such that asset managers only focus on certain locations when searching for assets, even as financialization leads to lower spatial barriers for real estate investments (Kathy, 2008, Farole, Rodriguez-Pose, & Storper, 2011, Clark, 2017). This means that REITs that focus on IFCs do not enter lower-ranking cities until it becomes impossible to buy assets in the core region.

Figure.4

DIFFERENCES IN INVESTMENT TARGETS AND INVESTMENT ACTORS OF GEOGRAPHICAL LOCATIONS

The real estate assets that are subject to FoRE have also characteristics of property types. The same criteria applied to the selection of geographical locations are also applicable in this regard—the preference is given to lower-risk assets in a large market with high liquidity. In terms of the acquisition amount, 44% of the

assets acquired by REITs comprised office buildings followed by residences and commercial facilities. These three types of real estate, which are called “core assets,” comprise 78% of the total assets.

Other types include logistics facilities (13%), hotels (6%), and healthcare facilities like elderly homes (1%). The markets for these assets are smaller than those of core assets. Their returns are also affected by the performance of tenant operators. Therefore, these are called “operational assets” and are regarded as having higher risks and higher returns than core assets. The first two REITs, established in 2001, predominantly focused on offices. Other REITs created during later phases specialized in offices, commercial facilities, and residences. There were no REITs that managed non-core assets until 2005 when one was established to manage logistics facilities.

However, since the global financial crisis, there has been an increase in the ratio of operational assets as a target of FoRE (see Figure A1 under Appendix A). This is due to factors stemming from both the sellers (such as non-financial companies) and buyers (REITs). Seller factors will include the aggressive selling of real estate holdings by non-financial companies. These companies adopted a “sale and lease back” method during the late 1990s to sell assets such as office buildings and stores and continue to use these facilities as tenants. During the 2000s, more companies started to separate their real estate from the balance sheet, as the nation gradually adopted International Financial Reporting Standards, which required asset-impairment accounting; additionally, key management indicators such as return on assets gained emphasis (Kin, 2013). The move was further spurred by the 2008 financial crisis, which weakened the financial condition of non-financial companies (Yrigoy, 2016). As a result, various types of real estate assets, which such companies had owned and operated, were acquired by investors as financial products.

The factors stemming from the buyers include changing REIT sponsors (Ooi, Ong, & Neo, 2011; Tang & Mori, 2017). Major domestic real estate companies, which were the primary sponsors of REITs, had been developing urban areas in an oligopolistic manner, while maintaining several office buildings and commercial facilities for many years (Matsubara, 1988; Aveline-Dubach, 2014). Several REITs acquired such assets from their sponsors. Thus, their assets predominantly comprised such core assets.

However, since the financial crisis, global investors and non-financial companies have been entering the

market as REIT sponsors. A key feature of the new REITs that have entered the market is that they have moved toward a different asset type than previous REITs (e.g., hotels and logistics facilities). Of the 45 sponsors that have entered Japan's real estate market since 2008, 19 were foreign-affiliated companies or non-financial companies. Ten of these companies acquired predominantly operational assets. Global investors, who engage in real estate investment in various parts of the world, leverage the knowledge acquired in other regions to quickly enter high-risk markets, or those that require special expertise to gain the first-mover advantage (e.g., Falkenbach & Toivonen, 2010; Halbert & Rouanet, 2014; Clark, 2018). Therefore, it may be inferred that sponsors with know-how in the management of operational assets spearhead the purchase of various types of real estate assets.

The ratios of the asset types that are subject to FoRE vary depending on the region (see Table A1 under Appendix A). In the Tokyo area, core assets make up around 80% of the total, with office buildings equaling more than half of the acquired amount. The ratio of office buildings in major cities outside Tokyo does not exceed 40%. Nevertheless, the ratios of core assets are still high. Conversely, in peripheral areas, the ratio of office buildings is low. Instead, the ratios of operational facilities, such as commercial facilities located predominantly in suburbs, logistic facilities, and hotels, are relatively high. The market for core assets in small regional cities, where there are fewer office buildings than in major cities, is small; from the viewpoint of liquidity and efficiency, it is unlikely to become an investment target. Therefore, FoRE in peripheral regions can be positioned as an alternative market for investors with the know-how and risk tolerance to manage operational assets.

THE SPATIAL STRUCTURE OF FoRE

In Japan, FoRE has spread rapidly both in time and space, as various actors have entered REITs as sponsors. The increase in the number of assets acquired by REITs has had a significant impact on the volatility of the real estate market in macroeconomic terms, with asset prices rising in the mid-2000s and then plummeting (Kin, 2013; Miyakoshi, Shimada, & Li, 2016). However, the size of the impact differs from region to region depending on the penetration of FoRE (Table 1).

In the core region centered around Tokyo, asset prices soared as a result of the deep penetration that FoRE achieved by domestic real estate companies. Domestic real estate capital, which has historically dominated the commercial real estate market in Tokyo and some other large cities, is responsible for everything from in-house real estate development to management by private funds and sale to REITs (Ooi, Ong, & Neo, 2011; Nagano, 2016; Aveline-Dubach, 2020). Consequently, domestic real estate capital has maintained a significant presence in the IFC real estate market, even as FoRE has progressed. Global investors have also provided funds to IFC by investing in REITs with domestic real estate capital while operating private funds mainly as opportunistic investors (Kin 2013; Miyakoshi, Shimada, & Li, 2016). As a result, the real estate market in the core region has increasingly become strongly coupled with global financial markets. In addition, the inflow of funds from the global financial markets into the core region has spread to semi-peripheral regions. In particular, during the expansion period of FoRE from 2005 to 2007, rapid capital inflows caused property prices to skyrocket, leading to a shortage of investment targets for REITs (Kin, 2013). Therefore, many REITs began expanding their search for investment targets to semi-peripheral areas, and even peripheral areas.

Table.1

Semi-peripheral regions with domestic financial centers operate as a receptacle for capital spillover whenever the market in the core region becomes saturated. As in the core region, the main investment actors in semi-peripheral regions are domestic real estate companies and global investors. Their investment targets are also core assets, predominantly office buildings. However, only a limited number of financial intermediaries have important locations in the semi-periphery. Space demands do not grow as much as in the core region. Therefore, it is perceived as a middle-risk market with low market size and stability (Matsuoka, 2012). Moreover, a financial crisis would instantly send shock waves to these areas if it were to hit the core region, giving them little time to reap any benefit.

Finally, the penetration of FoRE in peripheral regions was significantly slower than in the core region. This is because the market size of core assets (the main target of REITs) is small and untargeted for investment by domestic real estate capital. As a result, most of the regions in the peripheral area continued to experience the decline in asset prices (that began in the 1990s) and failed to benefit from the progress of global financialization. However, since the global financial crisis of 2008, global investors have been increasing their presence as sponsors of REITs actively involved in the real estate market in the periphery based on their management know-how cultivated in the global market. With the rising involvement of global investors and non-financial companies in REITs, FoRE is progressing in the peripheral regions, focusing on operational assets. As a result, in the peripheral area, where the size of the real estate market is small the risk is considered high, the focus of FoRE is on the riskier asset type within that market. This means that the funds flowing into the periphery are funds that are strongly influenced not only by the domestic real estate cycle but also by global financial markets such as interest rates and exchange rates (Pike & Pollard, 2010; Theurillat et al., 2016). Therefore, there is a possibility that asset price volatility may increase in the future.

CONCLUSIONS

The development of FoRE has strengthened the function of real estate as a device for capital accumulation by encouraging more actors to enter the local real estate market (Harvey, 2005; Aalbers, Fernandez, & Wijburg, 2020). As real estate has been freed from its inherent locality and has become a financial product, it can be traded according to the logic of financial markets. The influence of FoRE has functioned to strengthen the core-peripheral structure by concentrating the flow of funds toward real estate in the core region. The facilitation of cross-border real estate investment by REITs has encouraged a quantitative increase in real estate investment, which in turn has led to greater regional disparities (Kathy, 2008, Theurillat, Rerat, & Crevoisier, 2014). In addition, the effects of FoRE will be strengthened by the changing power balance between global investors, who have continued to expand their influence and regional finances, which had been becoming relatively weaker (Dow & Rodríguez-Fuentes, 1997).

In Japan, however, major domestic real estate companies controlled FoRE through REITs, particularly

until the global financial crisis of 2008. This made it difficult for capital to flee from the nation, which in turn prevented a catastrophic decline in land prices (Van Loon, 2016). On the other hand, the preponderance of investment actors with a strong preference for long-term stability and low risk has led to a concentration of investment funds in core regions, which may have exacerbated the decline of land prices in peripheral regions (Matsubara, 2007). Even in peripheral areas, regions with potential as international tourist destinations and well-developed infrastructure as logistics hubs have seen an increase in the inflow of global investment capital. The impact of this expansion of FoRE, which encourages such an inflow, will be greater in periphery regions where the size of the real estate market is smaller. As a result, real estate bubbles at the regional level are more likely than ever to occur. Therefore, it is necessary to consider the mechanism that links FoRE in the peripheral region to the fluctuation of real estate prices at the regional level.

It is also important to determine who benefits from FoRE's progress when considered at the individual regional level. It has been pointed out that the buildings developed by investment actors are financial products designed specifically to benefit investors and these buildings will give rise to a uniform and commercialized urban landscape (e.g., Haila, 1988; Rutland, 2010). This will also damage the historical, cultural, and scenic value of the property. At the same time, available and affordable spaces may further be squeezed as real estate investors pour their financial resources into high-end assets (e.g., Halbert & Rouanet, 2014; Weber, 2015; Fields & Uffer, 2016; Kalman-Lamb, 2017). A glimpse of this can be found in the frequent cases of gentrification in core areas and the exclusion of residents and local businesses by the proliferation of luxury condominiums in international tourist destinations (Kureha, 2010; Akers, 2015; Aalbers et al., 2020). Therefore, it will be an increasingly important task for each region (particularly in peripheral areas) to find a consistent balance between regional growth through FoRE's progress and regional planning and sustainable growth.

NOTES

1. Japanese REITs, known as J-REITs, are listed on the nation's stock exchanges. In 2014, a mechanism for infrastructure funds was established. Infrastructure funds are invested for establishing renewable-power

facilities and other public facilities, in a method similar to other REITs. This article refers to both types of funds as “REITs.” In J-REITs, 70% or more of the assets under management must be real estate, and 90% or more of the profit must be paid to equity investors (ARES, 2020).

2. According to the Japan Exchange Group, foreign investors accounted for 4.6 trillion yen of the total 10.2 trillion yen in J-REIT unit acquisitions in 2017. Retrieved from https://www.jpx.co.jp/markets/statistics-equities/investor-type/03.html

3. According to ARES (2020), the total market capitalization of REITs worldwide has grown from about US$870 billion in 2007, before the financial crisis, to about US$1,920 billion in 2019.

4. According to the Sumitomo Mitsui Trust Research Institute, *Survey on Private Real Estate Trusts in Japan*, the number of assets under management was 1.5 trillion yen in 2003 and 25 trillion yen in 2008. Retrieved from https://www.smtri.jp/news/release/market/index.html

5. Japan Real Estate Institute. (2017). *The Japanese real estate investor survey*. Retrieved from http://www.reinet.or.jp/en/jrei_survey.html

References

Aalbers, M. (2019). Financial geographies of real estate and the city: A literature review. *Financial Geography Working Paper Series* #21. http://www.fingeo.net/wordpress/wp-content/uploads/2019/01/FinGeoWP_Aalbers-2019-2.pdf

Aalbers, M., Fernandez, R., & Wijburg, G. (2020). The financialization of real estate. Mader, P., Mertens, D., Zwan, N. van der (Eds.) *The Routledge international handbook of financialization.* Abingdon: Routledge, 200–212.

Adair, A., Allen, S., Berry, J., & McGreal, S. (2006). Central and Eastern European property investment markets: Issues of data and transparency. *Journal of Property Investment and Finance* 24, 211–220. doi: 10.1108/14635780610659928

Adisson, F. (2018). From state restructuring to urban restructuring: the intermediation of public landownership in urban development projects in France. *European Urban and Regional Studies* 25(4), 373–390. doi: 10.1177/0969776417717308

Akers, J. (2015). Emerging market city. *Environment and Planning A* 47, 1842–1858.

Andonov, A., Eichholtz, P., & Kok, N. (2015). Intermediated investment management in private markets: Evidence from pension fund investments in real estate. *Journal of Financial Markets* 22, 73–103. doi: 10.1016/j.finmar.2014.11.002

ARES (2020). *Handbook of real estate securitization* [in Japanese]. Tokyo: The Association for Real Estate Securitization.

Aveline-Dubach, N. (2014). New patterns of property investment in 'post-bubble' Tokyo: the shift from land to real estate as a financial asset. Aveline-Dubach, N., Jou S, C., & Hsiao H, H, M (Eds.) *Globalization and New Intra-Urban Dynamics in Asian Cities*. Taipei: National Taiwan University Press, 265–294.

Aveline-Dubach, N. (2020). The financialization of real estate in megacities and its variegated trajectories in East Asia. Labbé, D., & Sorensen, A. (Eds.) *Handbook on megacities and megacity-regions.* Cheltenham: Edward Elgar, 394-409.

Beitel, K. (2000). Financial cycles and building booms: A supply side account. *Environment and Planning A* 32, 2113-2132. doi: 10.1068/a3362

Buchanan, B. G. (2017). *Securitization and the global economy: History and prospects for the future*. New York: Palgrave Macmillan.

Büdenbender, M., & Aalbers, M. B. (2019). How subordinate financialization shapes urban development: the rise and fall of Warsaw's Służewiec business district. *International Journal of Urban and Regional Research* 43(4), 666–684. Doi: 10.1111/1468-2427.12791

Byrne, M. (2016). Bouncing back: The political economy of crisis and recovery at the intersection of commercial real estate and global finance. *Irish Geography* 48, 78–98. doi: 10.2014/igj.v48i2.626

Chen, D., Gao, Y., Kaul, M., Leung, C., Ka, Y., & Tsang, D. (2016). The role of sponsors and external management on the capital structure of Asian-Pacific REITs: The case of Australia, Japan, and Singapore. *International Real Estate Review* 19(2), 197–221.

Clark, G. L. (2017). Financial intermediation, infrastructure investment and regional growth. *Area Development and Policy 2*, 217–236. doi: 10.1080/23792949.2017.1345641

Clark, G. L. (2018). Learning-by-doing and knowledge management in financial markets. *Journal of Economic Geography* 18(2), 271–292. doi: 10.1093/jeg/lby005

Deverteuil, G., & Manley, D. (2017). Overseas investment into London: Imprint, impact and pied-a-terre urbanism. *Environment and Planning A* 49(6): 1308–1323. doi: 0.1177/0308518X17694361

Dörry, S. (2016). The geographies of industrialised finance: Probing the global production networks of asset management. *Geography Compass* 10, 3-14. doi: 10.1111/gec3.12256

Dörry, S., & Handke, M. (2012). Disentangling the geography of finance and real estate: competing space-times of decision-making and uneven spatial development. *Articulo - Journal of Urban Research* 9. doi: 10.4000/articulo.2149

Douvas, J. (2012). Twenty years of opportunistic real estate investing. Wharton real estate review Working

paper #732. http://realestate.wharton.upenn.edu/wp-content/uploads/2017/03/732.pdf

Dow, S. C., & Rodríguez-Fuentes, C. J. (1997). Regional finance: A survey. *Regional Studies* 31, 903–920. doi: 10.1080/00343409750130029

Dymski, G. A. (2006). Targets of opportunity in two landscapes of financial globalization. *Geoforum 37*, 307–311. doi: 10.1016/j.geoforum.2005.11.001

Engelen, E., Konings, M., & Fernandez, R. (2010). Geographies of financialization in disarray: The Dutch case in comparative perspective. *Economic Geography* 86, 53–73. doi: 10.1111/j.1944-8287.2009.01054.x

Fairbairn, M. (2014). 'Like gold with yield': Evolving intersections between farmland and finance. *Journal of Peasant Studies* 41(5): 777–795. doi: 10.1080/03066150.2013.873977

Falkenbach, H., & Toivonen, S. (2010). Effects of international investments on the Finnish commercial real estate market. *Journal of Real Estate Literature* 18(2), 318–328. https://www.jstor.org/stable/24884096.

Farole, T., Rodriguez-Pose, A., & Storper, M. (2011). Human geography and the institutions that underlie economic growth. *Progress in Human Geography* 35, 58–80. doi: 10.1177/0309132510372005

Fields, D. (2018). Constructing a new asset class: Property-led financial accumulation after the crisis. *Economic Geography* 94, 118–140. doi: 10.1177/0042098014543704

Fields, D., & Uffer, S. (2016). The financialisation of rental housing: A comparative analysis of New York City and Berlin. *Urban Studies* 53, 1486–1502. doi: 10.1177/0042098014543704

French, S., Leyshon, A., & Wainwright, T. (2011). Financializing space, spacing financialization. *Progress in Human Geography* 35, 798–819. doi: 10.1177/0309132510396749

Gotham, K. F. (2006). The secondary circuit of capital reconsidered: Globalization and the US real estate sector. *American Journal of Sociology* 112, 231–275. doi: 10.1086/502695

Haila, A. (1988). Land as a financial asset: the theory of urban rent as a mirror of economic transformation. *Antipode* 20, 79–101. doi: 10.1111/j.1467-8330.1988.tb00170.x

Halbert, L., & Rouanet, H. (2014). Filtering risk away: Global finance capital, transcalar territorial networks and the (un) making of city regions: An analysis of business property development in Bangalore, India. *Regional Studies* 48, 471–484. doi: 10.1080/00343404.2013.779658

Harvey, D. (2005). *The new imperialism*. Oxford: Oxford University Press.

Henneberry, J., & Mouzakis, F. (2014). Familiarity and the determination of yields for regional office property investments in the UK. *Regional Studies* 48, 530–546. doi: 10.1080/00343404.2013.765556

Harvey, D. (2006). *Spaces of global capitalism: Towards a theory of uneven geographical development*. London: Verso.

Jones Lang LaSalle. (2017). Global market perspective Q1 2017. http://cities-research.jll.com/japan/en-gb/Research/JLL_GMP_2017Q1_E.pdf?811b55ad-91d5-42e5-b733-365c00a6c73b.

Kathy, P. (2008). Examining 'core–periphery' relationships in a global city-region: The case of London and South East England. *Regional Studies* 42, 1161–1172. doi: 10.1080/00343400701808857

Kalman-Lamb, G. (2017). The financialization of housing in Canada: Intensifying contradictions of neoliberal accumulation. *Studies in Political Economy* 98, 298–323. doi: 10.1080/07078552.2017.1393911

Keivani, R., Parsa, A., & McGreal, S. (2001). Globalisation, institutional structures and real estate markets in central European cities. *Urban Studies* 38, 2457–2476. doi: 10.1080/00420980120094614

Kikuchi, Y. (2014). Restructuring of office location and urban internal structure: Focusing on office supply. *Geographical Sciences* 69, 164–174. doi: 10.20630/chirikagaku.69.3_164

Kikuchi, Y., & Tani, K. (2013). *Fudousanshoukenka no kukantekitenkai ga toshikukan no saihen ni oyobosu eikyou ni kansuru kenkyu* [Restructuring of urban space by real estate securitization]. Japan, Ministry of Land, Infrastructure, Transport, and Tourism. http://www.mlit.go.jp/common/000998393.pdf.

Kin, S. (2013). *Fudousan toushi shijyou no kenkyu: 1992nen kara 2011nen no shijyou hensen to toushi koudou no 20nenshi* [Research on real estate investment market: market transition and investment behavior from 1992 to 2011]. Tokyo: Toyo Keizai.

Krippner, G. R. (2005). The financialization of the American economy. *Socio-Economic Review* 3, 173–208. doi: 10.1093/SER/mwi008

Kureha, M. (2010). Research trends in the geography of tourism in Japan. *Japanese Journal of Human Geography*, 62, 558–569. doi: 10.4200/jjhg.62.6_558

Lin, G. C. S. (2017). Making sense of the uneven geography of urban and regional growth in the era of financialization: Financial intermediation, institutions and markets. *Area Development and Policy* 2, 245–250. doi: 10.1080/23792949.2017.1347049

Liow, K. H. (2010). Integration among USA, UK, Japanese and Australian securitised real estate markets: An empirical exploration. *Journal of Property Research* 27:4, 289–308. doi: 10.1080/09599916.2010.500872

Lizieri, C. (2009). *Towers of capital: Office markets & international financial services*. Oxford: Wiley-Blackwell.

Lizieri, C., & Pain, K. (2014). International office investment in global cities: The production of financial space and systemic risk. *Regional Studies* 48, 439–455. doi: 10.1080/00343404.2012.753434.

Matsubara, H. (1988). *Fudousan shihon to toshi kaihatsu* [Real estate capital and urban development]. Tokyo: Mineruva Shobou.

Matsubara, H. (2007). Reorganization of Japanese Urban Systems and Internal Structures of Urban Areas in a Globalized Economy and a Declining Population Society. *Annals of the Association of Economic Geographers* 53, 443–460. doi: 10.20592/jaeg.53.5_443.

Matsuoka, K. (2012). Geographic dynamism of capital redeployment and urban space transformation within the urban system of Japan. *The Journal of Ritsumeikan Geographical Society* 24, 19–30. http://www.ritsumei.ac.jp/acd/cg/lt/asp/research/geo/journal/pdf.geo-journal/24-2012-matsuoka.pdf.

Mazurczak, A. (2011). Development of real estate investment trust (REIT) regimes in Europe. *Journal of International Studies* 4, 115–123. doi: 10.14254/2071-8330.2011/4-1/12

Miyakoshi, T., Shimada, J., & Li, K. W. (2016). The impacts of the 2008 and 2011 crises on the Japan REIT

market. *Journal of the Japanese and International Economies* 41, 30–40. doi: 10.1016/j.jjie.2016.05.002

Nagano, M. (2016). Financing patterns and property acquisitions of sponsor-backed REITs: Evidence from J-REIT markets. *International Real Estate Review* 19, 223–248.

Ooi, J. T. L., Newell, G., & Sing, T. (2006). The growth of REIT markets in Asia. *Journal of Real Estate Literature* 14, 203–222. doi: 10.1080/10835547.2006.12090182

Ooi, J. T. L., Ong, S. E., & Neo, P. H. (2011). The wealth effects of property acquisitions: Evidence from Japanese and Singaporean REITs. *Real Estate Economics* 39, 487–505. doi: 10.1111/j.1540-6229.2010.00298.x

Pani, E., & Holman, N. (2014). A fetish and fiction of finance: Unraveling the subprime crisis. *Economic Geography* 90, 213–235. doi: 10.1111/ecge.12027

Pain, K. (2008). Examining 'core-periphery' relationships in a global city-region: The case of London and South East England. *Regional Studies* 42, 1161–1172. doi: 10.1080/00343400701808857

Pike, A., & Pollard, J. (2010). Economic geographies of financialization. *Economic Geography* 86, 29–51. doi: 10.1111/j.1944-8287.2009.01057.x

Poon, J. (2017). Foreign direct investment in the UK real estate market. *Pacific Rim Property Research Journal* 23, 249–266. doi: 10.1080/14445921.2017.1372038

Rodrigues, J., Santos, A. C., & Teles, N. (2016). Semi-peripheral financialisation: The case of Portugal. *Review of International Political Economy* 23(3), 480–510. doi: org/10.1080/09692290.2016.1143381

Rutland, T. (2010). The financialization of urban redevelopment. *Geography Compass* 4, 1167–1178. doi: 10.1111/j.1749-8198.2010.00348.x

Sanfelici, D., & Halbert, L. (2019). Financial market actors as urban policy-makers: the case of real estate investment trusts in Brazil. *Urban Geography* 40: 83–103. doi: 10.1080/02723638.2018.1500246.

Seki, Y. (2007). ETFs and REITs in Japan: innovation and steps for future growth. Fuchita, Y., & Litan, R.

(Eds.) *New financial instruments and institutions: opportunities and policy challenges*. Tokyo: Brookings Institution Press, 15–58. doi: 10.7864/j.ctt12623v.5

Sokol, M. (2017). Financialisation, financial chains and uneven geographical development: Towards a research agenda, *Research in International Business and Finance 39*, 678–685. doi: 10.1016/j.ribaf.2015.11.007

Stevenson, S. (2013). The global real estate investment trust market: Development and growth. Sotelo, R., & McGreal, S. (Eds.) *Real estate investment trusts in Europe*. Berlin: Springer, 17–25.

Stevenson, S., Akimov, A., Hutson, E., & Krystalogianni, A. (2014). Concordance in global office market cycles. *Regional Studies,* 48(3), 456–470. doi: 10.1080/00343404.2013.799763

Tang, C. K., & Mori, M. (2017). Sponsor ownership in Asian REIT. *The Journal of Real Estate Finance and Economics 55*, 265–287. doi: 10.1007/s11146-016-9577-9

Theurillat, T., Corpataux, J., & Crevoisier, O. (2010). Property sector financialisation: The case of Swiss pension funds (1992–2005). *European and Planning Studies* 18, 189–212. doi: 10.1080/09654310903491507

Theurillat, T., Rerat, P., & Crevoisier, O. (2014). The real estate markets: Players, institutions and territories. *Urban Studies* 52, 1414–1433. doi: 10.1177/0042098014536238

Theurillat, T., Vera-Büchel, N., & Crevoisier, O. (2016). Commentary: From capital landing to urban anchoring: The negotiated city. *Urban Studies*, 53(7), 1509–1518. doi: 10.1177/0042098016630482

Tickell, A. (2000). Finance and localities. Clark, G. L., Feldman, M., & Gertler, M. (Eds.) *The Oxford handbook of economic geography*. New York: Oxford University Press, 230–251.

Van Loon, J. (2016). Patient versus impatient capital: the (non-) financialization of real estate developers in the Low Countries, *Socio-Economic Review* 14, 709–728. doi: 10.1093/ser/mww021

Van Loon, J., & Aalbers, M. B. (2017). How real estate became ‘just another asset class’: The financialization of the investment strategies of Dutch institutional investors. *European Planning Studies* 25, 221–240. doi:

10.1080/09654313.2016.1277693

Weber, R. (2015). *From boom to bubble: How finance built the new Chicago*. Chicago: University of Chicago Press.

Wijburg, G., & Aalbers, M. B. (2017). The internationalization of commercial real estate markets in France and Germany, *Competition & Change* 21, 301–320. doi: 10.1177/1024529417712040

Wijburg, G., Aalbers, M. B., & Heeg, S. (2018). The financialization of rental housing 2.0: Releasing housing into the privatized mainstream of capital accumulation. *Antipode* 50(4), 1098–1119. doi: 10.1111/anti.12382

Yabe, N. (2008). Impacts of real estate securitization on land price changes in the inner city of Tokyo since 2001: A geographically weighted regression analysis. *Geographical Review of Japan* 81, 384–403. doi: 10.4157/grj.81.384

Yrigoy, I. (2016). Financialization of hotel corporations in Spain. *Tourism Geographies* 18, 399–421. doi: 10.1080/14616688.2016.1198829

TABLES

Table 1. Core-periphery structure of FoRE in Japan

Regions	Penetration level of FoRE	Main Investment actors	Main Investment targets
Core area IFC	High	Domestic real estate companies Global investors Non-financial companies Emergent financial intermediaries	Core Assets Especially office
Semi-peripheral area Major Cities Regional Centers	Middle	Domestic real estate companies Global investors Non-financial companies	Core Assets Especially office and retail
Peripheral area Other Region	Low	Global investors Non-financial companies	Operational assets Especially retail and hotel

FIGURES

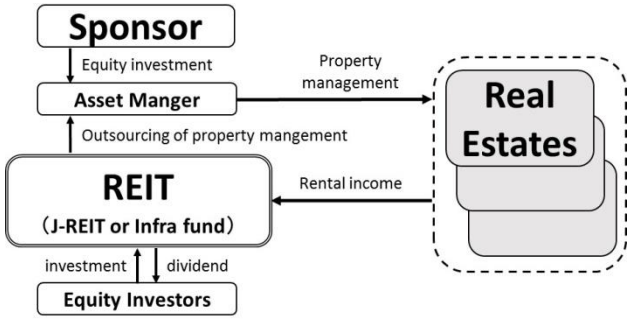

Figure 1. Structure of REITs in Japan

Source: ARES. Japanese real estate market overview.

https://www.ares.or.jp/jrem/index.html

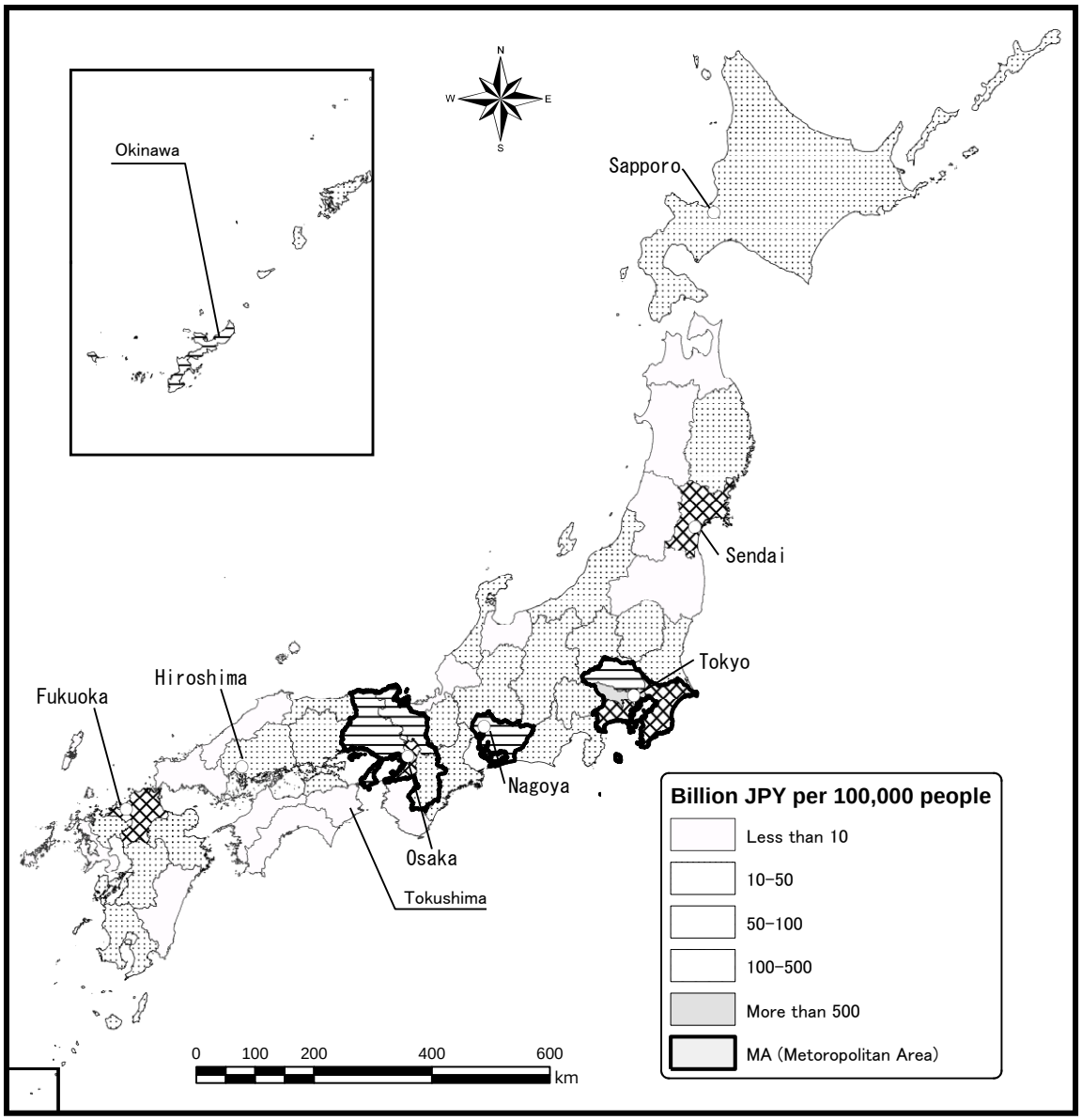

Figure 2. Cumulative acquisition amount per 100,000 people by prefecture (2001–2017)

Source: Map drawn by Y Kikuchi, 2019

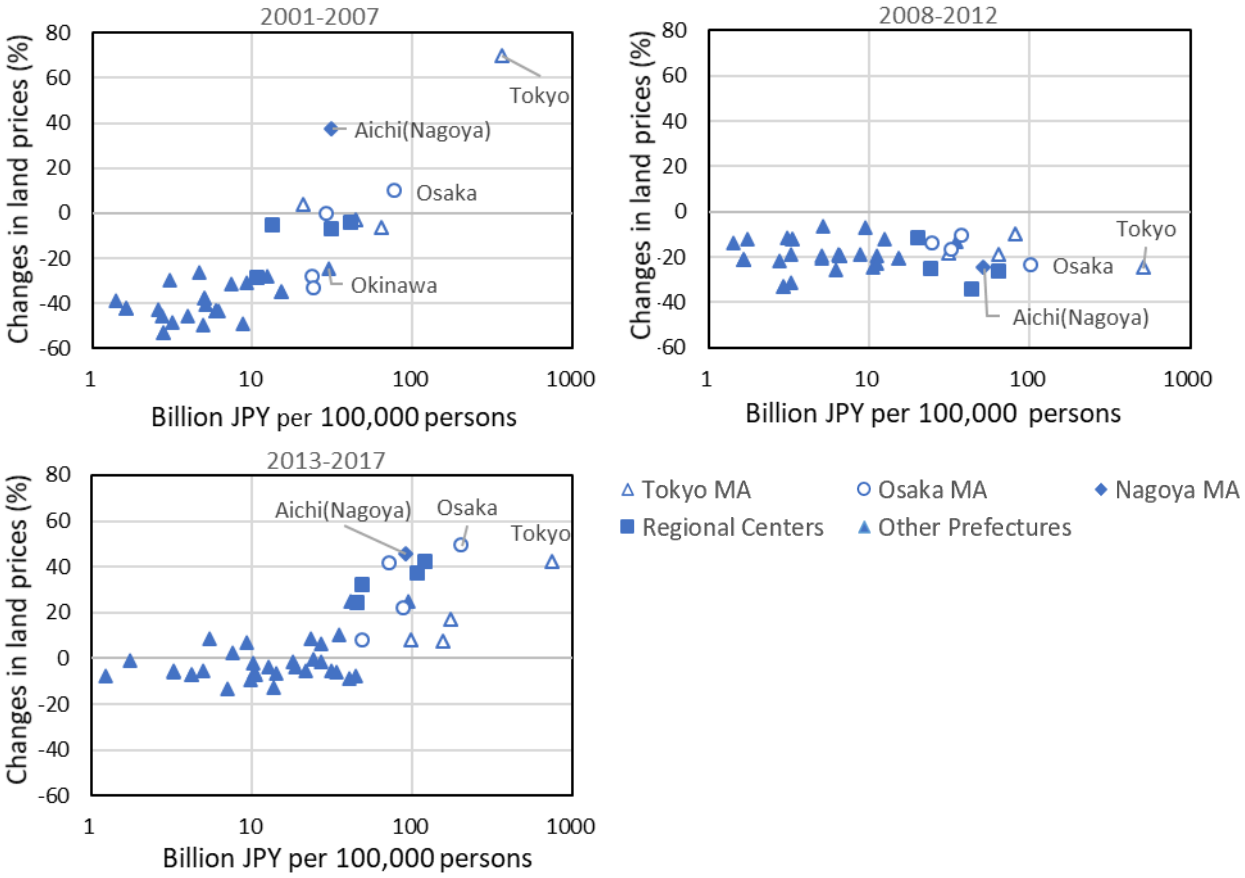

Figure 3. Correlation between cumulative acquisition amount per 100,000 people and changes in land prices by prefecture

Source: Land prices collected from sources published by the Ministry of Land, Infrastructure, Transport and Tourism. http://nlftp.mlit.go.jp/ksj/

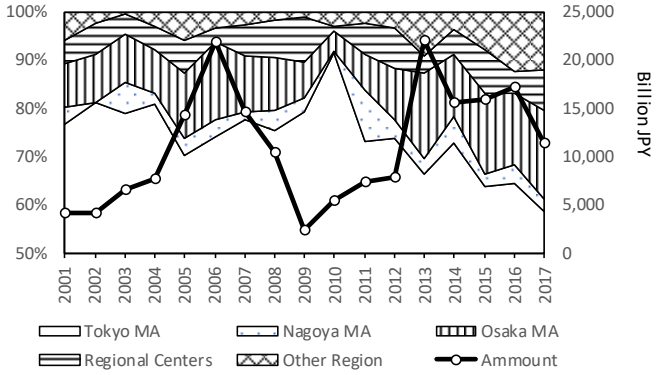

Figure 4. Changes in regional shares in terms of acquisition amount

Note: Tokyo MA: Tokyo, Saitama, Chiba, Kanagawa. Osaka MA: Osaka, Kyoto, Hyougo, Nara. Nagoya MA: Aichi. Regional Centers are cities of Sapporo, Sendai, Hiroshima, and Fukuoka.

Source: Calculated from annual reports of each company