

International Real Estate Investment and Urban Development: An Analysis of Korean Activities in Hanoi, Vietnam



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ABSTRACT

Foreign Direct Investment (FDI) has been recognised as a major influence upon urban development within emerging economies. As the focus of production shifted toward higher skills and advanced technologies, expatriate high-skilled employees of the Multinational Enterprises (MNEs) began to play a significant role in FDI projects and recipient cities begin to experience urban development associated with residential development and community services for the settlement of these expatriate staff. This research reports on the experience of Korean investment in real estate following earlier projects in manufacturing activity in the Hanoi Capital Region. Korean investors are currently the largest FDI source in Vietnam and Hanoi has been favoured by them. The purpose of this research is to examine that the urban impact of manufacturing FDI on a recipient city is magnified by its connections with Real estate FDI (RFDI) in a way that it spurs (1) intensified real estate development, (2) the creation of new urban cores, and (3) new commuting patterns. The clustering of Korea-specific residential development and service functions is a contribution to change in Hanoi. The Korean-built housing complexes have transplanted Korean-style housing design into gated communities and the residents continue their Korean lifestyles with easy access to language-specific community facilities. This research sheds light on the coalescent nature of RFDI with overall FDI via flows of MNEs and expatriate staff that can generate direct and indirect spatial impacts at project, city and regional scales.

1. Introduction

Foreign Direct Investment (FDI) has been recognised as a major influence upon urban development within emerging economies. That recognition has developed around the impact of the industrial production facilities of Multinational Enterprises (MNEs), a perspective enriched by the understanding of the strength of component supply links within global production systems (Coe et al., 2004: p.1156, Yeung, 2009; Coe and Yeung, 2015). In many cities the effect of this FDI was spread into the wider urban context via the second stage investment, involving the provision of residential accommodation for the (usually) low-cost labour employed in the factories within these supply chains. A prominent example of this effect was the massive and rapid urbanisation that accompanied the industrialisation of the Shenzhen-Guangzhou corridor (Wei et al., 2010). Shifts in the character of manufacturing have created an opportunity for another impact of FDI on destination cities. As the focus of production shifted toward higher skills and advanced technologies, expatriate high-skilled employees of the MNEs began to play a significant role in FDI projects (Kim and Cocks, 2017).

This new context meant FDI recipient cities began to experience

urban development associated with residential development and community services for the settlement of these expatriate staff (Kim and O'Connor, 2019). The following analysis extends the analysis by exploring the actual process which involves residential and commercial real estate investment as a second layer of urban outcomes strengthened via expatriate families. Despite the *footloose* nature of firms seeking cross-border low-cost production sites, they have been spatially clustered. The co-location of MNEs means not only demand for their workspace, but also the sizeable presence of expatriate workers and their accompanied family members who have different demand for residential and commercial space, which, in turn, creates new opportunities for international real estate investment. Then, the real estate investment augments international activities citywide and regionwide. This research analyses this coalescence by reporting on the experience of Korean investment in real estate following earlier projects in manufacturing in Hanoi. These urban outcomes are outlined at project, city, and city-region scales. Korean FDI was the largest in Vietnam and, among all Vietnamese regions, Hanoi and its surrounding regions, called the Hanoi Capital Region (HCR), have received the largest amount of Korean FDI, leading to a marked increase in Korean

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(expatriate) population. Alongside increasingly growing Korean activities in the HCR, Korean real estate investors have been proactive, which frames a pertinent context for this research.

2. FDI in Real Estate

Much urban development is physically realised through real estate investment, involving project financing, development and management that have long been part of the urban development of cities and regions. In turn, it has become a prominent part of the global economy over the past few decades (Lizieri, 2009; Tiwari and White, 2010), especially in the Asia-Pacific region as reviewed by Kim et al. (2015b); Jung et al. (2013); Zhu et al. (2006) and Rogers et al. (2015). It is carried out by large property firms, financial institutions and (super-rich) individuals as well as financial intermediaries like REITs (Joseph et al., 2006; Pow, 2017). Despite the increasingly growing volume of FDI in real estate and its manifest role in reshaping built environments, relatively scant academic attention has been paid to this important issue. The existing literature about international real estate investment has been patch or sectoral. Earlier studies stressed the performance of investments from real estate investors' perspectives. A key rationale addressed in the literature was economic benefits from diversification as a portfolio to better manage investment risks (Ziobrowski and Curcio, 1991; Sirmans and Worzala, 2003; Adair et al., 1999). More recent studies have been urban-focused, investigating individual housing or office markets, largely escalated by active outward investment by the Chinese, in recipient locations. For the housing market, local politics about the presence of international housing investors (Rogers et al., 2015; Rogers and Wiesel, 2018; Paik, 2019), housing market movements in the U.K. (Hamnett and Reades, 2019), and geographies of international investors in South Korea (Kim et al., 2015a) have been research foci. These housing investors were ethnically connected, super-rich and/or expatriate workers (DeVerteuil and Manley, 2017; Cook, 2010; Searle, 2014; Kim, 2017). For the office market, geographies, investor profiles and growing trends have been explored in global cities or mega cities such as London, Shanghai and Seoul (Lizieri and Kutsch, 2006; Zhu et al., 2006; Kim et al., 2015b). Besides, the small number of studies have addressed FDI in real estate analysing spatial and inter-temporal patterns of it (Hui and Chan, 2014; Jung et al., 2013). While previous research about international real estate investment offers focused understanding of globalising trends of real estate investment activities, its interwoven nature with overall FDI flows, human mobility and spatial changes has been neither conceptualised nor examined empirically. As a direct outcome of real estate development, the function and the shape of buildings are changed. When these new development projects are with distinctive spatiality (Kim and Han, 2014), their impacts are consolidated interacting with space user-groups at a broader geographical scale beyond a single project site. Therefore, the research addresses the following research questions about Real estate FDI (RFDI): (1) how and why RFDI has been interlinked with non-real estate sectors? and (2) what impacts has RFDI produced in the recipient city? These questions are addressed by a case study of Korean investment in Hanoi, Vietnam. Although late into RFDI activity, Korean real estate firms (and pension funds such as the Korean National Pension Service) invest in global property markets and were active in purchasing property following the Global Financial Crisis (GFC) (Kim et al., 2015b).

It is possible that real estate is embedded within the overall FDI process mediated via expatriate employment (Fig. 1). A complexity of manufacturing processes, evidently in high-tech manufacturing, require forward and backward linkages within production networks with global lead firms being inter-connected with suppliers, vendors and technical support firms. Manufacturing FDI establishes or, at least, strengthens global production networks in the recipient cities via *strategic coupling* (Coe and Yeung, 2015; Yeung and Coe, 2015). Expatriate managerial and technical staff are essential to control quality and security over complex processes and products. Issues surrounding senior staff

mobility has long been a part of management thinking in MNEs (Forster, 1992; Brett and Stroh, 1995). For the firms, a key concern is the willingness of staff to stay for an extended period. That willingness seems to centre on the perceived quality of built environments in a destination city or region (Kim and Cocks, 2017). International evaluations have been developed to compare destinations (InterNations, 2018), but at the level of individual staff, liveability often comes down to a comparison between the facilities available at a FDI destination and what is available at home. This often translates into a preference for high quality family-based accommodation, along with language-specific retail and community services. The availability of these was critical to the decision of expatriate staff to commit to the project for the longer term (Kim and Cocks, 2017). As a result, an additional demand has been generated for modern commercial and residential activities usually very different to those that exist in the cities of developing countries. RFDI is organised specifically to meet the requirements of expatriate-focussed residential and community development. As the supplier, FDI in real estate development has a very direct and targeted effect that magnifies the way manufacturing FDI influences cities and regions. As far as the author is aware, this research is the first academic attempt to analyse the coalescence of RFDI with FDI. China's experience may provide an anecdotal clue that international real estate investment activities have been fuelled by its major FDI sources like Hong Kong and Taiwan (Zhu et al., 2006). A case study of Suzhou has scrutinized FDI's urban outcomes magnified via the inflow of expatriate families (Kim and O'Connor, 2019; Kim, 2019a), but the systematic connections with RFDI have not been observed.

Three interlocked urban outcomes of RFDI are examined with reference to Korean FDI flows, its cross-sectoral links with manufacturing FDI and Korean residents' location choice in the HCR: (1) intensified real estate development, (2) burgeoning new urban cores in inner-city Hanoi, and (3) new commuting patterns by expatriate workers. Firstly, RFDI has produced high-rise (mixed-use) complexes, facilitating *land-use intensification* on the project site (Scott, 2019), and, therefore, changed Hanoi's skylines. This is a direct physical outcome of RFDI development projects. Primary target tenants of these internationally-funded real estate projects were expatriate families and the better-off Vietnamese for residential development and multinational corporations (including Korean firms) and large Vietnamese firms for commercial development. Secondly, the locations of RFDI has imbued the burgeoning of new urban cores away from the central part of the city due to required plot-size for large-scale development and demand for new community infrastructure that can be more easily created in new urban centres than the traditional CBD. This urban outcome is created at a city scale. Thirdly, RFDI tends to favour the central areas of the cities, while manufacturing FDI is typically spread across the region seeking out low-cost industrial sites. Consequently, a long-distance commuting pattern has been fostered among expatriate workers from Korean-funded residential buildings in inner-city Hanoi to outer industrial zones at a city-region scale.

The focus upon Korean investment adds a specific layer to this process. In Vietnam, a prominent destination for Korean manufacturers, it is apparent that Korean manufacturers have been followed by Korean firms in construction such as Daewoo Construction, Keangnam Construction¹, Lotte Construction, and Hyundai Construction. Also, a privatised state-owned enterprise, POSCO Construction, is currently active in Vietnam.

3. Research methods

The purpose of the analysis is to show that the urban impact of manufacturing FDI on a recipient city or region is magnified by its connections with RFDI. This idea is explored via cross-sectoral and

¹ Keangnam used to be Daewoo's subsidiary.

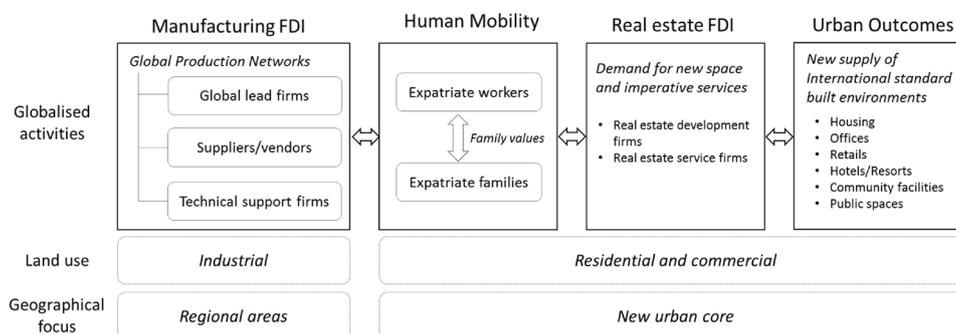


Fig. 1. A linkage of manufacturing FDI with real estate FDI via expatriate workers/families.

spatial analyses of RFDI by Korean firms that followed manufacturing investment by Korean firms in Vietnam, proliferated from the mid-2000s. This research combines quantitative and qualitative data to understand a broad picture and details of RFDI. While secondary data about the profile of FDI and RFDI constitute a core source for analysis, primary data from survey questionnaires and interviews provide grounded knowledge about the subject matter. FDI statistics are graphed, tabulated and mapped by administrative units in relation to inter-connected industrial and residential activities. This research draws upon the following datasets, as well as fieldwork carried out in Hanoi in the period 2017–2018.

- Dataset #1: A list of Korean FDI projects in Vietnam from Foreign Investment Agency, Ministry of Investment and Planning, Vietnam; It includes the profile of all Korean FDI projects such as the date of investment grant, project addresses, investment amounts, industrial types and the name of investors from the first FDI project in 1991–2017.
- Dataset #2: 2017/18 Korea Chamber of Business in Vietnam (KORCHAM) Directory, a book published by a private business association, called KORCHAM, including self-reported company profiles such as number of employees, addresses, and major industrial types.
- Dataset #3: Hanoi Korean News a free monthly magazine published in Hanoi which lists firms providing details of services available for Korean residents.
- Dataset #4: Export-Import Bank of Korea Report contains aggregated statistics about Korean FDI in Vietnam by industrial type and year. Due to the lack of location information, Dataset #4 was used for nationwide analysis.
- Dataset #5: Survey questionnaires with Korean residents and 18 interviews with expatriate workers carried out in 2017–2018 in Hanoi. Participants were recruited via Korean associations, social clubs and institutions, such as Korean primary/secondary school, Korean religious organisations and Korean Association in Hanoi. In total 308 survey questionnaires were completed. Among them, 68 households stayed in Korean-built housing. Statistics from the survey questionnaire are not inferential but descriptive in this research. While Dataset #1 is the major source for analysis, Dataset #5 supports in-depth understanding with descriptive statistics.

The geographic focus of the research is the HCR. The Vietnamese government has defined the HCR comprising Hanoi – a provincial-level city – and its surrounding nine provinces: Bac Giang, Bac Ninh, Ha Nam, Hung Yen, Hai Duong, Hoa Binh, Phu Tho, Thai Nguyen, and Vinh Phuc. The HCR extends approximately 230 km from east to west and approximately 180 km from south to north. The next section provides a contextual background of Vietnam as seen from the perspective of Korean FDI. Then, findings are presented showing the links between growths in Korean manufacturing FDI and RFDI in aggregate terms and via case studies of locations within Hanoi, followed by a conclusion.

4. Vietnam as a focus for Korean FDI

This section outlines contextual backgrounds of Vietnam as a recipient location and trends of Korean FDI. A fundamental element in the FDI flows is the broad institutional context within the receiving country. In Vietnam, this context changed beginning with the opening-up policy, called *Doi Moi* (Beresford, 2008; Fforde and De Vylder, 1996), which provided a shift from the “Soviet-style socio-economic system (Labbé, 2016: p.150)” (1954–1986) that had an anti-urban emphasis to a transitional system “in-between a command-based system and capitalism (Gough and Tran, 2009p. 175)” embracing international capital. Since then FDI inflows have been encouraged by institutional arrangement and innovation. Vietnam’s transitional market was indeed not an ideal environment for international real estate investors due to institutional and political constraints such as the lack of ‘right property rights (Kim, 2004)’, ‘two-price systems (Thu and Perera, 2011)’, ‘coalitions between developers, investors and speculators and state officials (Labbé and Musil, 2014: p.1156)’, rigid social norms (Kim, 2007), land supply and development ‘overwhelmingly dominated by political elites and state-owned companies’ (Kim, 2012: p.401) and social conflicts in land acquisition and compensation (Kim, 2011). Nevertheless, international real estate firms have been ventured to invest in Vietnam as discussed in this research, aligned with the rising trend of inward FDI after a legal framework, *Law on Foreign Investment in Vietnam*, was established in 1987. From 1988–2017, the total volume of registered RFDI was USD 51.2 billion, accounting for 16.0 % of the total FDI, the second largest after manufacturing FDI (57.9 %). After the first RFDI project in 1989, the volume of RFDI saw a gradual increase until the Asian financial crisis occurred, during which international real estate investors were inactive. However, the volume of RFDI increased exponentially from 2001 to 2008, when RFDI reached at record highs at USD 13.3 billion. Although the volume of RFDI decreased since the GFC, there has been more stable numbers of RFDI projects. Officially Singapore (26.4 %), British Virgin Islands (17.8 %) and South Korea (15.8 %) have been the most active three real estate investor groups (Kim, 2019b). While British Virgin Islands is a notable tax heaven, the two significant real estate investor groups are Asian ‘property states’ (Haila, 2000, 2015; Joo, 2018). The two leading cities, HCMC and Hanoi, have been favoured by international real estate investors, accounting for 28.4 % and 16.4 %, respectively (Dataset #1).

The *Doi Moi* policy and more directly a diplomatic relation between Korea and Vietnam in 1992 established a favourable institutional and political basis for Korean FDI in Vietnam which reached a record high of USD 1.4 billion in 2008 and rose again to USD 2.4 billion in 2016. For Vietnam itself, Korea is now the largest source of its FDI, accounting for 18.3% of the total by 2017, compared to inflows from Japan (15.6 %), Singapore (13.8 %) and Taiwan (9.8 %). Due to rises in production costs in China, Korean firms have sought out alternative production sites. Vietnamese city-regions have offered favourable business environments while further investigation is needed to explain why Korean firms have been attracted to Vietnam. Over the period from 1991 to

Table 1
Korean Real Estate FDI in Hanoi, 2002–2017

Development			Real estate services
Residential	Commercial	Multi-purpose	
1	7	6	11

Note: Three RFDI projects were excluded due to insufficient information.

2017 manufacturing (with a share of 57.9 %) and real estate (16.0 %) have been the two largest sectoral concentrations of FDI, with smaller commitments to Electricity, Gas and Water (6.5 %) and Construction (3.3 %) (Dataset #1). Within manufacturing activities, there has been a shift toward high technology products with mobile phone making, semiconductors, display industries and electronics accounting for 31.9 % of Korean manufacturing FDI in Vietnam in the period 1992–2017 (Dataset #4).

RFDI can take two broad forms: (1) development projects such as residential and commercial buildings, and (2) real estate services such as brokerage, consultation and valuation. This categorisation is not always straightforward. For example, in some cases the industrial construction is also seen as a real estate function while residential development projects can extend beyond just housing and include service activities. However, to develop a sense of the major direction of this activity a classification was developed and applied to 28 Korean RFDI projects in Hanoi (see Table 1). This categorisation shows that RFDI is a multi-faceted activity, adding to housing stock along with service functions, often in combination and so likely to have a prominent impact in recipient cities.

Both manufacturing and real estate FDI has been concentrated on the two largest city-regions, the HCR and the Ho Chi Minh city-region (HCMCR), and to a less extent in Danang, reflecting Vietnamese spatial-economic development patterns. However, although Ho Chi Minh City is the largest city in Vietnam with the greatest economic influence (Leducq and Scarwell, 2018; Nguyen et al., 2016), Korean investment has favoured the HCR that has outstripped the HCMCR in terms of accumulated FDI volume.

5. Korean FDI in Manufacturing and Real Estate: Aggregate connections in the HCR

Fig. 2 shows the inflow of Korean FDI in manufacturing and real estate as well as the number of Korean residents counted in Hanoi since 1991. Looking first at manufacturing, it is apparent that the inflow into

the region gradually increased from the early 2000s. Since then annual amounts have been uneven, reflecting the effect of some major projects initiated by *Samsung* divisions, as specified in Fig. 2. These large projects as well as the cumulative build-up of Korean investment have had a major effect on the numbers in the local Korean population, as can be seen in the size of the columns. From 2005 population numbers began to expand, mirroring the growth in FDI, but with the four *Samsung* projects identified on Fig. 2, the numbers more than trebled after 2013. This association confirms the link between manufacturing investment and expatriate employees discussed earlier. The fact that the numbers have increased so rapidly in recent years may relate to the scale and complexity of the recent *Samsung's* projects, which are dealing with screen-based technologies that will require high levels of skill, and also draw in many of the supplier firms as occurred in Chinese cities like Suzhou (Kim, 2015, 2018; Kim and O'Connor, 2019).

It is also possible that there has been a service sector effect at work here. As the number of manufacturing employees and their family members has grown, the local market for Korean specific services in education, banking, and personal services has reached a point where more service sector functions have been established by Korean suppliers drawing in more employees.

Fig. 2 also shows the value of RFDI in the region. In scale it is dwarfed by the investment in manufacturing. The uneven response may reflect the time-to-build in development projects which can span 3–5 years (depending on the pace of development), along with a natural lumpiness in the products such as high-rise apartment buildings where one building may take a number of years to fill. While allowing for an uneven response, it is clear that an initial surge in inflow matched the upward trend in manufacturing investment in 2005–2009, suggesting the new Korean presence at this time was expressed in the demand for residential and service functions. The effect of the major *Samsung* projects has just been felt in an up-turn in RFDI over the last year. It is not known whether Korean real estate developers knew *Samsung's* plan to invest in the HCR, although *Samsung* did spend at least three years to seek new production sites undertaking negotiations with central and provincial governments (Interview with Korea Trade-Investment Promotion Agency in Hanoi on 25 October 2017). So, it is possible that the 2005–2017 increase in RFDI discussed might have been in anticipation of the *Samsung* impact.

The patterns shown in this aggregate data indicate the growing investment in manufacturing activity by Korean firms has stimulated relocations of employees as manifested in the growth of Korean resident numbers, and, in turn, the demand for housing and community facilities designed to match their quality in Korea, recognising that local housing

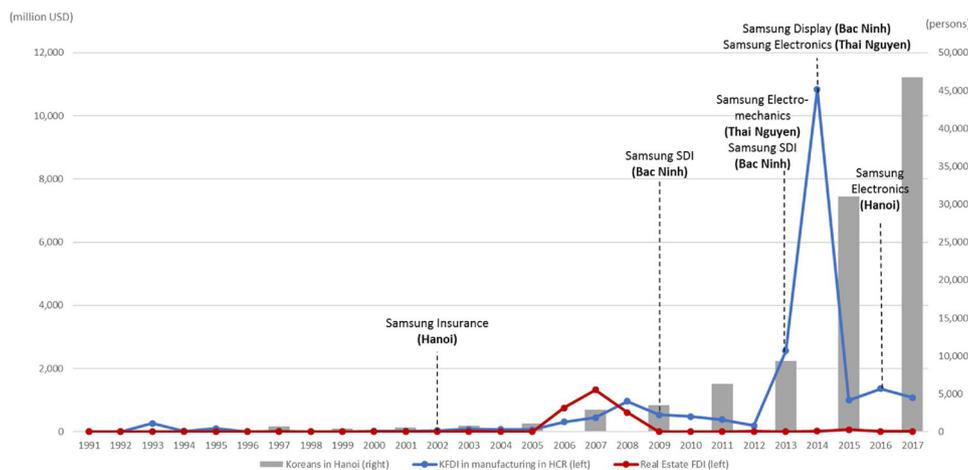


Fig. 2. The relationship between Korean Manufacturing FDI, RFDI and Korean Population in the HCR 1991–2017.

Note: *Samsung's* projects over USD 100 million are identified on this graph.

Source: Dataset #1.

and community services were not adequate (Gough and Tran, 2009; Turner, 2009; Surborg, 2006; Tran and Dalholm, 2005; Van Trinh and Parenteau, 1991). Foreign investment by Korean real estate firms made this connection stronger. Their activity adds to the impacts of FDI upon the urban development of Hanoi. The following section explores the way that outcome was expressed at project, city, and city-region scales.

6. Local Outcomes in the HCR

6.1. Project level: Intensified real estate development

The first and direct outcome of RFDI is *land-use intensification* that has appeared in the style, scale and design of residential and commercial buildings constructed and managed by Korean real estate developers with high-quality design being transplanted from South Korea. These internationally-funded buildings enhance the quality of built environments, but the major tenants are affluent firms and households including MNEs and expatriate families on the RFDI project site. The landscape that these buildings have produced is conspicuous, contrast to ordinary Hanoi's settlements, due to high-rise, large-scale, and often mixed-use modern (or futuristic) design. Four examples (each representing over USD 100 million realised investment) have been selected from the projects included in Table 1 to illustrate the differences in real estate investment made by Korean firms.

First, POSCO Construction, in collaboration with Vietnam's largest state-run builder VINACONEX, invested over USD 200 million in a new city construction project, called 'Splendora' in 2006 located in western Hanoi in Fig. 3. This project provides high-rise apartments, villas, houses, offices, commercial centres and supermarkets accommodating 25,000–30,000 residents on a land area of 264 ha.² It is planned to extend to 2029 and currently the first stage out of five has been completed.

Second, in 2007 Hyundai construction transplanted typical Korean style apartment complexes into Hanoi by investing almost USD 200 million in Hyundai Hillstate to the southwest of the central city, Ha Dong (Fig. 3). The complex is comprised of about 900 high-end apartments in five buildings³. Within the gated community the ground level is pedestrianised with an outdoor swimming pool, manicured landscapes, and playgrounds for children above an underground car park (Fig. 4(a)). The sense of difference between the built environment of this project and the immediate surrounding area is apparent in Fig. 4(a) and (c).

Third, the largest investment in real estate thus far was made by Keangnam Construction in 2007, involving a registered FDI amount of USD 1.12 billion located within the new cluster on Fig. 3. This funded a 72-floor building, Landmark Tower 72, the tallest building (350 m) in Vietnam, with the total floor area of more than 600,000 sqm⁴. The Hanoi Landmark Tower 72, opened in 2011 is a mixed-use development including premium-level offices, serviced residence hotel, 5-star Intercontinental Hotel, high-end apartments, convention halls, retail shops, restaurants, medical clinics, and amenity facilities such as fitness centres, swimming pools, sport facilities, and parks.

Fourth, Daewoo Engineering & Construction began a project in 2006. This project, entitled 'Starlake', was to build a new town on a land area of 186.3 ha in Tay Ho District and Tu Liem District. In the proposed plan, this new town will accommodate 24,000 people and include international schools, offices, complexes of cultural institutions such as exhibition, display, films and fashion. The Korean embassy was moved here from inner Hanoi in 2019. This project is under construction now and initial releases of land and the first newly built housing

have been sold.

It is important to acknowledge that Vietnamese firms have been involved in this activity, perhaps modelling their approach on that of the Korean firms. For example, an internationally-focused residential development project, called 'The Manor', was established in My Dinh in 2006 by a local developer, Bitexco, with classic French architecture (Han and Vu, 2008). Currently the scale of Vietnamese-built high-end apartments is increasing with increasingly growing construction technologies and design skills.

Korean expatriate families have responded to the opportunities provided by these and other high-rise residential sites that offer high quality liveable environments in mixed-use high-rise development and gated communities. These projects differ markedly from the Vietnam standard, best illustrated by their size and rental levels elevated by housing allowances. Gough and Tran (2009) indicated that the average size of ordinary Hanoi housing was around 4 m² per capita. In contrast, a sample of twelve apartment complexes advertised in "Hanoi Korean News" (April 2018, Dataset #3) suggest that the average space per person (assuming 4 people in three-bedroom apartments) was around 30–40 m². In fact, according to survey questionnaires (Dataset #5), average per person dwelling size among all respondents was 37 m². Their stays have been highly supported by their employer in a form of housing allowance (see Table 2). These expatriate households are motivated to fully utilise the ear-marked extra financial support for housing by choosing better quality housing in prime locations. Compared to the average household income level of the local Hanoians, approximately USD 500 in 2016 according to Vietnam Household Living Standard Survey, the average rent of USD 1005 and the average housing allowance of USD 964 exclusive of zero housing subsidy households) or USD 742 (inclusive of all) among Korean residents were very high, meaning their high housing affordability.

6.2. City level: Burgeoning new urban cores

The second outcome of the Korean real estate investment has been to contribute to an ongoing shift to the functional and spatial structure of inner-city Hanoi. In an early stage of *Doi Moi* between 1988 and 1997, the majority of internationally-funded real estate projects were located within 2 km from the commercial core of Hanoi, the Ancient Quarter. An early analysis showed more than 90 % of RFDI projects were located within 5 km from the acknowledged core of the city (Quang and Kammeier, 2002), in the French Colonial Quarter, the location of the most expensive property in Hanoi and of headquarters of both domestic and international firms. Since then the focus of investment has shifted west strengthening the creation of the new urban core. To discover the scale of this change, the geographic co-ordinates and investment value of 26 of the 28 projects included in Dataset#1 were mapped as part of a weighted geo-centric analysis (Fig. 3). The classification of projects discussed above was used, and the service sector activities analysed separately. The geographic centre of this activity is the large star displayed in Fig. 3. This geographic centroid is around 7.5 km from the traditional centre of Hanoi (i.e., the Ancient Quarter), coincidentally beside the Keangnam Landmark Tower 72 discussed above, suggesting that the influx of real estate development has moved its focus away from its initial core to the west.

Fig. 3 also shows a 5 km radius from this point, in effect replicating the central city cluster seen in Fig. 5. This circle accounts 7 out of 13 development projects (although 74.3 % of their value). Real estate service sector projects are even more concentrated with 10 projects out of 11 in the category located within the 5 km radius. It is likely that these buildings require smaller sites, in contrast to the multi-purpose major development projects that are seeking out larger sites.

The clustering effect detected in Fig. 3 has a further local impact. This is the development of a Korean-focused community in the Tu Liem district creating an 'enclave' as identified in studies of migrant communities within cities (for example, Lee (2014) and Bauer et al.(2005)).

² <http://splendoraankhanh.com/en/>; <http://www.koreaherald.com/view.php?ud=20160905000844>.

³ <http://en.pmcweb.vn/project/hyundai-hillstate-residential-complex/>

⁴ <http://www.landmark72.com/about/about.aon>

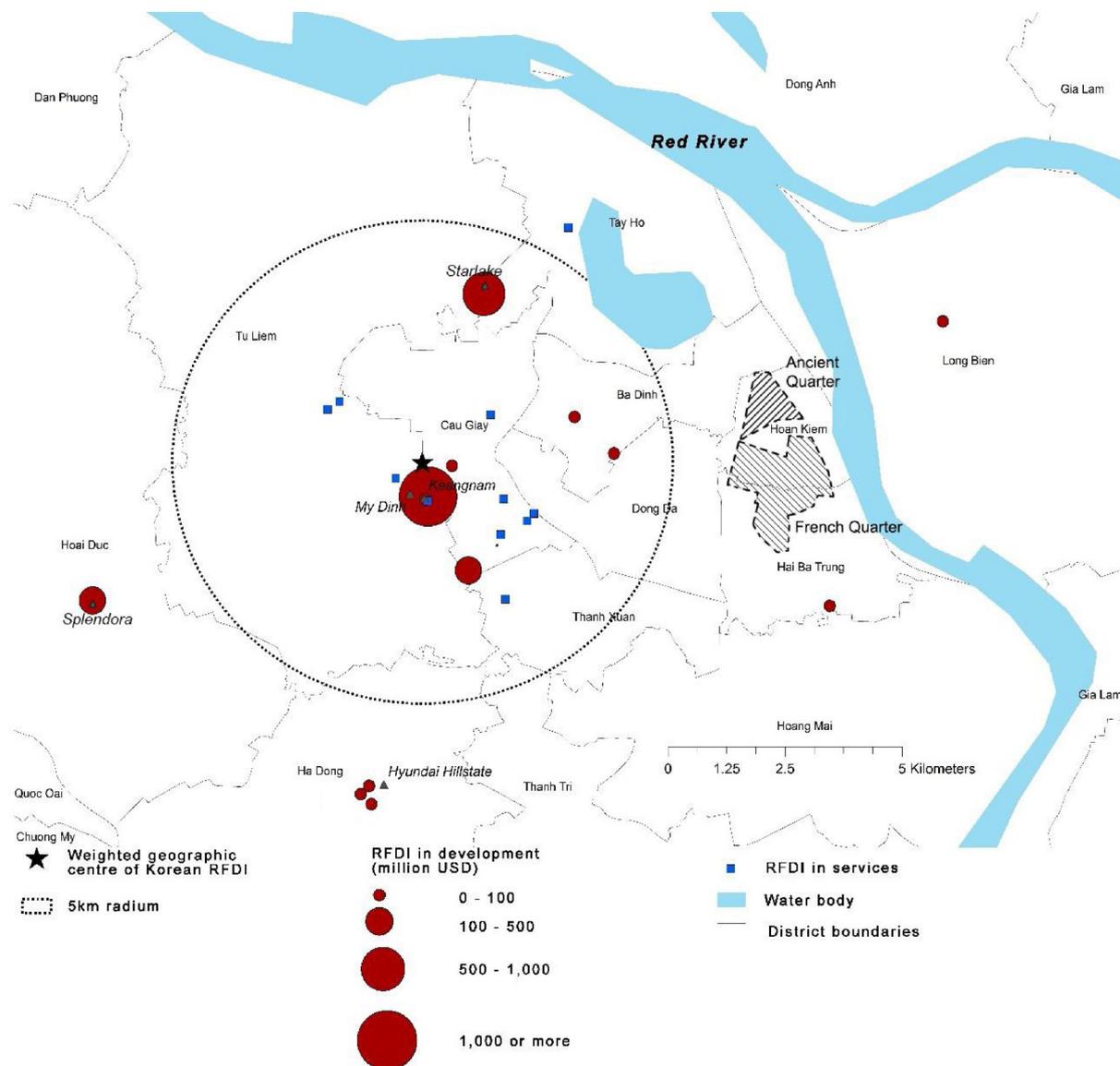


Fig. 3. Location of Korean RFDI in Hanoi. Source: Generated from Dataset #1

In effect this means an overlap of residential and commercial functions within a small area. This outcome is perhaps best illustrated in the Landmark Tower 72 building where 2018 site visits found more than 90 % of the occupants of the serviced residence hotel, and 80 % of occupants of the apartments were Korean expatriate families. Within the building as well, there were offices of Korean institutions, such as the Korea International Cooperation Agency (KOICA); it was apparent that the Intercontinental Hotel was popular for short-term international business visits including from Korea. Within this building complex, there were Korean restaurants, Korean grocery stores, Korean bakeries, a Korean bank, Korean private academies for extracurricular studies, a Korean church and Korean kindergartens. In the morning, shuttle buses arrived at the front and the rear of this building to take school-aged children to school and expatriate workers to suburban industrial sites, so it acted as an important Korean community focus. The pull of this area can also be seen in the hourly shuttle buses from the suburban Hyundai Hillstate project which lacks a Korean service base (Fig. 3). It is important to acknowledge that this part of inner Hanoi was already changing as the effects of *Doi Moi* were felt. It was once seen as on the edge of Hanoi but it has begun to change with non-manufacturing industries moving in, such as film making (DiGregorio, 2011). The

clustering of the RFDI is adding another layer to that change.

One possible spill-over effect of RFDI development projects is the growth of real estate service sectors that mediate and facilitate real estate transactions. A concentrated pattern of RFDI in services further consolidates the new urban core. Since a further de-regulated policy measure was introduced allowing foreign nationals to purchase apartments up to 30 % in new apartment complexes from 2015, foreign home ownership has been increasingly growing in Hanoi. In fact, 13 out of 308 surveyed Korean residents (or 4.2 %) purchased housing in Hanoi (see Table 2). Although these purchases did not necessarily Korean-invested apartments, foreign home ownership infers owners' 'long-term commitments' to stay on in the destination city (Kim et al., 2015a: p.221). It, therefore, will augment and consolidate Korean activities in and around the new urban core.

6.3. City-Region level: New commuting patterns

Due to the spatial discrepancy between manufacturing FDI sites and expatriate residential locations supplied by RFDI, a reverse commuting pattern from inner-city Hanoi to outer-peripheral industrial zones has been established among Korean expatriate workers. This outcome is



Fig. 4. Korean built apartment complexes and neighbouring local areas: Hyundai Hillstate (left) and Keangnam (right). Source: Taken by the author in 2017 and 2018

Table 2
Tenure type, rent and housing allowance.

Tenure	Frequency	Percentage
Total	308	100.0 %
Ownership	13	4.2 %
Dormitory provided by employer	7	2.3 %
N.A.	14	4.5 %
Rent	274	89.0 %
- Average rent: USD 1,005		
- Average housing allowance (exclusive '0' value): USD 964		
- Average housing allowance (inclusive '0' value): USD 742		

Source: Dataset #5.

visible at a city-region scale. Although urban expansion has been already accelerated by suburban industrial development, the reverse-directional long-distance commuting pattern has been a new trend strengthened by expatriate workers. Table 3 shows the distribution of the accumulated value of FDI over the period 1991–2017 in the HCR, separately for the city and the rest of the region. The contrast in the location of manufacturing and real estate FDI is stark with manufacturing being located across the broader region, while real estate investment is centred almost exclusively on Hanoi. Finer detail of that distribution can be seen in Fig. 3 and Fig. 5.

As shown in Fig. 5 there are three major concentrations of Korean investment in the region. Two districts lie to the north and one around the centre. The two northern locations are the home of very large-scale Samsung Electronics investment. In fact, the Yen Phong district in Bac Ninh Province alone accounted for 12.8 % of the total accumulated Korean FDI in Vietnam up to 2017. The Pho Yen district in Thai Nguyen was the second largest as Samsung's second factory was built here. The third largest FDI destination district was the Tu Liem district in Hanoi

which, as can be seen in Fig. 5, was the focus of most of the real estate projects. The two northern manufacturing areas are 30–50 km s from the central city and Korean firms arrange private shared vehicles for their expatriate workers moving employees from inner-city residential locations. Hence, the important outcome of the association between manufacturing and real estate FDI has been the establishment of a reverse commute pattern in Hanoi. In fact, 40 respondents out of the total 67 (or 60.0 %) living in Korean-built housing commuted to outside Hanoi, such as Bac Ninh (34.3 %) and Thai Nguyen (6.0 %) (Dataset #5).

7. Discussions and Conclusion

Much FDI literature has rightly seen FDI as an important influence upon urban development, mainly by identifying the direct and indirect employment impacts of manufacturing investment. The current research acknowledges the importance of that insight but shows there is another layer of impacts as real estate investment is linked to the moves of manufacturers' employees. When these moves involve large plants and a multitude of related suppliers, as well as high-skilled workers, the links with real estate investment take on special significance. This research sheds light on the coalescent nature of RFDI with overall FDI via flows of MNEs and expatriate staff that can generate direct and indirect spatial impacts at project, city and regional scales. Although other (emerging) cities can undertake the similar processes with growing FDI inflows, this research calls for further international case studies to comprehensively understand the emerging form of cross-border investment.

In the case at hand, this research was dealing with very large-scale moves by Korean manufacturers of high technology products such as Samsung where the complexity of final products requires tight linkages with their vendors that have also relocated to Vietnam. This was taking place as overall links between Korea and Vietnam were expanding

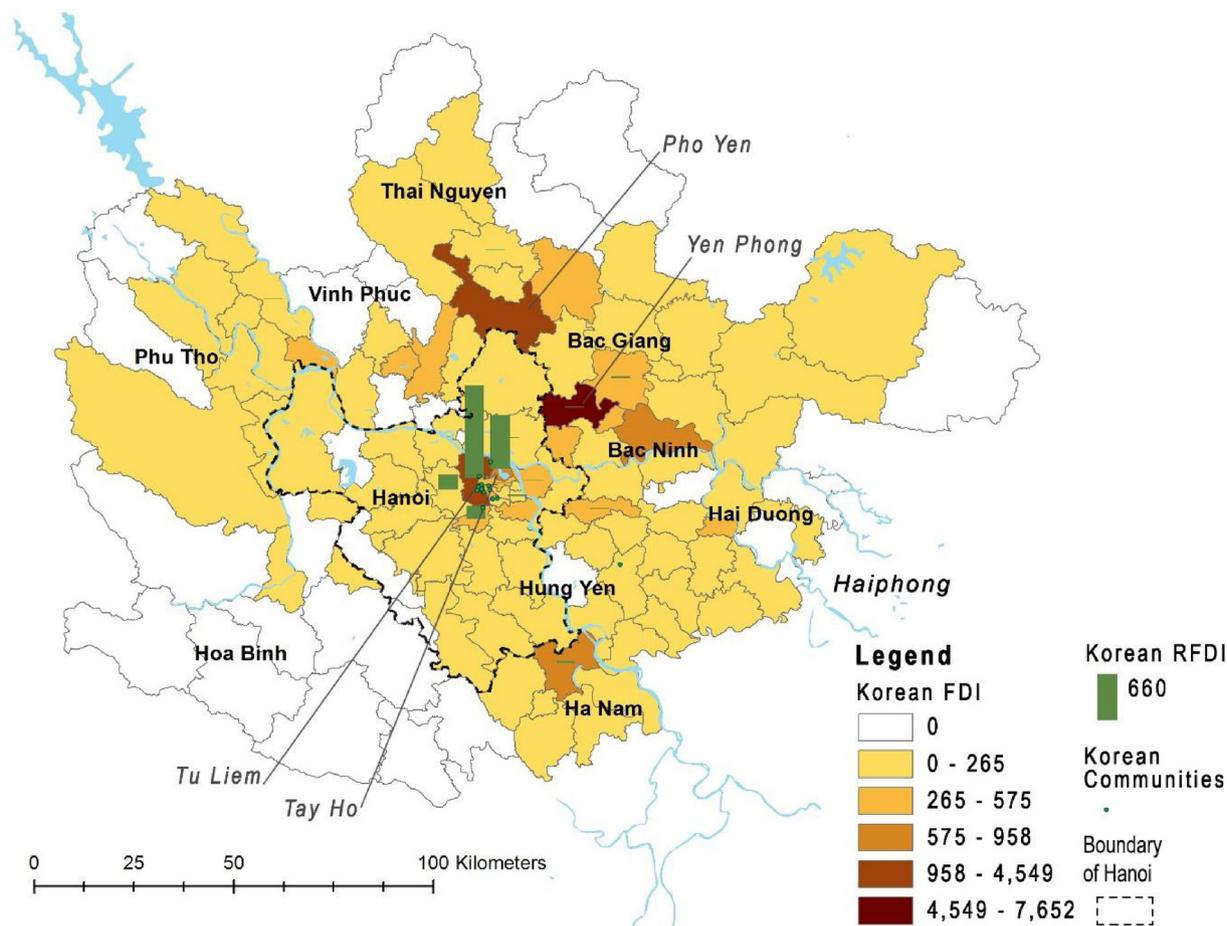


Fig. 5. Korean FDI, RFDI in districts Hanoi Capital Region aggregate of 1991-2017. Sources: Korea FDI adapted from Dataset #1 (unit: million USD)

Table 3
Location of FDI in the HCR.

Aggregate value of Korean FDI in	Hanoi Capital Region		Total
	Hanoi	Rest of HCR	
Manufacturing (\$US million)	1,006	19,953	20,959
Share of Hanoi and Region	4.8 %	95.2 %	100 %
Real Estate (\$US million)	2,744	106	2,850
Share of Hanoi and Region	96.2 %	3.8 %	100 %

Source: Dataset #1.

rapidly. The results here show that real estate investment tracks manufacturing investment via the number of people moving, as Korean residents (with family) chose Korean ethnic communities often designed, constructed and managed by Korean developers. Although how Korean real estate investors have managed local institutional investment risks and disadvantages as foreign investors is unknown from the analysis, this research sheds light on the links of RFDI with overall FDI and its associated migration processes which have escalated the volume of investment. RFDI has changed urban landscapes and the urban form primarily by developing new modern commercial buildings and secondarily via location choice.

The clustering of Korea-specific residential development and service functions is another contribution to change in Hanoi. Residential clusters of expatriate families are likely in new urban cores made up of Korean-style housing in gated communities, as seen in Hyundai Hillstate and Keangnam Landmark Tower 72, high-rise, pedestrianised and mixed-use buildings where residents continue their Korean life-

styles with easy access to language-specific community facilities in pedestrianised housing complexes. In the process they are re-shaping the character of a small selected part of Hanoi.

The locations of industrial activities and the commuting patterns strengthen the formation of a functional urban region with Hanoi being an urban core. However, the commuting direction is not from suburban areas to the core city, but the opposite for Korean expatriate workers. In most Western functional urban regions, suburbanisation is a dominant pattern in search of high quality and spacious (single detached) housing in low-density suburbs, encouraged by cheaper land prices, road networks and private vehicles (Hall, 2009). The urban impacts were seen in the strong reverse commuting flows from the inner city to the suburbs. That reverse flow is integrating the growing fringe districts into a functional unit and likely to be underscored by the movement of goods in logistical connections between suppliers and to air and sea freight facilities. In this context the real estate investment is facilitating a change in the emerging structure of the metropolitan region.

To expand and develop understanding of these urban impacts, it will be important to explore what links actually exist between manufacturing firms such as Samsung and its subsidiaries and the organisation of real estate investment. Thus far the research has inferred a link in terms of timing and scale but has not explored the functional connections that might be involved.

A special concern here will be better understanding of the opportunities and activities of home-based real estate and construction firms. If the process is carried on among Korean firms and insulated from local operators, the overall impact of the FDI will be less than if local firms are involved in some stages of the process via strategic coupling. For Vietnam too, questions arise about the differences between Hanoi and

Ho Chi Minh City. It is interesting to consider why Hanoi has been so favoured by Korean firms over Ho Chi Minh City, and whether there is much scope for the actions of real estate FDI in that city.

Another set of impacts might emerge if manufacturing FDI begins to spread away from the major cities. In the current case there is some Korean manufacturing investment located in Hai Phong which involves a 90–100 km commute from a Hanoi residence. Da Nang has also attracted investment; whether that is managed from the Hanoi base, or is generating its own small-scale urban impacts as housing and offices are developed.

In the longer term it may be important to address potential issues that surround the enclave effect of foreign involvement in real estate development. This can create liveable environments, but the benefits of these projects are likely limited to high-income earners mainly expatriate foreign nationals, who are paid special living allowances. These outcomes do raise questions about inequality within the recipient city. The tolerance of that inequality will depend upon the scale of the projects, and the possibility that they are forcing out original local settlements.

What these issues raise is the need for urban governments to provide liveable and safe built environments in a range of local areas. For instance, most industrial parks in the Yen Phong district (Bac Ninh) and the Pho Yen district (Thai Nguyen) have industrial infrastructure such as power, water and roads carefully planned. There has yet to be attention paid to purposefully developed integrated plans for residential and commercial activities and public transport networks for the local workforce who are currently moved on company-provided commuter bus services or private motorcycles. Some part of RFDI could be directed to these local needs. In effect the research can justify a call for institutional efforts to magnify the impacts of FDI inflows via establishing transparent, efficient governance for the entire region, implementing integrated land use plans and transport plans, providing *urban infrastructure* that can contribute to liveability for the employed local population using local streets and services.

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