

Market Feasibility Study on Modes of the Transformation of Industrial Building into Commercial Real

Estate Project in the Pearl River Delta

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Abstract:

Investment activities are concentrating in megacities. According to land rent theory, the land used for old factories in urban areas will lead to land rent surplus. By adjusting the urban renewal policy, the city government allocated the land rent surplus via the renovation/regeneration of old factories and provided transformation opportunities to the market.

1 The Cause of The Rise of Transformation of Industrial Projects

Guangzhou, under debt and fiscal pressure, decides to transform state-owned industrial land into "adaptive residential land" and "adaptive commercial land", and the industrial parks in the urban area are under strict government control to obtain the surplus rent by means of "informal" renewal. In Shenzhen, during 2010 to 2018, about 881.79 ha (76.82%) of industrial land has been transformed into commercial, residential, and new industrial spaces.¹ At present, China's urban renewal is mainly carried out in the form of real estate development. Many residential redevelopment projects and industrial redevelopment projects are no longer funded by local governments but by private property developers. The development of the real estate market, the transformation of the industrial structure, the policy guidance of the government and the demand for consumption and housing are the main driving forces for the redevelopment of urban space in China.

For real estate enterprises, with the continuous expansion of urban space, it is almost difficult for them to find new land supply in the urban core area. In addition, the cost of land auction is getting higher and higher. Urban renewal projects give real estate enterprises the opportunity to enter the urban core area at lower costs. At the same time, with the urban transformation and upgrading, urban renewal has a trillion-level market. Participating in urban renewal projects has become an effective means for real estate enterprises to maintain and increase their value continuously. With policy support, the limited land supply in city core, more real estate enterprises have engaged in urban renewal, including Vanke, Evergrande, Country Garden, Poly Developments and Holdings. A series of problems related to urban renewal, such as urban asset stock transformation, repositioning and operation, have become issues that real estate enterprises must consider.

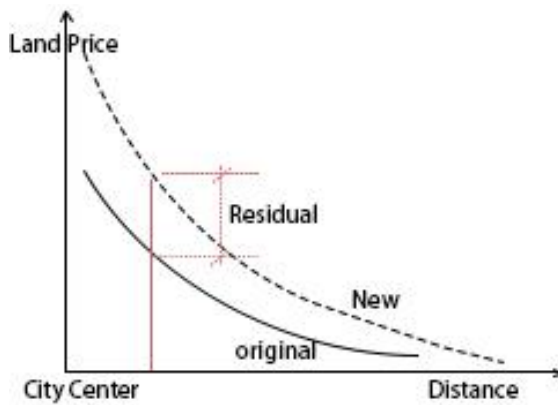
1.1 Reform of Land Supply Policy in Southern China (Based on Shenzhen, Guangzhou)

Shenzhen city development in the context of "urban renewal" refers to the secondary development of developed land in Shenzhen, through reusing the inefficient old residential lands, old industrial zone, old commercial districts, urban village. The approaches are demolishing and rebuilding, function changing, and revitalizing assets stock to promote industrial transformation and upgrading. As the most active project types of urban renewal, "industrial regeneration" is realizing the transformation and upgrading of industry with inefficient use of industrial land, and in particular, to transform industrial upgrading land for new industry (M0 land use type) or new industrial park (M1 + M0 land use type). The spatial form includes industrial buildings, workforce apartments, small business and other diversified property types. According to the statistics of Shenzhen District Renewal Bureau, during the "13th Five-Year Plan" period, the number of "industrial regeneration" project plans has been rising, which has become the main way for developers to take land development and is also the main approach of urban renewal in Shenzhen in the future.

¹ Yani Lai, Ke Chen, Jinming Zhang and Feihu Liu. Transformation of Industrial Land in Urban Renewal in Shenzhen, China

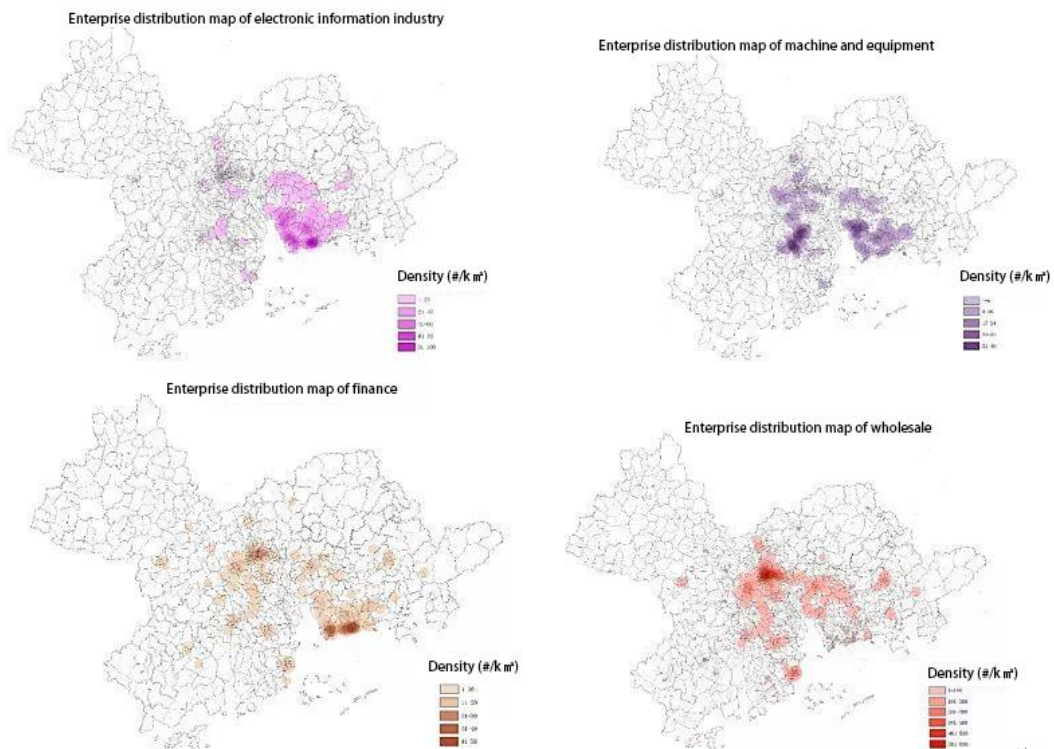
1.2 Theory of Land Surplus - The Movement of Land Bid Rent Curve and The Formation of Land Rent Surplus of Urban Industrial Land.

With the rapid expansion of Chinese cities, especially megacities in the past decades, the relative distance between the old factories and CBD has changed greatly, from the original suburbs to the center of the city. Due to the policy of land and property use right, the old factories or villages in the city center will form a surplus of land rent and a series of urbanization incentives for all kinds of urban land development. On the one hand, with the continuous increase of commercial, business, innovative research and development and residential demand in the central urban area, the land price continues to rise, and the rent curve shifts to the right (Figure 1). On the other hand, the old plant fails to realize function conversion under land use policy, resulting in considerable land rent surplus. How to use this residual land rent surplus shown in the diagram is the challenge and opportunity that many cities in Peal River Dealt are facing.



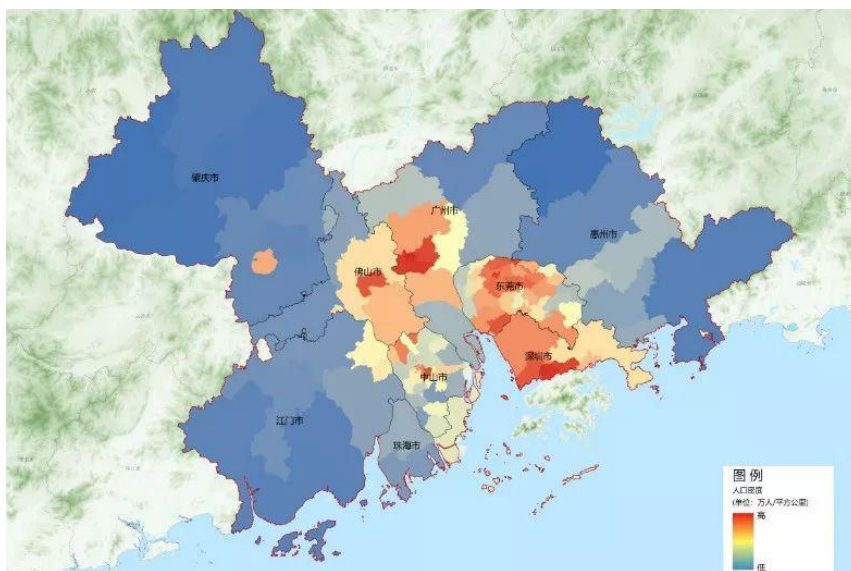
(figure1.Land rent graph and the formation of land rent residual)

1.3 The Impact of Immigration on the Rise of Land Prices



(figure2. Spatial distribution of electronic/information, machinery and equipment, finance, wholesale and retail enterprises in the Pearl River Delta in 2018, source: *Analysis on the formation, population distribution and flow of the Pearl River Delta metropolitan area*, South Guangdong Planning)

The land bid rent curve is stimulated to move to the right. The main reason for the rise of land price in urban centers is the scarcity of developable land, which is aggravated by domestic migration. The regional population gathers to the metropolitan area, presenting a centripetal development pattern. According to the statistical yearbook, the population of the Pearl River Delta, the East Wing, the West Wing and the mountainous areas increased by 16.74 percent, 5.52 percent, 4.69 percent and 5.25 percent, respectively, in the past decade. The Pearl River Delta region has the fastest population growth, accounting for 59.10% of the province's total net population growth. From the perspective of spatial distribution, the population agglomeration presents a circular structure, mainly concentrated in the core area of the Pearl River Delta, including Guangzhou, Shenzhen, Dongguan, Foshan and other cities.²



(figure3. Population density distribution map of Pearl River Delta, source: *Analysis on the formation, population distribution and flow of the Pearl River Delta metropolitan area*, South Guangdong Planning)

The supply of new developable land is an important condition that restricts urban land policy. According to the Land Management Law, China implements a strict land use governance system and farmland protection system, which strictly controls the conversion of agricultural land to construction land and achieves the goals through tools such as the master plan of land use (which mainly controls the total amount of construction land). According to the regional coordinated development strategy conducted by the central government, it still focuses on controlling the population size and the scale of new construction land in megacities (National Development and Reform Commission, 2014). Therefore, for Guangzhou and Shenzhen, new construction land is a scarce resource.

2 Existing Relationship between Public Sector and Private Sector

2.1 Government's perspective - Analysis of Policy Tool Selection under The Residual Incentive of

² Analysis on the formation, population distribution and flow of the Pearl River Delta metropolitan area, South Guangdong Planning, 2019

Land Rent

The land rent surplus formed by the old factories in the central urban area and its surrounding areas has stimulated different incentives for local governments to varying degrees. The local government also governs the land-use function, property use rights, income distribution and development intensity to varying degrees through the corresponding policies for the reconstruction of old factories, forming the distribution rules of land rent surplus, thus affecting the supply of innovative renovated space and the shaping of urban space. The national law strictly forbids the practice that the original owners change the industrial land function by themselves.

According to the relevant provisions put forward by the state, there are three main ways to convert industrial land into commercial/residential land at present:

- ① First, the conversion must conform to the overall urban planning and zoning code and needs to be approved by the city planning department.
- ② Second, if the land can be changed into commercial use in accordance with the urban planning, the transfer shall be conducted openly through bidding, auction or listing in accordance with the provisions of the current land transfer measures. The original owner and buyer of industrial land shall not sell the land by themselves.
- ③ Third, it is a usual practice that the state-owned land management branch can acquire industrial land by contact. The Land Reserve organization buys industrial land according to annual land reserve plan. First, local government have the corresponding policy provisions; Second, through the land acquisition mode, the state gives the original landowner certain compensation, and then in accordance with the provisions for bidding, auction and listing to determine the new landowner.

2.1.1 Function Conversion control

① Guangzhou:

Guangzhou promotes the complete transformation of the functions of state-owned old factories, and fully releases and acquires the surplus land rent to the market. After the issuance of *Document No. 20*, the Guangzhou government focused on promoting the transformation of successive old municipal-owned state-funded factories under the idea of "government-led, priority reserve". These major projects are "industrial transformation to residential" and "industrial transformation to business" projects, represented by patches of state-owned old factories such as Guangzhou Steel, Guangzhou Paper and Guangzhou Nitrogen industrial land, which will be transformed into large residential and living blocks by means of demolition and reconstruction. After the "*Guangzhou Urban Renewal Measures*" and its supporting documents (hereinafter referred to as the "1+3" policy) were issued, the government added relevant guidelines for the "industrial reform" and "industrial regeneration" and encouraged large state-owned enterprises to build corporate headquarters and research and development centers through self-transformation. Before 2015, there is no specific guidance for the reconstruction of the collective old factory buildings. The "*Implementation Measures for the Renewal of the Old Factory Buildings in Guangzhou*" issued later, making it clear that the collective old factory buildings should be included in the reconstruction of the whole village in principle. Most of the collective old factory buildings can only achieve function conversion through "informal" reconstruction, expansion and other ways, and have limited access to capture the residual part of the land rent surplus.

② Shenzhen:

Shenzhen actively encourages the old factory "industrial regeneration", fully releases the land rent surplus to the market. Shenzhen began to promote the renovation of old factories in 2007, but due to policy reasons, the promotion is not a success. To further excavate potential of land resources, and promote the transformation and upgrading of the industry, Shenzhen launched *The Opinions of the Resource Configuration Optimization Space Based on Transformation and Upgrading of Industry* by Shenzhen city government in 2013, and put forward innovative industrial land use classification, encouraged mixed use, differential land price policy, etc., Shenzhen will provide space for the development of innovative industries. In 2014, *Shenzhen Municipal Urban Planning Standards and Guidelines* (2014) was issued to classify new industrial land (land use type is M0), so as to provide a matching industrial space for innovative industries. Renewal projects with demolition and reconstruction can completely implement the contents of urban planning and achieve comprehensive goals such as improving the efficiency of intensive and economical use of land and improving public supporting facilities and infrastructure (Gao Ang et al., 2017). Therefore, most of the "industrial regeneration" projects in Shenzhen are mainly dismantled and rebuilt, so as to support a thorough functional transformation. And *Shenzhen Standard* proposed that M0 land can be allocated with 30% of the supporting facilities for commercial, dormitory and other related supporting services, and the other 70% of the main use can be built for research and development.

2.1.2 Property Ownership Compensation and Income Distribution

① Guangzhou:

According to the principle of land economics, land property rights include ownership, use rights and other rights. The property right requirement of the renovated project is relatively strict according to the renewal policy in Guangzhou. The property right of the old factory building on state-owned land is relatively clear. After reconstruction, the project basically enjoys the complete use right and returns on the property, which can be divided and transferred and collateralized. If the land is purchased or transferred compulsively by the government, the land rent surplus can be shared by the owner and the government according to the corresponding proportion. If the land is transformed by owners, the owner can also get a large part of the land rent surplus which is no less than 15% of the land price and the payment of the corresponding land transfer fee. However, due to historical reasons, most of the collective old industrial land has complex transfer procedures, and its right of use, corresponding benefits and disposal cannot be recognized by the government. In addition, the "1+3" policy³ also stipulates that the reconstruction of the collective old factory buildings shall transfer 15% to 30% of the land to the government free of charge. Therefore, the willingness of the collective old factory buildings in Guangzhou to carry out formal reconstruction is low, and the comprehensive formal reconstruction is difficult.

② Shenzhen:

Compared with Guangzhou, the property right identification of the objects of reconstruction in Shenzhen is relatively lax. According to the *Interim Measures on Strengthening and Improving*

³ Including "Guangzhou City Urban Renewal Measures" (Municipal Government Decree No. 134) and supporting documents "Guangzhou City Old Village Renewal Implementation Measures", "Guangzhou City Old Factory Renewal Implementation Measures" and "Guangzhou City Old Town Renewal Implementation Measures".

the Implementation of Urban Renewal (Shenzhen Government Office [2014] No. 8), an old factory building with a clear ownership of legal land proportion accounting for no less than 60% can be applied for demolition, reconstruction, and regeneration. After the project transformation, relatively complete property rights can be obtained. According to the *Administrative Measures for the Transfer of Industrial Buildings of Shenzhen (Trial) (Shenzhen Municipal Government Office [2013] No.3)*, the transformed industrial buildings (workshops and research and development buildings) and supporting facilities can be divided, transferred, collateralized, and exchanged after paying the land price.

2.1.3 Development intensity control

① Guangzhou:

In order to maximize the efficiency of land use and release the surplus of land rent, the development intensity of land plots is inclined to be enhanced as much as possible in the "adaptive residential project on original industrial land" and "adaptive commercial project on original industrial land" projects on state-owned land in Guangzhou. For example, the average floor area ratio of commercial land is 11.62 in the transformation of Guangzhou Shipyard project (Guangzhou Urban Renewal Bureau, 2018). By means of planning adjustment, demolition and reconstruction, the development intensity of some old factory buildings on state-owned land was greatly improved, which effectively supported the function conversion of the project and the release of land rent surplus. Relatively speaking, the "informal" renewal of collective old factory buildings under the control of functions and property rights is difficult to achieve a significant improvement in development intensity. In the pilot policy of Tianhe District (*Notice on Printing of the Guidelines in Tianhe District on the Use of Village (Community) Collective Property to Build Crowd-maker Space and Incubator (Trial)*), it is also clear that the bottom line of not increasing the current building quantity in the micro-transformation of old collective factories is also defined.

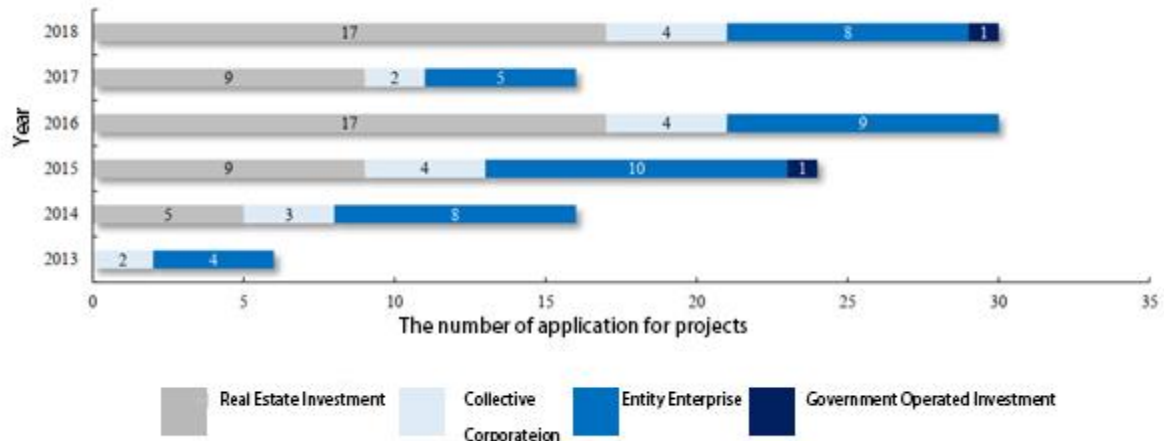
② Shenzhen:

Shenzhen, according to the general industrial land floor area ratio limitation of 4.0, which is close to the density of Shenzhen land using for commercial benchmark plot ratio (4.2), M0 land floor area ratio limitation of 6.0, higher than the density of Shenzhen land using for commercial services area of benchmark volume rate (5.2), so "industrial regeneration" "industrial land transformed to M0" still can obtain high development intensity. In addition, the relevant policies provide relatively loose function control for the project, which makes the high development intensity effectively support the release of land rent surplus.

2.2 Developers' Perspective -- High Quality Space Supply and Real Estate under Strong Market Incentives

At present, there are three ways for real estate enterprises to participate in urban renewal: independent operation, acquisition and cooperation. But the land rent residual shall be shared by the renovation operators, the original owners and the government. The relaxation of property rights control and development intensity support the relatively thorough function conversion of the old factory land, which greatly reduced the cost of land reconstruction, improved the economic benefits of reconstruction and activated the market. With the delegation of power and transfer of benefits, Shenzhen government

stimulated a large number of real estate enterprises to participate in the formation of a certain trend of real estate. According to public data statistics, Shenzhen " industrial regeneration " projects' most active participants are changed from entity enterprises, gradually to real estate investment companies. At the same time, in order to pursue maximum returns, real estate enterprises have changed the research and development buildings into apartments by means of housing design, "rent instead of sale" and other ways, and even run small enterprises on the site for real estate service.



(figure4. Principals applied for industrial land regeneration during 2013-2018, source: [http : //www.szlhq.gov.cn/bmxxgk/csgxj/dtxx_124501/tzgg_124502/content/post_4665335.html](http://www.szlhq.gov.cn/bmxxgk/csgxj/dtxx_124501/tzgg_124502/content/post_4665335.html))

2.2.1 The Existing Development Modes in the World.

Around the world, there are different development modes for transforming industrial heritage into rental apartments. According to the main body of development, there are two types:

- (1) Centralized development: Centralized development guided by government and policy and carried out under the unified planning of regional urban renewal.
- (2) Decentralized development: the development oriented by economic and market demand and dominated by private capital.

These two development modes are not mutually exclusive, especially in today's complex real estate development market environment, the way of co-existence of the two cooperation can have more choices for a large number of industrial heritage development projects of different magnitude and levels and can also produce more diversified results.

2.2.2 Examples of Industrial Regeneration Projects in China.

The earliest example of apartment transformation with industrial heritage in China is in 1998. After three years of halted production, Nanjing Changhong Wireless Power Plant changed its workshop into student apartment for lease to school, which made the enterprise out of difficulties. After the success of the project, the factory signed agreements with Southeast University and Nanjing University to provide students with other business services related to their lives, as well as re-employment positions for many laid-off workers. In 2000, the gap of student apartment in Nanjing reached 370,000 square meters, and 69 enterprises registered to provide 730,000 square meters of idle factories to help filling the gap.

In 2006, in Dadong Street, Yuexiu District, Guangzhou, an old factory was transformed part of the space into rental apartments, mainly for migrant workers, so as to improve the living environment for young skilled workers coming to Guangzhou. These rental apartments are practical-oriented, limited to the specific background and conditions at that time, and are not likely to be widely promoted.



(figure5. Golden Swallow Apartment in Guangzhou Yuexiu District)

The real combination of rental apartments with the adaptive reuse of existing buildings and the implementation of planned and large-scale practical projects across the country depend on the booming development of branded long-term rental apartments in China in recent years. Before 2010, the domestic rental apartment market was dominated by high-end serviced apartments, representing brands such as Ascott. Since 2010, serviced long-term rental apartments for young people have gradually appeared, representing brands such as Rubik's Cube Apartment and You + Apartment.

In January 2015, the Ministry of Housing and Urban-Rural Development issued the *Guiding Opinions of the Ministry of Housing and Urban-Rural Development on Accelerating the Cultivation and Development of the Housing Rental Market*, encouraging vigorous development of the housing rental market. In November, the State Council issued the *Guiding Opinions of the General Office of the State Council on Accelerating the Development of Life Service Industry and Promoting the Upgrading of Consumption Structure*, which proposed to "actively develop subdivided business forms such as guesthouses, short-term rental apartments and long-term rental apartments". So in 2016, with the support of national government, the rapid development of the transformation of industrial heritage to residential projects opened rental market, large real estate developers such as Vanke, Longfor have developed hotels, service apartment. As of 2018, there have been nearly 100 brands of centralized long-term rental apartments in 35 cities, among which Rubik's Cube Apartments and Vanke Port Apartments (figure6) have the most branches.

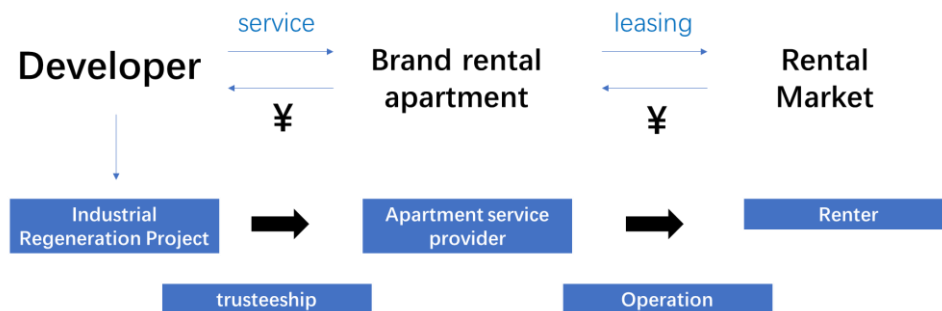


(figure6. Rubik's Cube Apartment and Vanke's Port Apartment)

3 Existing Adaptive Rental Market in China

3.1 An Evolving Development Model.

Compared with developed countries in the world, the rental ratio of apartments in China is still very low. In Western countries such as Britain and the United States, the rental ratio is usually between 30 to 40%. In Germany, 58% of the residents choose to rent, while the rental ratio in China is only 19%. *Several Opinions of the State Council on Accelerating the Cultivation and Development of the Housing Rental Market* released in 2016 pointed out that "a housing rental market system with diversified suppliers, standardized operation and services and stable rental relations will be formed by 2020". Supported by the market and policies, China's rental apartment industry has seen a blowout growth. As of March 2018, 223 rental apartment related businesses had been established.



(figure7. Branded long-term rental apartment development mode)

In China, although there is a unified transformation mode for the large-scale branded long-term rental apartments at present, the development of the existing renovation projects is still characterized by decentralization in geographical distribution because there is no planning strategy for residential reuse in urban renewal planning. In general, the developers of long-term rental apartments cooperate with the enterprises to design and transform all or part of the industrial buildings originally used for production in the form of leasing or shareholding and carry out unified standardized decoration. Finally, they rent out the buildings as a whole or separately. This kind of development is generally small in scale and only involves one or more single industrial buildings. For example, Guangzhou Vanke Port Apartment (Creative Commune Branch, figure8) is a cooperative development between Vanke and Guangzhou Shadongyou Group on its old factory buildings and warehouses. Only one warehouse and one factory building were renovated and developed. However, in this sporadic development mode, the enterprises in the industrial area did not completely withdraw, and the original relatively complete industrial land was sliced. Municipal roads and other infrastructure could not be effectively improved, and the disorderly mixing of residential and industrial conditions was detrimental to both sides.



(figure 8. Guangzhou Vanke Port Apartment Creative Commune Branch)

3.2 Obstacles and Challenges.

3.2.1 Financing Difficulties.

The investment and financing problem has always been the vital problem in the real estate industry, and "industrial regeneration" is generally recognized as the most difficult financing project type in urban renewal. Therefore, financial institutions are cautious in the investment of these projects. The entitlement period of the project is long, the investment is huge, and the future rental is uncertain. Therefore, the project cannot obtain capital return by reducing the construction and sales time as traditional residential and commercial projects do. Before the new policy was introduced in 2019, developers could divide and transfer industrial buildings and their supporting facilities to a maximum of 100 percent and get capital back by selling property assets in industrial parks. After the introduction of the New Deal in 2019, the government has made strict restrictions on the division and transfer of property rights of industrial buildings and their supporting facilities, stipulating that the proportion of the floor area of industrial buildings can be divided and transferred should not exceed 65%, and the remaining part should be operated by the developers themselves, and the object of the transfer of industrial buildings has been carefully managed. The government strictly control the minimum floor area, building type and floor to floor height of M1 and M0 land use types, which increases the difficulty of sales in the later period. In the case of the lack of operational ability of the rental housing, it is unconvincing for the bank to rely mainly on rent to obtain capital return. In addition to paying attention to the geographical location, planning and cost of the project, banks have higher requirements on the future operation ability of the project. Under the background of tight policy constraints, the financing prospects of developers are even more difficult.

3.2.2 Positioning Inaccuracy

The most serious problem for developers in the project is the inaccurate positioning, which is mainly reflected in the inaccurate location positioning, market positioning and customer group positioning, etc. First of all, developers lack in-depth research on the activity, demand and distribution of industrial blocks of the urban renewal "industrial regeneration" project in each district, resulting in blind location selection, and the project investment cannot be well combined with the superior resources of the region. Secondly, developers do not have a deep grasp of the industrial structure of Shenzhen and the industrial foundation of each district, and even after the designated industrial park was built, they are not sure what kind of industry to introduce, which kind of renters would rent there. In addition, it is difficult to be targeted when to make investment, the publicity efficiency is low, it is difficult to attract new renters.

3.2.3 Lack of Mature Products

There are advantages of transforming old factory building into rental apartment: large area, easy to form scale and brand effect, low property costs, unique style and attractive to young tenants.

But there is no mature real estate product on the market. The residential potential of the old factory building is obvious to all the industry operators, but the core problem of the old factory building reconstruction is not yet guaranteed -- product quality. In addition, the capacitor load, indoor firefighting, water supply, septic tank and other infrastructure after the factory building is changed

into apartment all need to be examined and approved by various government departments, and the public security system should be backed up simultaneously.

3.2.4 Lack of Operational Experience

In the context of the New Deal, for developers, the traditional three-step development model of land enclosure, construction and sale in the project has come to an end. The government has adopted a series of policies to encourage developers to maintain industrial adaptive property for their own use and guide them to operate high-quality assets. However, at the current stage, the industrial operation and asset management involved in the project of "industrial regeneration" are difficult problems in the industry all over the country. Although Shenzhen has been standing at the head of the wave of urban renewal, the performance of the developers in the commercial real estate operation is really not good. Due to the lack of solid operation ability, most enterprises aim to make profits from the low land price of industrial land, while ignoring the most important point: The profit model of "industrial regeneration" does not lie in real estate development on industrial land, but in seeking future value-added space from real estate operation and exploring profit model through asset management.

4 Adaptive Strategies (based on a hypothetical project on the actual site in Shenzhen Longgang District)

In terms of reconstruction strategy, I chose an actual block in Shenzhen for the hypothetical project. The project is located in the middle of Shenzhen, the "waist" of Longgang Industrial Corridor, which can carry the comprehensive service function inside and outside Shenzhen through improving the infrastructure, adjusting the industrial structure and utilizing the rich ecological resources. Although the current industrial form in the region is relatively low-end, the GDP is not high, and it is in the upgrading period of industrial transformation, urban trunk roads and expressways crisscross the vicinity of the project park, and Metro Line 17 can drive the high-speed development of the park.





(figure 9. The developable plot is shown in red block)

I suppose there is an individual developer whose development goals are:

(1) Shorten the payback period; (2) Reduce development risk; (3) Maximize profits.

And market opportunities of this project lie in : (1) Due to the relatively weak industrial foundation in the area where the project is located, it is difficult for existing enterprises to support a large volume of office space. (2) There are also valuable market opportunities for apartments in industrial zones; (3) There are market opportunities for business upgrading.

At present, there are two main industrial buildings in the site, which have been changed into community shopping malls (mainly provides food service with a cluster of restaurants) in the area by the original owners illegally. This situation is used as the base case for our analysis. Therefore, the project adopts two renovation options: transforming the industrial building into long term rental apartments and a mid-rise Class B office building.

Due to the illegal transformation by the original owner, we need to obtain entitlement and pay the land compensation for the project.:

The Cooperation Agreement on Urban Renewal Project of Nanling Project in Longgang District, Shenzhen was signed with the partner Nanling Company on August 3, 2015. The main terms are summarized as follows:

(1) about the demolition compensation

① Demolition and compensation ratio: 1:1.1 for the certified floor area and 1:1.0 for the unlicensed floor area.

③ relocation compensation expenses

The relocation compensation fee totals RMB 16 Million (¥16,000,000.00) to be paid in two installments.

(2) The property owned by Nanling Company and NH Company should pay the supplementary land price according to *Article 38 of Shenzhen Urban Renewal Measures and the provisions of Shenzhen Municipal Government Office [2014] No. 8.*

Industry: 382 yuan /m² Office: 1,914 yuan /m²

Residential: 1,929 yuan /m² Commercial: 3,020 yuan /m²

R&D :1589 yuan /m² Dormitory :1543 yuan /m²

Plot Information	
Site number or site plan number	G6414-0125
Site area (m2)	3255.9
Land use (current situation)	Industrial land
The nature of land ownership	Land that has been dealt with in accordance with relevant policies on left over industrial land
Owner of the land	Nanling company
Built year	1995
Floor Area (m2)	5880.7
Floor Area with Property Ownership Certificate (m2)	5323.52

(figure10. Plot information)

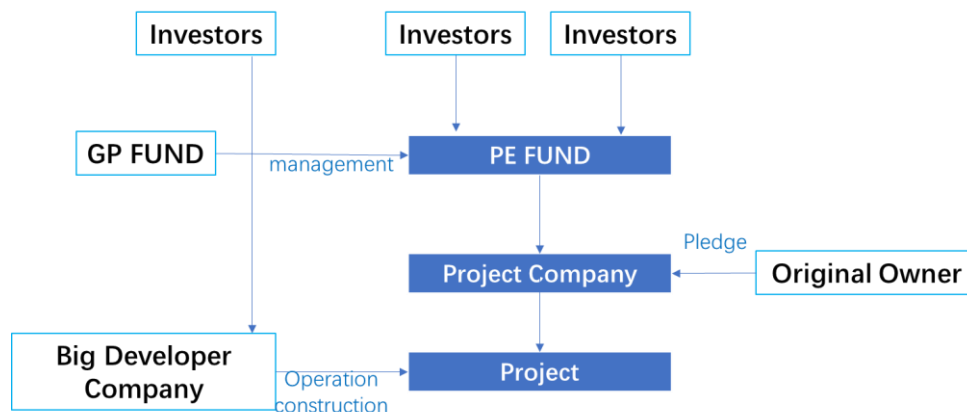
(3) According to the current financial situation of the company and relevant government policies and regulations, part of bank loans shall be considered in the early stage, and the bank loans shall be repaid in time when the returns of the project are received. The subsequent self-owned funds shall be the main source in the next stages.

The highest approved floor area ratio of Shenzhen's early transformation project was 7.6, but the latest approved floor area ratio was mostly around 6.0 in 2013, without any obvious exceptional cases. In this hypothetical project, the floor area ratio of the development and construction land is determined to be 6.0 based on comprehensive consideration of regional, economic feasibility and other factors of the area, combined with supporting services and the carrying capacity of municipal transportation, etc. Therefore, the upper limit of the floor area ratio of 6.0 is adopted to make our assumptions.

4.1 Possible Business Model.

4.1.1 Single Developer Model.

At the present stage, a single developer model is the most common. Compared with developed countries, China's government is obviously insufficient in terms of financial support, and the cost is almost entirely borne by private developers and investors. In general, the original shareholders/owners of urban renewal projects are dispersed, and the most powerful big shareholders with real estate development experience and government resources will purchase the shares of other small shareholders.

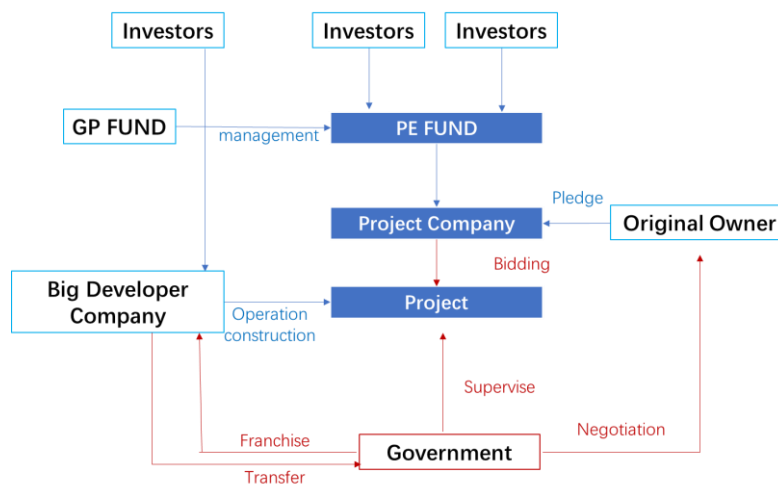


(figure11. Existing single developer model)

4.1.2 BOT Model

This approach can be understood as the "franchise" given by the local government. In this kind of contract, the private enterprise takes the main responsibility for the financing, design, construction and operation of the project during the concession period and can get corresponding profits. After the concession expires, the ownership of the project is transferred back to the government, which is mainly applicable to the reconstruction of public rental housing.

The term of the concession agreement will be agreed upon by both parties based on the project's value assessment and profitability analysis, the holder period by the private sector is generally within 20-30 years. After the conclusion of the negotiation and the signing of the contract, the government and private institutions shall establish the project company according to the concession agreement, that is, SPC (Special Purpose Company), as an independent economic entity, implement the activities of all stages of the project, undertake the responsibilities and obligations stipulated in the contract, and be responsible for the financing, construction, operation during the concession period and handover of the project. Generally speaking, the acquisition of SPC project company capital has no relationship with the government and the specific project, and the financing capability is the performance of the developer's competitiveness. Under the policy support from the government and the financial assistance from financial institutions, long-term loans with favorable interest rates are obtained. The premise of preferential loans should be considered after the private sector have proved that they have real stable capital in the bidding stage, with strong capital operating performance, and the private sector has their own equity injection in project.






(figure12. BOT model)

4.2 Adaptability of common architectural structures

The common pattern of double or multiple rows of rooms in China is small in size and high in density. This economic value-oriented space design mode can arrange the largest number of rooms in a limited space, and the standard house design is convenient for the industrial production of integrated bathroom, electrical equipment, furniture, etc. For developers, it can reduce the cost of a large number of transformations. Based on the analysis of existing cases and spatial structure characteristics of industrial buildings, the most common industrial buildings transformed into rental apartments are workshop and

warehouse buildings with bent structure and column grid structure. The specific spatial characteristics and transformation adaptability are summarized in the following table.

Type	Characteristics	Adaptability
<p>1. Bent structure.</p> 	<p>Steel roof truss, concrete column or steel column.</p> <p>The space is tall, and the depth of the large opening ranges from a dozen meters to dozens of meters.</p> <p>Floor to floor height can reach more than 10m.</p> <p>The vertical and continuous arrangement of the racks produces rhythm.</p>	<p>Good.</p> <p>The roof space of industrial buildings with bent structure cannot be utilized.</p> <p>Attention should be paid to providing adequate air-drying conditions and outdoor activity space for residents.</p> <p>Ensure the thermal insulation and sound insulation of the apartment.</p>
<p>2. Column grid structure.</p> 	<p>Reinforced concrete structures are common.</p> <p>The single-story workshop is high, the first story of multi-story workshop is high, and the upper story is about 3-4m high.</p> <p>The space presents the same characteristics in all directions.</p> <p>High possibility of space expansion.</p>	<p>Excellent.</p> <p>The steel-concrete structure is the same as most residential buildings and has great flexibility in transformation.</p> <p>It is the most common industrial building transformed into rental apartments.</p> <p>The depth should not be excessive.</p>
<p>3. Silo.</p> 	<p>The building volume is large, and the space is high.</p> <p>The building space is more complex than the above two structures.</p> <p>There is no restriction of space on the floor of the warehouse body, and the transformation has high diversity.</p>	<p>Fair, but could create more creative design.</p> <p>The building volume is large, so many apartment rooms could be created via the transformation.</p> <p>The shape of the space is very special, and the vertical division is free to create a unique living experience.</p> <p>The reconstruction project is large, the cost is high, the domestic case is few.</p>

(figure13. Adaptability for common structures)

4.3 Transformation Conditions and Requirements for Conversion

4.3.1 Rental Apartments

Different functions also have different demands for space. According to the architectural design requirements of rental apartment and hotel buildings similar to rental apartment in spatial layout, and combined with the statistical results of the survey and measurement data, the following requirements and design objectives for each space of rental apartment are obtained:

Zone	Function	Space Requirements	Design Requirement
Accommodation	Foyer	The foyer is usually located in a prominent position adjacent to the street and is integrated with the elevator or staircase.	Floor to floor height is >3.5m
	apartments	According to the location of the apartment and the number of rooms to choose the layout, to judge whether it needs to add lighting patio in the building.	The net height shall not be less than 2.4m. The length-width ratio is less than 2/1 The room width is more than 3.6m The room depth should be greater than 5.6m and the rectangle shape is appropriate. Facade openings are adaptable, possible to create windows which can be opened manually.
	Circulation	Meet the fire evacuation requirements, as far as possible natural lighting.	The height of the corridor is greater than 2.1m. The corridor width is above 1.8m. Should not set the long corridor that does not access to daylighting.
Auxiliary	Public Space	Different functions need dynamic and	Tall. It is advisable to have

		static partition, centralized layout and scattered layout. Close contact with the traffic space, need to have a certain privacy.	direct external lighting and ventilation. Daylight entry > 10 percent of the living area.
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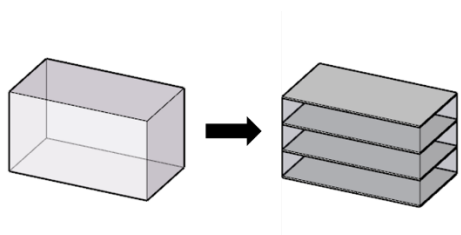
4.3.2 Office

The space requirements of office buildings are relatively simple. According to the existing design requirements, the following requirements and design goals for each space of office buildings are obtained:

Zone	Function	Space Requirements	Design Requirements
Workplace	Foyer	The foyer is usually located in a prominent position adjacent to the street and is integrated with the elevator or staircase.	Dense structural grid >3.6 m.
	office	Open plane, high space utilization.	Net story height >2.6 m
	Circulation	Meet the fire evacuation requirements, as far as possible natural lighting.	The height of the corridor is greater than 2.1m. The corridor width is above 1.8m. Should not set the long corridor that does not access to daylighting.

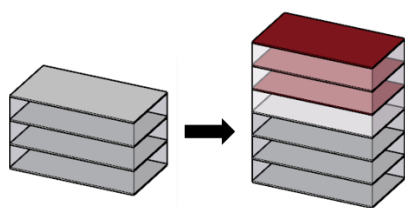
4.4 Space Reallocation Method

Space redistribution of industrial heritage is to point to by vertical separation and horizontal layered technique, such as to reasonable distribution of the original space inside large space separated into rental apartment need little space, improve space utilization transformation method, is suitable for both industrial building space and can meet the demand of renters.



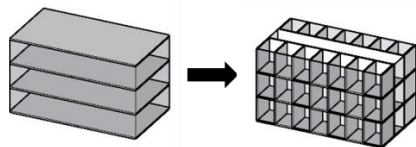
(figure14. Vertical separation)

- ① Vertical separation is suitable for both office and apartments. It refers to in the industrial building which has a high floor to floor height, in order to use its story height advantage, the developer increases the floor number, to utilize more area in the transformation method. It is commonly found in single-story factories with a height of 8-10m or more. In addition, multi-story factories with a height of about 4m can also add some interlayers or mezzanines to form a loft-type house and increase the actual usable area. Vertical separation method only needs to increase part of the load-bearing structure and lateral force resistance components, while making full use of the original structure, wall and part of the floor. It can achieve the purpose of increasing the use area, both for developers and users. So, it is a very economic and reasonable approach. However, it should be noted that the increase of the floor area ratio of buildings in China should be approved by the construction department of the government and shall not be added without permission.



(figure15. Vertical expansion)

- ② Vertical expansion represented by the addition of the top floor to increase the number of floors. Vertical extension refers to the renovation method of increasing the number of floor slab as the newly built part on the top of the original industrial building.



(figure16. Horizontal separation)

- ③ Horizontal separation refers to the transformation of the main structure of the building and the floor, only to increase the light partition wall on the plane. It is the most common practice in the transformation of the existing industrial building to adaptive rental apartment in China, which is more common in the transformation design of the multi-story general workshop and warehouse with intact structure. From the perspective of apartment type, at present, the rental apartments transformed from industrial buildings in China are mainly one-bedroom or LOFT apartments for young people who are single, while the multi-bedroom layout such as co-renting and family-style is still very rare. These young single apartment rooms are about 3-4m, 7-10m deep, with an area of about 20-30 square meters; In order to standardize the design and intensive layout, most of the units are arranged in a regular rectangular plan.

4.5 Financial Feasibility Analysis

4.5.1 Market Assumptions

Soft cost-market rate			Items and tariff rates to be levied		
Item	Unit			Base	rate
Investgating Fee	¥ /m ²	2	<i>Sales tax rate</i>	Revenue	5%
Scheme design fee	¥ /m ²	32	Business tax	Business tax	7%
Construction design fee	¥ /m ²	28	Urban construction tax	Business tax	5%
Special planning design	¥ /m ²	4	Surtax for education expenses	Business tax	0.05%
Consultant fee on marketing	¥ /m ²	2	Stamp duty		
Supervision cost	¥ /m ²	20			
Construction application fees	¥ /m ²	20	<i>Rental rates</i>	Base	rate
Approval of major project	¥ /m ²	1	Business tax	Rental price	5%
			Surtax for education expenses	Business tax	5%
			Urban maintenance and construction tax	Business tax	7%
			Stamp duty	Rental price	0.10%
			Property tax	Rental price	12%
			Maintenance fee	Rental price	2%
			Agency marketing fee	Rental price	1.50%
			Management fee	Rental price	1.50%
			Land use fee	¥ /m ² /year	21
			increment tax on land value		
			According to the Provisional Regulations of the People's Republic of China on Land Value-added Tax and the detailed rules for its implementation		

(figure17. Shenzhen Market-Rate Cost Chart)

The above chart shows the market rate cost for hard and soft cost in Shenzhen, and the right chart is the items and tariff rates to be levied including sales taxed and rental income taxes.

After market research, Shenzhen commercial real estate capitalization rate is as follows (data source: <https://amaadata.com.cn>, <https://zhuanlan.zhihu.com/p/157476681>) :

Shenzhen Office Cases	Cap Rate Estimation	Machine Learning Result
Jiali Construction Square (Futian District, Yitian Road, NO 5033) 4.22%-4.31%	City Risk-1.11% Regional Risk-0.05% Project Risk-0.10% Property Type Risk-0.15% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.31% (sum of the above items)	4.22%
Raffles Place (Nanshan District, Nantai Ave, NO2163) 4.29%-4.82%	City Risk-1.11% Regional Risk-0.36% Project Risk-0.10% Property Type Risk-0.15% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.72% (sum of the above items)	4.29%
Foresea Life Finance Center (Baoan District, Xingye Road and Yuan Road One) 4.41%-4.97%	City Risk-1.11% Regional Risk-0.71% Project Risk-0.10% Property Type Risk-0.15% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.97%(sum of the above items)	4.29%

Here, I applied the median of 4.5% as the average cap rate for office.

And the cases studied on cap rate for malls are shown as below:

Shenzhen Mall Cases	Cap Rate Estimation	Machine Learning Result
Jinguanghua Mall (Luohu District, People South Road, NO 2028) 4.57%-4.81%	City Risk-1.11% Regional Risk-0.15% Project Risk-0.15% Property Type Risk-0.50% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.81% (sum of the above items)	4.57%
Coastal city (Nanshan District, Wenxin Road Five, NO33) 4.67%-4.79%	City Risk-1.11% Regional Risk-0.15% Project Risk-0.13% Property Type Risk-0.50% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.79% (sum of the above items)	4.67%
Vanke Yinli Center (Futian District, Nonglin Road, NO69) 4.51%-4.97%	City Risk-1.11% Regional Risk-0.26% Project Risk-0.20% Property Type Risk-0.50% 2020.9 10-year Treasury Bill Interest Rate-2.90% Cap Rate-4.97% (sum of the above items)	4.51%

Here, I applied the median of 4.6% as the average cap rate for shopping mall.

There is less publicly available data on capitalization rates for rental apartments. Based on operational risks, I increased the capitalization rate of offices and malls by 0.6% as the cap rate of 5.20% for rental apartments.

4.5.2 Base Case

The project was originally an old industrial workshop, which was privately and illegally changed into a village shopping mall by Lingnan Company and is now operated independently.

Let us assume holding the property for 4 years and sell it in 2025. There is no initial renovation cost but only annual operational cost, and the net present value (NPV) is ¥67,314,889 with 4.60% cap rate for commercial mall.

The financial indicators of the following two transformation options also indicate that this project is an investment opportunity with high income, rapid recovery, and is generally feasible.

4.5.3 Rental Apartment

In the feasibility study report, under the premise of floor area ratio 6.0, the total investment of the project is ¥170,239,145, the total operating income is \$53,491,795, and the hold period is 4 years. The annual internal rate of return (IRR) is 22.93%, the net present value (NPV) of the project is ¥87,629,930, and the financial net present value is positive, indicating that the project is feasible.

IRR	22.93%
Multiple on Investment	2.287 X
NPV	¥87,629,930

4.5.4 Office

In the feasibility study report, under the premise of floor area ratio 6.0, the total investment of the project is ¥187,669,121, the total operating income is \$52,432,880, and the hold period is 4 years. The annual internal rate of return (IRR) is 23.81%, the net present value (NPV) of the project is ¥101,619,705 and the financial net present value is positive, indicating that the project is feasible.

IRR	23.81%
Multiple on Investment	2.354 X
NPV	¥101,619,705

4.5.5 Project Risks.

According to the income statements, net incomes are negative in the first few years, and the main capital gain is the sale in the last year (which means the most important factor in the value chain is the cap rate change). Therefore, the project has high risk and is more dependent on the local rental market and policy guidance.

The operation risks of the project mainly include the following aspects:

(1) Cost control: Many “industrial regenerations” projects are unable to find the gap between the planned budget and the final settlement until the completion of the project. Or in the construction, the actual price of building materials and the expected price has a large difference.

(2) Experience: In terms of risk control of “industrial regenerations” projects, most enterprises mainly rely on past experience and do not realize the hidden construction risks. After the accident treatment, they do not systematically analyze and summarize the causes of the accident, make relevant records. In order to catch up with the construction schedule, they often ignore the potential threat posed by the risk factors in the transformation design to the project itself.

(3) Changes in the rental market: Shenzhen is currently in the peak period of urban renewal, and many old industrial areas are undergoing renovation or have the intention and plan of transformation. During the same period, if several projects of the same type are launched, they may fall into the situation of homogenization, and the market oversupply will bring huge pressure to the expected income of the project. In dealing with the strategy of urban planning and regional development to prevent risk is the main region market to have a more in-depth analysis, it is important to timely grasp the dynamics of the region competition and timely reflect, through market targeting, positioning, to maximize the clients.

5 Possible Financing Support from Public Sectors

5.1 Commercial Bank loan.

The "industrial regeneration" project first needs to report the plan to the relevant government departments. After the government approves the project application, the enterprise can obtain the land use contract and the construction land permit. The capital needed in the initial stage of an enterprise is mainly invested by shareholders. The Shenzhen urban renewal project needs to coordinate multiple government departments (including: Municipal Violation Inspection Office and Urban Renewal Leading Group, Shenzhen Municipal Planning, Land and Resources Commission and its agencies, District Urban Renewal Office, etc.). Whether enterprises can coordinate the relationship between all parties to promote the progress of the project is also a risk factor for financial institutions to consider. Normally, Industry and Commercial Bank of China (ICBC) provides 5-year M&A loans, with the enterprise financing 30% of the acquisition funds by itself.

5.2 Urban Renovation Project Fund.

In order to ensure the progress of demolition in the next step, a commercial bank introduces a real estate fund to inject capital into the project company in the form of equity investment for the payment of demolition compensation. After the fund reaches the conditions of subsequent bank loans, it will withdraw with certain cash distributions and interests. With the support of the urban renovation project fund, the developers rely on their own experience usually estimate that after more than 90% of the demolition owners have signed the demolition compensation agreement, the project will get the demolition permit document.

5.3 Urban renewal loans and syndicated real estate development loans.

In 2013, the General Bureau of Industry and Commercial Bank of China promulgated the *Management Measures for the Loan for the Reconstruction of Urban Shanty Towns*, and Shenzhen was the first batch of pilot areas. Due to the particularity of Shenzhen's development, this loan was called the "Urban Renewal and Reconstruction Loan" in Shenzhen. Since the demolition agreement has been basically signed and completed, the demolition can be carried out. Meanwhile, the cost of the urban renovation project fund in the early stage is high, which is not conducive to the overall cost control of the enterprise. Therefore, ICBC issued a three-year urban renewal loan to the project company at this time, which provided sufficient funds for the demolition of the enterprise in addition to the return of the investment from the original fund company. The urban renewal loan requires verifying that the enterprise has signed more than 90% of the demolition agreement, obtained the demolition permit documents, and the project capital (i.e., self-raised demolition funds, and other equity and bond financing cannot be used as project capital) is not less than 30% of the total investment. After the completion of the project demolition and the supplementary payment of the land price, the developer will gradually obtain the land certificate and the construction project planning license in addition to the construction land permit already obtained at the time of filing. ICBC will invite other banks to form a syndicate to examine and approve the real estate development loan for the project company (organized by the developer), and gradually grant the real estate development loan to the project company based on the progress of the area of the project construction permit.

During 2013-2015, the loan policies for urban renewal projects in various banks were still in the process of being implemented. Meanwhile, during the three years, the loan quota for real estate development of the four major banks was tightened somewhat, and the environment was more unfavorable for the financing of urban renewal projects. By the end of 2015 and the beginning of 2016, financial institutions

(including banks, trusts, funds and insurance) had increased the early-stage marketing of Shenzhen projects, and the renewal of project financing in various cities in Shenzhen was easier. Even before the project was put on record by the government, financial institutions had started marketing and designed financing schemes in advance. This reflects that the Shenzhen urban renewal project has been recognized by financial institutions, the financing scheme has been further optimized, and the real financing needs of enterprises can be better met in time.

Compared with other countries, China has not yet to open up private equity funds to real estate investment on a large scale. In the United Kingdom, the Urban Development Fund has been established to provide compensation for insufficiently profitable planned renovation projects to stimulate private investment. In the United States, almost 60% of the funds of the urban renewal movement were raised by the federal government in the early stage, and in the later stage, urban development activity grants were used to finance private and public-private development projects. Based on this, urban renewal participants believe that Shenzhen City can establish an urban renewal enterprise association to jointly promote urban renewal construction. Development and management enterprises directly involved in urban renewal and related participants voluntarily form trade associations to build a bridge of communication between the government and enterprises, standardize project management, conduct self-discipline in the industry, and establish credit archives. Financing has been one of the biggest difficulties in previous renovations. The parties hope to explore more financing models for renovation, including the government introducing capital or credit guarantee, or introducing more private capital through PPP (government-private capital cooperative project construction).

At present, urban renewal has entered an accelerated development stage. Judging from the existing urban renewal practices, one could believe that industrial upgrading, ecological and livable city construction, and historical and cultural value mining will be the main development trends for real estate enterprises to participate in urban renewal in the future. The reasons are as follows: First, industrial upgrading and reconstruction can inject new vitality into urban development and promote the sustainable development of regional economy; Second, ecological environment has become one of the most important themes of urban development, but also become the real estate enterprises to participate in urban renewal must pay attention to the issue; Third, under the guidance of rental market innovation, urban renewal projects are more distinctive and competitive, which can build up public praise and accumulate popularity for real estate enterprises in urban renewal projects, so as to win greater development space.

Reference:

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2. Fang Yingbing. Feasibility Study on Renovation Project of Shenzhen NH Industrial Park, 2016
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4. Chris Van Uffelen. When a Factory Becomes a Home: Adaptive Reuse for Living[M]. Switzerland: Braun Publishing AG, 2018.
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Table1-1. Base Case Assumptions

Assumptions		
	#	Unit
Commercial area	5,880	m ²
Closing + Financing Cost	1.00%	
Commercial Rent/m ² /yr	¥500	
Mortgage Debt	60.00%	
Total Aggregate Investment	¥0	
Total Debt Issued	¥0	
Total Equity Required	¥0	
Purchase Cap Rate based on 1st year pro forma NOI	0.00%	
Vacancy as percent of Gross Revenue	5.00%	
Tenant Bad Debt as percent of Occupied Revenue	0.50%	
Net Monthly Revenue	¥231,586	
Annual Net Revenue Equivalence	¥2,779,035	
Annual Management Fees as a percent of Unit Net Revenue	3.00%	
Annual Management Fees	¥83,371	
Total Annual Operating Expenses for Property	¥83,371	
Other Assumptions		
Annual Amortization of Debt as Percent of Original Balance	3.00%	
Annual Dollar amount of debt Amortization	¥62,536,635	
Interest rate on Average Annual Outstanding Debt Balance	6.00%	
Straight Line Depreciation of property investment in years	20	
Straight Line Depreciation of annual Capital expenditures	7	
Additional expected annual Capital Expenditure per sqft	¥10	
Revenue and Expense Growth Rates for Future Years (starting year 2 forward)		
Gross Revenue Growth Rate per Year	3.00%	
Utility Expense Growth per year	3.50%	
Tax Expense Growth per year	3.00%	
Insurance Expense Growth per year	3.00%	
All Other Expenses, Growth Rate per year	2.50%	
Sale Assumptions		
Assume time of sale is 12:0 1 AM on Jan. 1	year5	
Sale Cap Rate based on actual NOI achieved during year prior	4.60%	
Cost associated with sale (as a percent of gross sale value)	2.00%	
Note: Sellers usually Keep Short Term Assets and all Liabilities		
Property IRR	-	
Property Multiple on Investment	-	

Table1-2. Balance Sheet for Base Case.

BALANCE SHEET FOR BASE CASE							
	year0(at purchase)	year1	year2	year3	year4	year5(at sale)	NOTES
ASSETS							
Cash	¥0	¥1,937,878	¥1,985,963	¥2,041,366	¥2,098,683	¥0	Net reven
Receivables	¥0	¥0	¥0	¥0	¥0	¥0	
Prepaid Expenses	¥0	¥0	¥0	¥0	¥0	¥0	
Building Material Inventory	¥0	¥0	¥0	¥0	¥0	¥0	
Other	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL SHORT TERM ASSETS	¥0	¥1,937,878	¥1,985,963	¥2,041,366	¥2,098,683	¥0	
Gross Property Investment	¥0	¥58,800	¥117,600	¥176,400	¥235,200	¥0	add capex
Accumulated Depreciation	¥0	(¥8,400)	(¥11,340)	(¥14,280)	(¥17,220)	¥0	
Net Property Investment	¥0	¥50,400	¥106,260	¥162,120	¥217,980	¥0	
TOTAL LONG TERM ASSETS	¥0	¥50,400	¥106,260	¥162,120	¥217,980	¥0	
TOTAL ASSETS	¥0	¥1,988,278	¥2,092,223	¥2,203,486	¥2,316,663	¥0	
LIABILITY AND OWNERS EQUITY							
Salaries Payable	¥0	¥0	¥0	¥0	¥0	¥0	15/360*ar
Current Portion of Debt Payable	¥0	¥0	¥0	¥0	¥0	¥0	
Other Short Term Liability	¥0	¥0				¥0	
TOTAL SHORT TERM LIABILITY	¥0	¥0	¥0	¥0	¥0	¥0	
Long term Portion of Debt Payable	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL LONG TERM LIABILITY	¥0	¥0	¥0	¥0	¥0	¥0	
Equity Invested	¥0	¥0	¥0	¥0	¥0	¥0	
Retained Earnings(net of distributions)	¥0	¥1,988,278	¥2,092,223	¥2,203,486	¥2,316,663	¥0	
TOTAL OWNERS EQUITY OUSTANDING	¥0	¥1,988,278	¥2,092,223	¥2,203,486	¥2,316,663	¥0	
TOTAL LIABILITIES PLUS OWNERS EQUITY	¥0	¥1,988,278	¥2,092,223	¥2,203,486	¥2,316,663	¥0	

Table1-3. Income Statement for Base Case

INCOME STATEMENT						
	year1	year2	year3	year4	year5(Jan 1)	NOTES
REVENUE						
Commercial						
Gross Revenue	¥2,940,000	¥3,028,200	¥3,119,046	¥3,212,617	¥0	Gross revenue(100% occup
Vacancy	(¥147,000)	(¥151,410)	(¥155,952)	(¥160,631)	¥0	
Bad Debt	(¥13,965)	(¥14,384)	(¥14,815)	(¥15,260)	¥0	Only happen on the occup
Net Revenue	¥2,779,035	¥2,862,406	¥2,948,278	¥3,036,727	¥0	Net collectable revenue
	**Receivable					
OPERATING EXPENSES						
Management Fees	(¥83,371)	(¥85,872)	(¥88,448)	(¥91,102)	¥0	
Total Operating Expenses	(¥83,371)	(¥85,872)	(¥88,448)	(¥91,102)	¥0	
NET OPERATING INCOME						
	¥2,695,664	¥2,776,534	¥2,859,830	¥2,945,625	¥0	
Interest Expense	¥0	¥0	¥0	¥0	¥0	Debt at purchase=6%-(rem
Depreciation	(¥8,400)	(¥16,800)	(¥25,200)	(¥33,600)	¥0	purchase investment/30+c
Gain on Sale(at exit only)	¥0	¥0	¥0	¥0	¥62,536,635	
	**happens on the next year					
EARNINGS BEFORE TAX						
Rental Income Taxes	¥2,687,264	¥2,759,734	¥2,834,630	¥2,912,025	¥62,536,635	
Sales Taxes	(¥698,996)	(¥717,911)	(¥737,404)	(¥757,482)	¥0	
(tax not taken for losses can offset gains)					¥0	(¥3,503,615)
	**Negative net income, no tax, could accumulate until sale.					
NET INCOME	¥1,988,278	¥2,041,823	¥2,097,226	¥2,154,543	¥59,033,020	
DEBT SERVICE CALCULATION:						
Beginning Balance	¥0	¥0	¥0	¥0	¥0	
Plus: Loan Amount	¥0	¥0	¥0	¥0	¥0	
Less: Amortization	¥0	¥0	¥0	¥0	¥0	
Ending Balance	¥0	¥0	¥0	¥0	¥0	
Interest Expense	¥0	¥0	¥0	¥0	¥0	
Total Debt Service(interest+Amortization)	¥0	¥0	¥0	¥0	¥0	
GAIN ON SALE CALCULATION:						
Total property Value/Gross sales value	¥64,035,321					
Cost associated with sale (as a percent of gross sale value)	(¥1,290,706)					
Total Net Value	¥62,754,615					
Net Property Investment Value/Investment Basis	¥217,980					
Gain on Sale	¥62,536,635					
Sales Taxes						
Business Taxes	¥0	¥0	¥0	¥0	(¥3,126,832)	
Urban construction tax	¥0	¥0	¥0	¥0	(¥218,878)	
Surtax for education expenses	¥0	¥0	¥0	¥0	(¥156,342)	
Stamp duty	¥0	¥0	¥0	¥0	(¥1,563)	
Subtotal	¥0	¥0	¥0	¥0	(¥3,503,615)	
Rental Income Taxes						
Business tax	(¥138,952)	(¥143,120)	(¥147,414)	(¥151,836)	¥0	
Surtax for education expenses	(¥6,948)	(¥7,156)	(¥7,371)	(¥7,592)	¥0	
Urban maintenance and construction tax	(¥9,727)	(¥10,018)	(¥10,319)	(¥10,629)	¥0	
Stamp duty	(¥2,779)	(¥2,862)	(¥2,948)	(¥3,037)	¥0	
Property tax	(¥333,484)	(¥343,489)	(¥353,793)	(¥364,407)	¥0	
Maintenance fee	(¥55,581)	(¥57,248)	(¥58,966)	(¥60,735)	¥0	
Agency marketing fee	(¥41,696)	(¥42,936)	(¥44,224)	(¥45,551)	¥0	
Management fee	(¥41,696)	(¥42,936)	(¥44,224)	(¥45,551)	¥0	
Land use fee	(¥68,145)	(¥68,145)	(¥68,145)	(¥68,145)	¥0	
Subtotal	(¥698,996)	(¥717,911)	(¥737,404)	(¥757,482)	¥0	

Table1-4. Cash Flow Statement for Base Case

STATEMENT OF CF FOR BASE CASE						
	year1	year2	year3	year4	year5(Jan)	NOTES
CASH FROM/FOR OPERATIONS						
Net Income	¥1,988,278	¥2,041,823	¥2,097,226	¥2,154,543	¥59,033,020	
Depreciation	¥8,400	¥16,800	¥25,200	¥33,600	¥0	Change the sign, add back the
(Increase)/Decrease in Receivables	¥0	¥0	¥0	¥0	¥0	collected its cash, one less colle
Increase/(Decrease) in Salaries Payable	¥0	¥0	¥0	¥0	¥0	paid by seller
Increase/Decrease in Other Short term accounts	¥0	¥0	¥0	¥0	¥0	Move to invest
Gain(Loss) on sale					(¥62,536,635)	
Total	¥1,996,678	¥2,058,623	¥2,122,426	¥2,188,143	(¥3,503,615)	
CASH FROM/FOR INVESTMENTS						
(Increase)/Decrease in Property Investment	(¥58,800)	(¥58,800)	(¥58,800)	(¥58,800)	¥235,200	NPI+GAIN,drain on cash, invest
(Increase)/Decrease in Other Long Term Asset Investment	¥0	¥0	¥0	¥0	¥0	
Total	(¥58,800)	(¥58,800)	(¥58,800)	(¥58,800)	¥235,200	Total Net collected from Asset :
CASH FROM/FOR FINANCINGS AND DISTRIBUTIONS						
Increase/(Decrease) in Financings	¥0	¥0	¥0	¥0	¥0	short term debt + long term de
Increases in Equity Investment	¥0	¥0	¥0	¥0	¥61,349,683	
(Distributions) to Shareholders- assume all cash	¥0	(¥1,937,878)	(¥1,985,963)	(¥2,041,366)	(¥61,349,683)	paid by seller
*From previous Balance Sheet Period is Distributed						
Total	¥0	(¥1,937,878)	(¥1,985,963)	(¥2,041,366)	¥0	
TOTAL ANNUAL CASH FLOW						
Period Total Cash Flow	¥1,937,878	¥61,945	¥77,663	¥87,977	(¥3,268,415)	
Beginning Period Cash on Balance Sheet	¥0	¥1,937,878	¥1,985,963	¥2,041,366	¥2,098,683	
Ending Period Cash on Balance Sheet	¥1,937,878	¥1,999,823	¥2,063,626	¥2,129,343	(¥1,169,732)	Should not be negative
IRR ANALYSIS:						
ANNUAL OWNER CASH FLOWS	YEAR0	YEAR1	YEAR2	YEAR3	YEAR4(and Jan 1 year 5)	
	¥0	¥0	¥1,937,878	¥1,985,963	¥63,391,049	
IRR	-					
Multiple on Investment		X				
NPV	¥67,314,889					

Table2-1. Apartment Case Assumptions

Project economic and technical index table				
Demolition Floor Area (m ²)	3,819		Annual Salary expense Per Unit	¥4,800
Area available for construction (m ²)	3,245		Annual Utilities Per Unit	¥2,400
FAR Maximum	6		Annual Local Taxes Per Unit	¥2,400
Floor Area (m ²)	25,710		Annual Insurance Per Unit	¥1,200
			Annual Maintenance Reserve Per Unit	¥720
<i>Floor Area (m²) calculated in Floor Area Ratio</i>	19,470		Other Direct Annual Expenses Per Unit	¥0
Mid-rise Apartment	14,910		Annual Management Fees as a percent of Unit Net Revenue	3.00%
Commercial on the first floor	3,000		Annual Management Fees	¥408,348
Co-work	1,560		Total Annual Operating Expenses for Property	¥419,868
<i>Floor Area (m²) not calculated in Floor Area Ratio</i>			Other Assumptions	
Underground Garage (m ²)	6,240		Annual Amortization of Debt as Percent of Original Balance	3.00%
Parking space(#)	156		Annual Dollar amount of debt Amortization	¥101,176,945
			Interest rate on Average Annual Outstanding Debt Balance	6.00%
			Straight Line Depreciation of property investment in years	20
			Straight Line Depreciation of annual Capital expenditures	7
			Additional expected annual Capital Expenditure per Unit	¥1,000
			** Average Days Outstanding for Tennant Receivables	15
			**Average Days Outstanding for Salaries Payable	15
			**Average Days Outstanding for Direct Expenses Per Unit	30
			Revenue and Expense Growth Rates for Future Years (starting year 2 forward)	
			Gross Revenue Growth Rate per Year	3.00%
			Utility Expense Growth per year	3.50%
			Tax Expense Growth per year	3.00%
			Insurance Expense Growth per year	3.00%
			All Other Expenses, Growth Rate per year	2.50%
			Sale Assumptions	
			Assume time of sale is 12:0 1 AM on Jan. 1	year5
			Sale Cap Rate based on actual NOI achieved during year prior	5.20%
			Cost associated with sale (as a percent of gross sale value)	2.00%
			Note: Sellers usuality Keep Short Term Assets and all Liabilities	
			Property IRR	22.93%
			Property Multiple on Investment	2.287

Development Cost				
	Unit price (¥ /m ²)	Area	Total	Notes
<i>Development Cost</i>				
land cost	2,198	25,710	¥56,510,580	Including 3.05% deed tax
<i>Investgate and design</i>				
Investgating Fee	2	25,710	¥51,420	Market rate
Scheme design fee	32	25,710	¥822,720	
Construction design fee	28	25,710	¥719,880	
Special planning design	4	25,710	¥102,840	
Consultant fee on marketing	2	25,710	¥51,420	
Supervision cost	20	25,710	¥514,200	
Construction application fees	20	25,710	¥514,200	
Approval of major project	1	25,710	¥25,710	
Subtotal			¥59,312,970	
<i>Demolition compensation</i>				
Demolition compensation expenses			¥16,000,000	
Real estate certificate processing tax			¥40,000	
Subtotal			¥16,040,000	
				According to shenzhen city construction project cost index
<i>Construction and installation cost</i>				
Mid-rise apartment	3,420	14,910	¥50,992,200	
Commercial	4,009	3,000	¥12,027,000	
Infrastructure	150	19,470	¥2,920,500	
Greenary	500	5,000	¥2,500,000	
Public Facility	2,880	0	¥0	
Basement	2,500	6240	¥15,600,000	
Subtotal			¥84,039,700	
<i>Others</i>				
Special maintenance and emergency	¥700.33	200	¥1,680,794	
Marketing			¥8,757,333	hard cost*2%
Management Fee			¥408,348	Revenue*3%
Total Cost		-	¥170,239,145	soft cost*3%

Table2-2. Balance Sheet for Apartment Case.

BALANCE SHEET FOR APARTMENT CASE							
	year0(at purchase)	year1	year2	year3	year4	year5(at sale)	NOTES
ASSETS							
Cash	¥0	¥2,025,830	(¥5,473,555)	(¥5,020,702)	(¥4,558,628)	¥0	Net revenue
Receivables	¥0	¥645,050	¥664,402	¥684,334	¥704,864	¥0	
Prepaid Expenses	¥0	¥0	¥0	¥0	¥0	¥0	
Building Material Inventory	¥0	¥0	¥0	¥0	¥0	¥0	
Other	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL SHORT TERM ASSETS	¥0	¥2,670,880	(¥4,809,153)	(¥4,336,369)	(¥3,853,764)	¥0	
		¥2,670,880	(¥4,809,153)	(¥4,336,369)	(¥3,853,764)		
Gross Property Investment	¥170,239,145	¥170,439,145	¥170,639,145	¥170,839,145	¥171,039,145	¥0	add capex
Accumulated Depreciation	¥0	(¥8,540,529)	(¥8,550,529)	(¥8,560,529)	(¥8,570,529)	¥0	
Net Property Investment	¥170,239,145	¥161,898,617	¥162,088,617	¥162,278,617	¥162,468,617	¥0	
TOTAL LONG TERM ASSETS	¥170,239,145	¥161,898,617	¥162,088,617	¥162,278,617	¥162,468,617	¥0	
TOTAL ASSETS	¥170,239,145	¥164,569,496	¥157,279,463	¥157,942,248	¥158,614,853	¥0	
LIABILITY AND OWNERS EQUITY							
Salaries Payable	¥0	¥40,000	¥41,000	¥42,025	¥43,076	¥0	15/360*ar
Current Portion of Debt Payable	¥3,064,305	¥3,064,305	¥3,064,305	¥3,064,305	¥3,064,305	¥0	
Other Short Term Liability	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL SHORT TERM LIABILITY	¥3,064,305	¥3,104,305	¥3,105,305	¥3,106,330	¥3,107,380	¥0	
Long term Portion of Debt Payable	¥99,079,183	¥96,014,878	¥92,950,573	¥89,886,269	¥86,821,964	¥0	
TOTAL LONG TERM LIABILITY	¥99,079,183	¥96,014,878	¥92,950,573	¥89,886,269	¥86,821,964	¥0	
Equity Invested	¥68,095,658	¥68,095,658	¥68,095,658	¥68,095,658	¥68,095,658	¥68,095,658	
Retained Earnings(net of distributions)	¥0	(¥2,645,344)	(¥6,872,073)	(¥3,146,009)	¥589,850	(¥68,095,658)	
TOTAL OWNERS EQUITY OUTSTANDING	¥68,095,658	¥65,450,314	¥61,223,585	¥64,949,650	¥68,685,508	¥0	
TOTAL LIABILITIES PLUS OWNERS EQUITY	¥170,239,145	¥164,569,496	¥157,279,463	¥157,942,248	¥158,614,853	¥0	

Table2-3. Cash Flow Statement for Apartment Case

STATEMENT OF CF FOR APARTMENT CASE						
	year1	year2	year3	year4	year5(Jan)	NOTES
CASH FROM/FOR OPERATIONS						
Net Income	(¥2,645,344)	(¥2,200,899)	(¥1,747,491)	(¥1,284,844)	¥95,508,507	
Deprecation	¥5,703,210	¥5,731,781	¥5,760,352	¥5,788,924	¥0	Change the sign, add back the collected its cash, one less colle
(Increase)/Decrease in Receivables	(¥645,050)	(¥19,352)	(¥19,932)	(¥20,530)	¥704,864	
Increase/(Decrease) in Salaries Payable	¥40,000	¥1,000	¥1,025	¥1,051	(¥43,076)	paid by seller
Increase/Decrease in Other Short term accounts	¥0	¥0	¥0	¥0	¥0	Move to invest
Gain(Loss) on sale					(¥101,176,945)	
Total	¥2,452,815	¥3,512,531	¥3,993,955	¥4,484,601	(¥5,006,650)	
CASH FROM/FOR INVESTMENTS						
(Increase)/Decrease in Property Investment	(¥200,000)	(¥200,000)	(¥200,000)	(¥200,000)	¥171,039,145	NPI+GAIN, drain on cash, invest
(Increase)/Decrease in Other Long Term Asset Investment	¥0	¥0	¥0	¥0	¥0	
Total	(¥200,000)	(¥200,000)	(¥200,000)	(¥200,000)	¥171,039,145	Total Net collected from Asset
CASH FROM/FOR FINANCINGS AND DISTRIBUTIONS						
Increase/(Decrease) in Financings	(¥3,064,305)	(¥3,064,305)	(¥3,064,305)	(¥3,064,305)	(¥89,886,269)	short term debt + long term de
Increases in Equity Investment	¥0	¥0	¥0	¥0	¥164,194,015	
(Distributions) to Shareholders-assume all cash	¥0	(¥2,025,830)	¥5,473,555	¥5,020,702	(¥164,194,015)	paid by seller
*From previous Balance Sheet Period is Distributed						
Total	(¥3,064,305)	(¥5,090,134)	¥2,409,250	¥1,956,398	(¥89,886,269)	
TOTAL ANNUAL CASH FLOW						
Period Total Cash Flow	(¥811,489)	(¥1,777,604)	¥6,203,205	¥6,240,999	¥76,146,226	
Beginning Period Cash on Balance Sheet	¥0	¥2,025,830	(¥5,473,555)	(¥5,020,702)	(¥4,558,628)	
Ending Period Cash on Balance Sheet	(¥811,489)	¥248,226	¥729,650	¥1,220,296	¥71,587,599	Should not be negative
IRR ANALYSIS:						
ANNUAL OWNER CASH FLOWS	YEAR0	YEAR1	YEAR2	YEAR3	YEAR4(and Jan 1 year 5)	
	(¥68,095,658)	¥0	¥2,025,830	(¥5,473,555)	¥159,173,313	
IRR		22.93%				
Multiple on Investment		2.287 X				
NPV		¥87,629,930				

Table2-4. Income Statement for Apartment Case

INCOME STATEMENT FOR APARTMENT CASE						
	year1	year2	year3	year4	year5(Jan 1)	NOTES
REVENUE						
Apartment						
Gross Revenue	¥14,400,000	¥14,832,000	¥15,276,960	¥15,735,269	¥0	Gross revenue(100% occup
Vacancy	(¥720,000)	(¥741,600)	(¥763,848)	(¥786,763)	¥0	
Bad Debt	(¥68,400)	(¥70,452)	(¥72,566)	(¥74,743)	¥0	Only happen on the occup
Net Revenue	¥13,611,600	¥14,019,948	¥14,440,546	¥14,873,763	¥0	Net collectable revenue
Commercial						
Gross Revenue	¥1,500,000	¥1,545,000	¥1,591,350	¥1,639,091		
Vacancy	(¥75,000)	(¥77,250)	(¥79,568)	(¥81,955)		
Net Revenue	¥1,425,000	¥1,467,750	¥1,511,783	¥1,557,136		
Co-work						
Gross Revenue	¥468,000	¥482,040	¥496,501	¥511,396		
Vacancy	(¥23,400)	(¥24,102)	(¥24,825)	(¥25,570)		
Net Revenue	¥444,600	¥457,938	¥471,676	¥485,826		
Total Revenue	¥15,481,200	¥15,945,636	¥16,424,005	¥16,916,725		
	**Receivable					
OPERATING EXPENSES						
Salaries	(¥960,000)	(¥984,000)	(¥1,008,600)	(¥1,033,815)	¥0	
Utilities	(¥480,000)	(¥492,000)	(¥504,300)	(¥516,908)	¥0	
Local Taxes	(¥480,000)	(¥492,000)	(¥504,300)	(¥516,908)	¥0	
Insurance	(¥240,000)	(¥246,000)	(¥252,150)	(¥258,454)	¥0	
Maintenance Reserve	(¥144,000)	(¥147,600)	(¥151,290)	(¥155,072)	¥0	
Other	¥0	¥0	¥0	¥0	¥0	
Management Fees	(¥408,348)	(¥420,598)	(¥433,216)	(¥446,213)	¥0	
Total Operating Expenses	(¥2,712,348)	(¥2,782,198)	(¥2,853,856)	(¥2,927,369)	¥0	
NET OPERATING INCOME						
Interest Expense	¥12,768,852	¥13,163,438	¥13,570,149	¥13,989,356	¥0	
Depreciation	(¥6,128,609)	(¥5,944,751)	(¥5,760,893)	(¥5,577,034)	¥0	Debt at purchase+6%-(reme
Gain on Sale(at exit only)	¥0	¥0	¥0	¥0	¥101,176,945	purchase investment/30% c
	**happens on the next year					
EARNINGS BEFORE TAX						
Rental Income Taxes	¥937,033	¥1,486,906	¥2,048,904	¥2,623,398	¥101,176,945	
Sales Taxes	(¥3,582,377)	(¥3,687,804)	(¥3,796,394)	(¥3,908,242)	¥0	
(tax not taken for losses can offset gains)	¥0	¥0	¥0	¥0	(¥5,668,438)	
	**Negative net income, no tax, could accumulate until sale.					
NET INCOME	(¥2,645,344)	(¥2,200,899)	(¥1,747,481)	(¥1,284,844)	¥95,508,507	
DEBT SERVICE CALCULATION:						
Beginning Balance	¥102,143,487	¥99,079,183	¥96,014,878	¥92,950,573	¥89,886,269	
Plus: Loan Amount	¥0	¥0	¥0	¥0	¥0	
Less: Amortization	(¥3,064,305)	(¥3,064,305)	(¥3,064,305)	(¥3,064,305)	(¥3,064,305)	
Ending Balance	¥99,079,183	¥96,014,878	¥92,950,573	¥89,886,269	¥86,821,964	
Interest Expense	(¥6,128,609)	(¥5,944,751)	(¥5,760,893)	(¥5,577,034)	(¥5,393,176)	
Total Debt Service(interest+Amortization)	(¥9,192,914)	(¥9,009,056)	(¥8,825,197)	(¥8,641,339)	(¥8,457,481)	
GAIN ON SALE CALCULATION:						
Total property Value/Gross sales value	¥269,026,084					
Cost associated with sale (as a percent of gross sale value)	(¥5,390,522)					
Total Net Value	¥263,635,562					
Net Property Investment Value/Investment Basis	¥162,468,617					
Gain on Sale	¥101,176,945					
Sales Taxes						
Business Taxes	¥0	¥0	¥0	¥0	(¥5,058,847)	
Urban construction tax	¥0	¥0	¥0	¥0	(¥354,119)	
Surtax for education expenses	¥0	¥0	¥0	¥0	(¥252,942)	
Stamp duty	¥0	¥0	¥0	¥0	(¥2,529)	
Subtotal	¥0	¥0	¥0	¥0	(¥5,668,438)	
Rental Income Taxes						
Business tax	(¥774,060)	(¥797,202)	(¥821,200)	(¥845,836)	¥0	
Surtax for education expenses	(¥38,703)	(¥39,864)	(¥41,060)	(¥42,292)	¥0	
Urban maintenance and construction tax	(¥54,184)	(¥55,810)	(¥57,484)	(¥59,209)	¥0	
Stamp duty	(¥15,481)	(¥15,946)	(¥16,424)	(¥16,917)	¥0	
Property tax	(¥1,857,744)	(¥1,913,476)	(¥1,970,881)	(¥2,030,007)	¥0	
Maintenance fee	(¥309,624)	(¥318,913)	(¥328,480)	(¥338,335)	¥0	
Agency marketing fee	(¥232,218)	(¥239,185)	(¥246,360)	(¥253,751)	¥0	
Management fee	(¥232,218)	(¥239,185)	(¥246,360)	(¥253,751)	¥0	
Land use fee	(¥68,145)	(¥68,145)	(¥68,145)	(¥68,145)	¥0	
Subtotal	(¥3,582,377)	(¥3,687,804)	(¥3,796,394)	(¥3,908,242)	¥0	

Table3-1. Office Case Assumptions

Development Cost				
	Unit price (¥ /m ²)	Area	Total	Notes
Development Cost				
land cost	2,198	25,710	¥56,510,580	Including 3.05% deed tax
Investgate and design				
Investgating Fee	2	25,710	¥51,420	Market rate
Scheme design fee	32	25,710	¥822,720	
Construction design fee	28	25,710	¥719,880	
Special planning desian	4	25,710	¥102,840	
Consultant fee on marketing	2	25,710	¥51,420	
Supervision cost	20	25,710	¥514,200	
Construction application fees	20	25,710	¥514,200	
Approval of major project	1	25,710	¥25,710	
Subtotal			¥59,312,970	
Demolition compensation				
Demolition compensation expenses			¥16,000,000	
Real estate certificate processing tax			¥40,000	
Subtotal			¥16,040,000	
Construction and installation cost				
Mid-rise Office	4,570	14,910	¥68,138,700	
Commercial	4,009	3,000	¥12,027,000	
Infrastructure	150	19,470	¥2,920,500	
Greenary	500	5,000	¥2,500,000	
Public Facility	2,880	0	¥0	
Basement	2,500	6240	¥15,600,000	
Subtotal			¥101,186,200	
Others				
Special maintenance and emergency	¥11.31	14910	¥2,023,724	
Marketing			¥8,757,333	hard cost+2%
Management Fee			¥348,894	Revenue+3%
Total Cost	#DIV/0!	-	¥187,669,121	soft cost+3%

Project economic and technical index table		
Demolition Floor Area (m ²)		3,819
Area available for construction (m ²)		3,245
FAR Maximum		6
Floor Area (m ²)		25,710
<i>Floor Area (m²) calculated in Floor Area Ratio</i>		
Mid-rise Office		19,470
Commercial on the first floor		14,910
Co-work		3,000
		1,560
<i>Floor Area (m²) not calculated in Floor Area Ratio</i>		
Underground Garage (m ²)		6,240
Parking space(#)		156
Assumptions		
	#	Unit
Office area	14,910	m ²
Closing + Financing Cost	1.00%	
Office Rent/m ² /yr	¥780	
Commercial Rent/m ² /yr	¥500	
Co-work Rent/m ² /yr	¥300	
Mortgage Debt	60.00%	
Total Aggregate Investment	¥187,669,121	
Total Debt Issued	¥112,601,473	
Total Equity Required	¥75,067,649	
Purchase Cap Rate based on 1st year pro forma NOI	6.67%	
Vacancy as percent of Gross Revenue	5.00%	
Tenant Bad Debt as percent of Occupied Revenue	0.50%	
Net Monthly Revenue	¥916,089	
Annual Net Revenue Equivalence	¥10,993,068	
Annual Management Fees as a percent of Unit Net Revenue	3.00%	
Annual Management Fees	¥329,792	
Total Annual Operating Expenses for Property	¥329,792	
Other Assumptions		
Annual Amortization of Debt as Percent of Original Balance	3.00%	
Annual Dollar amount of debt Amortization	¥119,408,537	
Interest rate on Average Annual Outstanding Debt Balance	6.00%	
Straight Line Depreciation of property investment in years	20	
Straight Line Depreciation of annual Capital expenditures	7	
Additional expected annual Capital Expenditure per sqft	¥10	
Revenue and Expense Growth Rates for Future Years (starting year 2 forward)		
Gross Revenue Growth Rate per Year	3.00%	
Utility Expense Growth per year	3.50%	
Tax Expense Growth per year	3.00%	
Insurance Expense Growth per year	3.00%	
All Other Expenses, Growth Rate per year	2.50%	
Sale Assumptions		
Assume time of sale is 12:01 AM on Jan. 1	year5	
Sale Cap Rate based on actual NOI achieved during year prior	4.50%	
Cost associated with sale (as a percent of gross sale value)	2.00%	
Note: Sellers usually Keep Short Term Assets and all Liabilities		
Property IRR	23.81%	
Property Multiple on Investment	2.354	

Table3-2. Balance Sheet for Office Case.

BALANCE SHEET FOR OFFICE CASE							
	year0(at purchase)	year1	year2	year3	year4	year5(at sale)	NOTES
ASSETS							
Cash	¥0	¥2,389,492	(¥6,538,035)	(¥6,059,609)	(¥5,572,272)	¥0	Net revenue
Receivables	¥0	¥0	¥0	¥0	¥0	¥0	
Prepaid Expenses	¥0	¥0	¥0	¥0	¥0	¥0	
Building Material Inventory	¥0	¥0	¥0	¥0	¥0	¥0	
Other	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL SHORT TERM ASSETS	¥0	¥2,389,492	(¥6,538,035)	(¥6,059,609)	(¥5,572,272)	¥0	
Gross Property Investment	¥187,669,121	¥187,818,221	¥187,967,321	¥188,116,421	¥188,265,521	¥0	add capex
Accumulated Depreciation	¥0	(¥9,404,756)	(¥9,412,211)	(¥9,419,666)	(¥9,427,121)	¥0	
Net Property Investment	¥187,669,121	¥178,413,465	¥178,555,110	¥178,696,755	¥178,838,400	¥0	
TOTAL LONG TERM ASSETS	¥187,669,121	¥178,413,465	¥178,555,110	¥178,696,755	¥178,838,400	¥0	
TOTAL ASSETS	¥187,669,121	¥180,802,957	¥172,017,075	¥172,637,146	¥173,266,128	¥0	
LIABILITY AND OWNERS EQUITY							
Salaries Payable	¥0	¥0	¥0	¥0	¥0	¥0	15/360 days
Current Portion of Debt Payable	¥3,378,044	¥3,378,044	¥3,378,044	¥3,378,044	¥3,378,044	¥0	
Other Short Term Liability	¥0	¥0	¥0	¥0	¥0	¥0	
TOTAL SHORT TERM LIABILITY	¥3,378,044	¥3,378,044	¥3,378,044	¥3,378,044	¥3,378,044	¥0	
Long term Portion of Debt Payable	¥109,223,429	¥105,845,384	¥102,467,340	¥99,089,296	¥95,711,252	¥0	
TOTAL LONG TERM LIABILITY	¥109,223,429	¥105,845,384	¥102,467,340	¥99,089,296	¥95,711,252	¥0	
Equity Invested	¥75,067,649	¥75,067,649	¥75,067,649	¥75,067,649	¥75,067,649	¥75,067,649	
Retained Earnings(net of distributions)	¥0	(¥3,488,120)	(¥8,895,958)	(¥4,897,843)	(¥890,816)	(¥75,067,649)	
TOTAL OWNERS EQUITY OUTSTANDING	¥75,067,649	¥71,579,528	¥66,171,691	¥70,169,806	¥74,176,832	¥0	
TOTAL LIABILITIES PLUS OWNERS EQUITY	¥187,669,121	¥180,802,957	¥172,017,075	¥172,637,146	¥173,266,128	¥0	

Table3-3. Cash Flow Statement for Office Case

STATEMENT OF SC FOR OFFICE CASE						
	year1	year2	year3	year4	year5(0an)	NOTES
CASH FROM/FOR OPERATIONS						
Net Income	(¥3,488,120)	(¥3,018,346)	(¥2,539,920)	(¥2,052,583)	¥112,718,674	
Depreciation	¥6,276,937	¥6,298,237	¥6,319,537	¥6,340,837	¥0	Change the sign, add back the collected its cash, one less colle
(Increase)/Decrease in Receivables	¥0	¥0	¥0	¥0	¥0	paid by seller
Increase/(Decrease) in Salaries Payable	¥0	¥0	¥0	¥0	¥0	Move to invest
Increase/(Decrease) in Other Short term accounts	¥0	¥0	¥0	¥0	¥0	
Gain(Loss) on sale					(¥119,408,537)	
Total	¥2,788,817	¥3,279,891	¥3,779,617	¥4,288,255	(¥6,689,863)	
CASH FROM/FOR INVESTMENTS						
(Increase)/Decrease in Property Investment	(¥149,100)	(¥149,100)	(¥149,100)	(¥149,100)	¥188,265,521	NPI+GAIN/drain on cash, invest
(Increase)/Decrease in Other Long Term Asset Investment	¥0	¥0	¥0	¥0	¥0	
Total	(¥149,100)	(¥149,100)	(¥149,100)	(¥149,100)	¥188,265,521	Total Net collected from Asset :
CASH FROM/FOR FINANCINGS AND DISTRIBUTIONS						
Increase/(Decrease) in Financings	(¥3,378,044)	(¥3,378,044)	(¥3,378,044)	(¥3,378,044)	(¥99,089,296)	short term debt + long term de
Increase in Equity Investment	¥0	¥0	¥0	¥0	¥186,895,506	
(Distributions) to Shareholders--assume all cash	¥0	(¥2,389,492)	¥6,538,035	¥6,059,609	(¥186,895,506)	paid by seller
*From previous Balance Sheet Period is Distributed						
Total	(¥3,378,044)	(¥5,767,536)	¥3,159,991	¥2,681,565	(¥99,089,296)	
TOTAL ANNUAL CASH FLOW						
Period Total Cash Flow	(¥738,327)	(¥2,636,745)	¥6,790,508	¥6,820,720	¥82,486,362	
Beginning Period Cash on Balance Sheet	¥0	¥2,389,492	(¥6,538,035)	(¥6,059,609)	(¥5,572,272)	
Ending Period Cash on Balance Sheet	(¥738,327)	(¥247,253)	¥252,473	¥761,110	¥76,914,090	Sould not be negative
IRR ANALYSIS:						
ANNUAL OWNER CASH FLOWS	(¥75,067,649)	¥0	¥2,389,492	(¥6,538,035)	¥180,835,897	
IRR		23.81%				
Multiple on Investment		2.354 X				
NPV		¥101,619,705				

Table3-4. Income Statement for Office Case

INCOME STATEMENT FOR OFFICE CASE						
	year1	year2	year3	year4	year5(Jan 1)	NOTES
REVENUE						
Office						
Gross Revenue		¥11,629,800	¥11,978,694	¥12,338,055	¥12,708,196	¥0 Gross revenue(100% occup
Vacancy		(¥581,490)	(¥598,935)	(¥616,903)	(¥635,410)	¥0
Bad Debt		(¥55,242)	(¥56,899)	(¥58,606)	(¥60,364)	¥0 Only happen on the occup
Net Revenue		¥10,993,068	¥11,322,861	¥11,662,546	¥12,012,423	¥0 Net collectable revenue
Commercial						
Gross Revenue		¥1,500,000	¥1,545,000	¥1,591,350	¥1,639,091	
Vacancy		(¥75,000)	(¥77,250)	(¥79,568)	(¥81,955)	
Net Revenue		¥1,425,000	¥1,467,750	¥1,511,783	¥1,557,136	
Co-work						
Gross Revenue		¥468,000	¥482,040	¥496,501	¥511,396	
Vacancy		(¥23,400)	(¥24,102)	(¥24,825)	(¥25,570)	
Net Revenue		¥444,600	¥457,938	¥471,676	¥485,826	
Total Revenue		¥12,862,668	¥13,248,549	¥13,646,005	¥14,055,385	
		**Receivable				
OPERATING EXPENSES						
Management Fees		(¥329,792)	(¥339,686)	(¥349,876)	(¥360,373)	¥0
Total Operating Expenses		(¥329,792)	(¥339,686)	(¥349,876)	(¥360,373)	¥0
NET OPERATING INCOME						
Interest Expense		¥12,532,876	¥12,908,863	¥13,296,129	¥13,695,012	¥0
Depreciation		(¥6,756,088)	(¥6,553,406)	(¥6,350,723)	(¥6,148,040)	¥0 Debt at purchase+6%-(rem
Gain on Sale(at exit only)		¥0	¥0	¥0	¥0	¥0 purchase investment/30+c
		**happens on the next year				
EARNINGS BEFORE TAX		(¥500,149)	¥57,220	¥625,868	¥1,206,135	¥119,408,537
Rental Income Taxes		(¥2,987,971)	(¥3,075,566)	(¥3,165,788)	(¥3,258,717)	¥0
Sales Taxes		¥0	¥0	¥0	¥0	(¥6,689,863)
(tax not taken for losses can offset gains)		**Negative net income, no tax, could accumulate until sale.				
NET INCOME		(¥3,488,120)	(¥3,018,346)	(¥2,539,920)	(¥2,052,583)	¥112,718,674
DEBT SERVICE CALCULATION:						
Beginning Balance		¥112,601,473	¥109,223,429	¥105,845,384	¥102,467,340	¥99,089,296
Plus: Loan Amount		¥0	¥0	¥0	¥0	¥0
Less: Amortization		(¥3,378,044)	(¥3,378,044)	(¥3,378,044)	(¥3,378,044)	(¥3,378,044)
Ending Balance		¥109,223,429	¥105,845,384	¥102,467,340	¥99,089,296	¥95,711,252
Interest Expense		(¥6,756,088)	(¥6,553,406)	(¥6,350,723)	(¥6,148,040)	(¥5,945,358)
Total Debt Service(Interest+Amortization)		(¥10,134,133)	(¥9,931,450)	(¥9,728,767)	(¥9,526,085)	(¥9,323,402)
GAIN ON SALE CALCULATION:						
Total property Value/Gross sales value		¥304,333,609				
Cost associated with sale (as a percent of gross sale value)		(¥6,086,672)				
Total Net Value		¥298,246,937				
Net Property Investment Value/Investment Basis		¥178,838,400				
Gain on Sale		¥119,408,537				
Sales Taxes						
Business Taxes		¥0	¥0	¥0	¥0	(¥5,970,427)
Urban construction tax		¥0	¥0	¥0	¥0	(¥417,930)
Surtax for education expenses		¥0	¥0	¥0	¥0	(¥298,521)
Stamp duty		¥0	¥0	¥0	¥0	(¥2,985)
Subtotal		¥0	¥0	¥0	¥0	(¥6,689,863)
Rental Income Taxes						
Business tax		(¥643,133)	(¥662,427)	(¥682,300)	(¥702,769)	¥0
Surtax for education expenses		(¥32,157)	(¥33,121)	(¥34,115)	(¥35,138)	¥0
Urban maintenance and construction tax		(¥45,019)	(¥46,370)	(¥47,761)	(¥49,194)	¥0
Stamp duty		(¥12,863)	(¥13,249)	(¥13,646)	(¥14,055)	¥0
Property tax		(¥1,543,520)	(¥1,589,826)	(¥1,637,521)	(¥1,686,646)	¥0
Maintenance fee		(¥257,253)	(¥264,971)	(¥272,920)	(¥281,108)	¥0
Agency marketing fee		(¥192,940)	(¥198,728)	(¥204,690)	(¥210,831)	¥0
Management fee		(¥192,940)	(¥198,728)	(¥204,690)	(¥210,831)	¥0
Land use fee		(¥68,145)	(¥68,145)	(¥68,145)	(¥68,145)	¥0
Subtotal		(¥2,987,971)	(¥3,075,566)	(¥3,165,788)	(¥3,258,717)	¥0