Real estate development of Wuhan Urban Agglomeration

Author: Rui Zhou
Supervisor: Hans. Lind

Stockholm 2010
Master of Science thesis

<table>
<thead>
<tr>
<th>Title</th>
<th>Real Estate Development of Wuhan Urban Agglomeration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors</td>
<td>Rui Zhou</td>
</tr>
<tr>
<td>Department</td>
<td>Real Estate and Construction Management</td>
</tr>
<tr>
<td>Master Thesis number</td>
<td>42</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Hans. Lind</td>
</tr>
<tr>
<td>Keywords</td>
<td>Wuhan Urban Agglomeration, urban development, real estate development, macroeconomic indicators, problems</td>
</tr>
</tbody>
</table>

Abstract

Officially established since 2007, Wuhan Urban Agglomeration graduates to the core area for the economical and social development in Hubei province. Wuhan Urban Agglomeration is composed of Wuhan and 8 neighboring cities in Hubei province, while Wuhan City is taken as the bellwether. This city circle is densely populated and with the most intensive industrial areas in Hubei province. Based on the Yangtze River Economic Zone, Wuhan Urban Agglomeration is the key interaction joint among the eastern, central and western China. It is also the base of advanced manufacturing in the inland area and the center of modern service industry. With the establishment of the policy called “rising of modern central China”, the economical development of the Wuhan Urban Agglomeration is quickly elevated. From year 2007 to 2008, in the first two years of the official set up of Wuhan Urban Agglomeration, there is a rapid increase in levels of economic development, meanwhile, regional comprehensive economic strength has increased markedly and the industry attraction as well as the accumulative effect has gradually emerged.

As the pillar industry in national economy, the healthy and sustainable development of the real estate industry has time and strategic significance on enhancing regional economy integration in Wuhan Urban Agglomeration, fostering overall planning and corresponding between urban and suburban areas. In year 2007 and 2008, although the real estate industry has a cyclical adjustment and the real estate industry in each city in Wuhan Urban Agglomeration is also under the call-back pressure with various degrees because of facing the slowdown of the international and domestic economic development, real estate development in Wuhan Urban Agglomeration has more opportunities than challenges in long-term and general development of the industry in this periodical adjustment.

Among the nine cities in Wuhan Urban Agglomeration, big difference exist in aspects of administrative rank, the economical development level of the region, resource and environment etc. furthermore, distinct differences exist in the real estate development
of various cities. A deep description and research on the status and problems of the real estate development of these cities in Wuhan Urban Agglomeration shall be instructive and referential to motivate the innovation of theory and practice about the real estate industry and to lead a healthy and stable development of the industrial economy.

In the form of concluding the general status of macroeconomic development and real estate development in Wuhan Urban Agglomeration and also the real estate development of each city among Wuhan Urban Agglomeration, based upon the authoritative data from the national, provincial and municipal statistic authorities and real estate management bureaus, this paper has deep and objective analysis on the real estate development status of this agglomeration and each region as well as the existing problems.

As there is no research on macro-economy and real estate industry in this agglomeration before, this paper is the first work and hope it will give help for further research on Wuhan Urban Agglomeration.
Acknowledgement

First of all, I want to owe great thanks to my supervisor, Mr. Hans. Lind. I thank him a lot to allow me to write my thesis in my hometown while I have an internship at the same time. During the whole thesis process, he gives me many useful suggestions on my thesis direction and helps me to modify my thesis structure to make it more logical.

Secondly, I want to thank my father and his friends. As my father works in the construction bureau of my city, and he has a lot of friends who works in other cities’ construction bureau in my research area, he and his friends together help me to collect a lot of useful data of my thesis.

Finally, I want to thank my mother and my friends as they keep on encouraging me when I am working on my thesis.

In one word, thanks a lot for your all help.
# Table of content

1. Introduction................................................................................................................ 5
2. Methodology............................................................................................................ 10
3. Theoretical framework............................................................................................. 11
   4.1 General macro-economical development status of *Wuhan Urban Agglomeration* 17
   4.1.1 Rapid growth of GDP ......................................................................................... 17
   4.1.2 Stable increase in fixed assets investment .......................................................... 18
   4.1.3 Continuous growth of fiscal revenue ................................................................. 19
   4.1.4 Sustainable increase of consuming power ......................................................... 19
   4.1.5 Growth of disposable income although with decreasing growth rate ................. 20
   4.2 General real estate development status of *Wuhan Urban Agglomeration* ......... 20
   4.2.1 Status of land transactions ................................................................................ 21
   4.2.1.1 Land turnover ................................................................................................ 21
   4.2.1.2 Land price ..................................................................................................... 22
   4.2.2 Status of commercial real estate market ........................................................... 24
   4.2.2.1 Real estate development and investment ....................................................... 24
   4.2.2.2 Supply of commercial properties ................................................................. 25
   4.2.2.3 Real estate consumption feature ................................................................. 29
5. Regional status of Real Estate development in each city among *Wuhan Urban Agglomeration* of year 2007 and 2008 .............................................................................. 30
   5.1 Real estate development of *Wuhan* central districts ....................................... 30
   5.2 Real estate development of *Huangshi City* ....................................................... 32
   5.3 Real estate development of *Xiaogan City* ........................................................ 34
   5.4 Real estate development of *E’zhou City* .......................................................... 35
   5.5 Real estate development of *Xianning City* ...................................................... 38
   5.6 Real estate development of *Huanggang City* ................................................. 40
   5.7 Real estate development of *Xiantao City* .......................................................... 42
   5.8 Real estate development of *Qianjiang City* ...................................................... 44
   5.9 Real estate development of *Tianmen City* ...................................................... 46
6. Empirical analysis.................................................................................................... 48
7. Conclusion............................................................................................................... 51
References.................................................................................................................... 53
1. Introduction

In 1957, French geologist Jean Gottmann first proposed the concept of a large metropolitan area, for the general group of the phenomenon of big cities in some countries\(^1\). The Metropolitan General has the following characteristics: highly dense in urban area, huge population, and the cities in the general metropolitan has established a clear division between their own characteristics and strengths based on close economic ties. They are the most active and most important areas in national and regional economies. Since then, according to city group’s level of development, international experts divide it into three different levels: City Group, City Circle and City Ring. These three different forms largely reflect the different levels of urban agglomerations. In which, City Group is the phenomenon that cities densely located around the edge of big cities. City Circle is a regional economic phenomenon that appears in the urban agglomeration in large cities as the core, and the surrounding cities also participate in division of labor, the large cities and surrounding cities cooperate and integrate with each other. City Ring means the combination and concentration of a number of cities, it also radiate the surrounding small and medium cities to drive their growth so there can be optimal resource allocation, economic integration with the city stretches in the greater context. Such as the U.S. City Ring, it is combined with New York, Washington, Boston and other cities. The area of this city ring is less than 1.5% of the country, but has almost 20% of the country’s population. And its manufacturing output accounts for 30% of the United States\(^2\).

In recent years, the city circle economic arouse national attention in China. Some experts believe that a high degree of integration of urban agglomeration economies is a major force and has competitive position in a region involved in the international economic division of labor and other resources. It is not hard to predict that the 21\(^{st}\) century will be the century of the city circle, the main driver of the economy will be increasingly derived from large metropolitan cities, especially large city circles. Labor division, cooperation and competition among metropolitan decide the new world’s economy.

Under this background, after analysis the situation of Hubei Province, experts from the Provincial Development Research Center believe that the construction of Wuhan Urban Agglomeration is imperative.

In June 2002, in the eighth Congress Report of Communist Party of Hubei Province, the provincial government made a timely and important development strategy, which was establishing Wuhan Urban Agglomeration and calling for Wuhan City to play the full leading role so finally the whole province can have rapid economic development. Then in 2003, within Wuhan City as the core, gathered other eight cities around 100 kilometers of its radius, for example, Huangshi, E’zhou, Xiaogan City etc, a new city

---


circle, the “Wuhan Urban Agglomeration” is building.

In April 2004, the General Office of Hubei Province presents the document “Views on accelerating the construction of Wuhan Urban Agglomeration”\(^3\), which is a landmark document in the construction of Wuhan Urban Agglomeration.

In July 2004, the provincial government held a meeting to promote the construction of Wuhan Urban Agglomeration. The building of Wuhan Urban Agglomeration has started. In the meeting they state that economic integration in this city circle will be focusing on promoting the integration of infrastructure construction, industrial distribution integration, regional market integration and integration of urban and rural construction. On one hand, the government should actively use the peripheral resources in Wuhan City, and extend its radiation outward the surrounding cities; on the other hand, the around eight cities in this circle should develop rapidly by relying on the market and technology advantages of Wuhan City.

Then in the ensuing years, the government use great energy to establish Wuhan Urban Agglomeration. In order to swiftly and significantly develop the provincial economy, the government tries best to construct Wuhan Urban Agglomeration, and promote the rationalization of urban structure and integration of regional economy in this urban agglomeration. From 2002 to 2006, it is the unofficial construction time of Wuhan Urban Agglomeration. After 6 times’ reviews and reapplications, the State Council agreed to officially set up Wuhan Urban Agglomeration in 2007.

From the map below we can see, Wuhan Urban Agglomeration lays in the land of middle Yangtze River, east of Hubei province. It is composing of Wuhan City and other 8 neighboring cities within 100 kilometers of Wuhan City, including Huangshi City, Xiaogan City, E’zhou City, Xianning City, Huanggang City, Xiantao City, Qianjiang City and Tianmen City, also named as “8+1 City Circle”. It is the densest area in population, industry and cities of Hubei Province; also it is the most potential and vitality region of central China. To the end of 2008, the Wuhan Urban Agglomeration has land area of 58,051 square kilometers, which accounts for 31% of the whole province. Meanwhile, it has permanent population of 300.13 million, representing for 52.6% of the province\(^4\).

---


Figure 1 Maps of Hubei province and Wuhan Urban Agglomeration

Map of Hubei Province
In China, real estate industry is not only the pillar industry but also a strong policy-oriented one. Before the building of Wuhan Urban Agglomeration, cities in this region developed separately, big difference exist in aspects of administrative rank, the economical development level of the region, resource and environment etc. Furthermore, distinct differences exist in the real estate development of various cities. To the end of year 2008, Wuhan Urban Agglomeration has been officially set up for more than one year. As we all know, once the formation of a regional economy, considering its difference existing in the previous time, it will goes through a difficult period of transition at the beginning of its uniformities. Then how about Wuhan Urban Agglomeration? In its first one and half years’ official operation, does this new urban
agglomeration do promote the rapid economic development of the whole province? How have different cities’ real estate markets changed since they join in this urban agglomeration? Are there any problems existing in it?

In this thesis, I will give deep and detail research on the general macroeconomic and real estate operation situation of the whole region and each special city among the region.

The outline of this paper is as follows: firstly a theoretical part is presented. That section includes my methodology as well as theoretical framework on previous urban development models. Next follows empirical description on macroeconomic status together with real estate industry operation condition will be given. Following that there will be empirical analysis both on the development and problems caused by the development of this economic region. After that is the conclusion part.
2. Methodology

The economic environment of an urban area is reflected in sale prices of properties, rental rates, land use patterns, and the mix of market participants in the neighborhood. Many factors could have impact on urban economic growth and real estate development over time, for example, land acquisition, infrastructure development, government regulations, population changes, effective buying power, supply of available land, transportation, new employment, etc. In the past years, there is no model used to analyze the economic status of regional economy. Here in my thesis, I use descriptive analysis to identify the macro economic situation as well as real estate industry in different cities within Wuhan Urban Agglomeration. As the most important industry in China, real estate industry plays an important role in the whole economy, it is closely related with the macro economy of the whole country, and the same situation exists in Hubei Province. According to this reason, it is often sufficient to establish the economic status of the urban agglomeration as well as its potential for, the direction of, growth by using a descriptive analysis on the macroeconomic factors and also real estate indexes. So in this paper, I will try to study economic situation by calculating and incorporating a lot of economic indicators covering macroeconomics factors like GDP, fiscal revenue and average disposable income and also real estate indexes like construction area, property sales area and sales price, etc. I will sort them and compare them in different time to clearly show the economic tendency and indirectly prove the economic affect of the establishment of Wuhan Urban Agglomeration.

On the base of the authoritative data from the national, provincial and municipal statistic authorities and real estate management bureaus of different cities among Wuhan Urban Agglomeration, first I analyze the general economic status of Wuhan Urban Agglomeration from two aspects, the macroeconomic status and then the real estate industry status. After that, I concentrate on real estate development of different cities among the region and try to find out the similar laws as well as problems in these cities’ real estate operation after they join Wuhan Urban Agglomeration. Because of time reasons, data of year 2009 of this region is incomplete. So I only research on economic operation status of year 2007 and 2008.
3. Theoretical framework

Till now, a lot of models can be used to describe the nature of urban land use and the growth patterns. But there is no single model which can adequately explain the full urban structure of most cities. A combination of several different models is mostly used to reflect urban growth and provide useful prediction for developers on the tendency, direction and type of urban growth in real estate market analysis, for some skilled developers, they could be the first-movers by swiftly reaction to these new changes.

Social ecology models, developed between 1920s and 1940s, is the mostly used analysis models on urban growth in the past decades years. It includes four best using urban growth models—the concentric zone model (developed by Ernest W. Burgess), the sector (wedge) model (developed by Homer Hoyt), the axial (radial corridor) model (developed by Richard M. Hurd) and the last one the multiple nuclei model (developed by Chauncy O. Harris and Edward L. Ullman). Developers of these four models come from different industry, for instance, Ernest W. Burgess is a sociologist while Homer Hoyt is a land economist. Because of the difference in the developers’ background, different structural dynamics exist in these four urban growth models, and different views on urban growth are given. With the social ecology models, not only the physical but also spatial dimensions of urban structure could be analyzed; also where urban growth would happen can also be forecasted. Viewing from graphically aspect, for all the four models, three of them are circular except multiple nuclei one, which is an irregular center with disconnected points around it.

Concentric Zone Model

After studying several urban areas, in 1925, Ernest W. Burgess concludes that a city expands from its center to form a series of concentric zones. As seen from concentric zone model expressed by Graph 1, the whole area is divided to five zones, which have different function in the area. In the core of the model is Zone 1, which is the central business district of a city, with the most diverse economic activities in that area. Growth from the city core penetrates upon Zone 2, which is a transitional zone with big proportion of manufacturing industry. Zone 3 is the workers’ home area mostly working in Zone 1 and Zone 2. In Zone 1 and Zone 2, most of the land have been used for commercial and industrial activities, land for residential are rare together with a very high price. In order to live near work place, most of workers will choose to leave in Zone 3 with the most convenience and lowest travel cost. Zone 4 is an area of middle and high-class homes, where houses in this zone are larger than those of Zone 3, prices of these houses are also much higher. Residents live in Zone 4 often have better income. Better transportation systems allowed more prosperous households to move into Zone 5, an area surrounded by farms and recreational areas, which enabling these households to have more private space. Zone 5 is an area of non-urban land use.

5 Fanning (Market Analysis for Real Estate), Appraisal Institute, page 70.
and it could be identified as commuter area between urban and rural uses.

Graph 1  Concentric zone model by Ernest W. Burgess

Burgess’s concentric zone theory not only offers a general model of land use zones and but also explain urban growth method. With the economy prosperity in the core area of Zone 1, a lot of people flow into this zone to look for better work and business opportunities. With the increase of population, the central area in Zone 1 can no longer contain within its former boundaries to capture all the population, it then try to absorb certain vacant land in the suburban areas to building new residential and industrial buildings. Before urban growth in the core zone reaches the city boundaries, the suburban ring is characterized by relatively slight development and low population, generally distributed around the boundaries. With the extended commercial and industrial area, part of population spills into the suburbs and outlying areas of Zone 1. As long as development keeps on expanding rapid in the central city, population in the suburban area increases in a rapid pace and eventually suburban population growth is greater than the growth in inner city. Then the old zone tries to expand outward until it spills over into the next zone. Thus, each ring builds on the previous ring. Obviously, the overflow of the population and other resource can produce exponential growth.

Burgess’s concentric zone model is very simple and general, which mainly focuses on residential land use in cities. Some critics even say that this is the weakness of his model. However, because residential land use is the main land use way in a city, useful information of the patterns of urban growth and real estate market analysis can still be extracted from the concentric zone model. Concentrating on residential markets, Burgess identifies that social status and income increasing are pillar factors in urban development.
**Sector or Wedge Model**

Based on the study of 64 cities initially developed for the U.S. Federal Housing Administration, the sector, or wedge model of urban growth, suggested by Homer Hoyt, Mal in 1954, is aimed to describe more accurately how an urban area takes form—that is to study the important of transportation with urban growth. To some extent, it is an improvement of concentric zone model. From late 1940s to early 1950s, the sector model is the main model used in urban development analysis.

Homer Hoyt’s sector model is focusing on high-income residents. By following nine assumptions of high-income population, Homer Hoyt has his theories below:

- Sectors will expand along transportation routes. Distinctive land use wedges will occur when the city expands from the center core along major arterials before of conveniences.

- With the increased population and living pressure of a sector, there is an invisible force to push the sector outward. According to the concept of filtering mentioned in the model, people in different income and social position tend to separate themselves and move to houses based on their income and work during the outward process—that means people from the similar income and similar education background tend to move to same place. And people with high-income often tend to have houses in upwind and upstream from concentrations of industry, which have little influence on environment pollution to enjoy a high quality of life. Meanwhile, housing for low-income residents is usually located on the least desirable land, alongside railroads, commercial districts, or industrial areas, which is in poorer condition. Eventually, as the perimeter of the urban area expands, because of different affordability for new housing, some high-income population moves out from the old industrial zone to other sector of the city, and left the old urban core occupied by the poor or abandoned altogether.

According to his observation above, Hoyt concludes that the age and condition of structures in residential areas are important determinants of the typical prices and rents in the area.

---

Axial (Radial corridor) Model

The axial model is mainly extracted from Richard Hurd’s article “The Principles of City Land Values”\(^8\). Like sector model, in the axial model, the author states that transportation routes, such as highways, railroads and waterways, together with accessibility for economic activities affect a lot on urban growth and development. Though the axial or radial corridor model had been proposed in 1905, early before the concentric zone model and sector model, it is still be regarded as the make up of those two models, because when Hurd issues this model, there is no advent of automobile, he does not consider interstitial development of city in his model. From the graph below we can see, the central business and industrial districts cluster in Area 1. Retail and service-oriented businesses are located along transportation routes from the central core. Low-income households often live in Area 5 because of the easy availability of public transportation as well as low housing price. For people with higher income, they usually live in Area 4, far from the busy commercial and industrial areas yet close to transportation corridors and public facilities such as hospitals and schools. In the axial model, the axial pattern is created by development at the center and the process of aggregation at the edges, so growth moves axially in various directions away from center points, where the key activities are located.

---

Multiple Nuclei Model

In 1945, in an article named “The nature of cities”, two geographers, Chancy Harris and Edward Ullman first proposed the multiple nuclei model\(^9\). And theory behind this model is that instead of expanding from a single central core, urban area of a city can develop from a number of nuclei small cities or areas created by government or economic activities. In this model, cities take on a cellular structure, with distinctive land uses grouped around nuclei or growth points. The multiple nuclei model recognizes that the internal geography of cities influence a lot on the relationship between the unique characteristics of sites and general social and economic factors. If the nuclei cities or areas have comparable advantages, significant profits can be drawn by grouping land uses in this nuclei areas, there will be strong policy support from government or other economic activities to accelerate the formation of multiple nuclei pattern in urban development. This model may be mutually supportive or complementary, and the number of nuclei will increase in accordance with urban growth.

Unlike the previous three models, this model is premised on the effect of the automobile, which tends to promote decentralization of a city circle. In the multiple nuclei model, accessibility is the most important factor in urban development.

In general, these four models have different emphasizes on urban growth, which mean, urban growth and development is not driven by a single factors, it is the effects of integrated economic factors. Similar to that, on the base of urban growth, real estate industry can also have dynamic development according to the difference in urban growth. After empirical analysis of real estate development in Wuhan Urban Agglomeration, I will try to figure out whether the urban development in this economic region has followed one of the above models, or whether it grows in its own way.

4.1 General macro-economical development status of Wuhan Urban Agglomeration

In year 2007 and 2008, the whole economy of Wuhan Urban Agglomeration maintains a steady growth, the fiscal revenue keeps rising, investment and consumer demand are strong. As the province’s core economic and social development area, Wuhan Urban Agglomeration’s leading and radiation affect increase gradually because of its strong comprehensive strength and the distinct development advantages. Indicators in the following chapter will prove this.

4.1.1 Rapid growth of GDP

In recent years, the Wuhan Urban Agglomeration speeds up the transformation of economic growth, the province use great efforts to optimize the industrial structure. The overall GDP of this region continues to grow, the economic proportion of Wuhan Urban Agglomeration occupy the province’s economy has also increased year by year. As the data shown in Figure 2, the GDP of Wuhan Urban Agglomeration of year 2007 is 555.724 billion yuan, compared to year 2006, it increases 20.80%; also the GDP of year 2008 is 697.211 billion yuan, which is 25.46% higher than year 2007.

Figure 2 GDP of Wuhan Urban Agglomeration (2003-2008)  Unit: 100 million yuan

Data resource: Hubei Province Statistic Bureau

Looking at different cities in this region, there is wide gap existing in the GDP of these cities and also there is obvious difference between GDP growth rates. In 2008, GDP of the top four cities are Wuhan City, Huangshi City, Xiaogan City and Huanggang City, which have annual GDP more than 50 billion yuan. Among them,
the GDP of *Wuhan City* has an absolute leading role in the urban agglomeration, and the number is 396.008 billion yuan, accounting for 56.89% of the whole GDP of this region.

**Figure 3** GDP of the nine cities in *Wuhan Urban Agglomeration* (2007-2008)  
Unit: 100 million yuan

Viewing from GDP growth, in 2008, the average GDP growth of *Wuhan Urban Agglomeration* reaches 25.46%, all the cities’ GDP are substantially higher than year 2007 except *Tianmen City*, which has declines slightly. The largest increase is *Qianjiang City*, increased by 34.24%, followed by *E'zhou City*. Apart from *Huangshi City*, the other 8 cities achieve more than 20% growth rate.

**4.1.2 Stable increase in fixed assets investment**

In 2008, in order to keep high operation level with good quality and efficiency, there is strong adjustment in fixed assets investment in *Wuhan Urban Agglomeration*. Data from Figure 3 shows that, in 2008, *Wuhan Urban Agglomeration* finishes fixed assets investment 347.22 billion yuan, accounting for 65.11% of the whole province, and the percentage is a little higher when compared to the data of year 2007. For different cities, *Wuhan City* completes fixed assets investment of 217.33 billion yuan, accounting for 62.50% of the whole urban agglomeration; other cities like *E'zhou City*, *Xiaogan City*, *Huanggang City* and *Xianning City* have fixed assets investment increased more than 40% in 2008.

**Figure 4** Fixed assets investment of *Wuhan Urban Agglomeration*  
Unit: 100 million yuan
4.1.3 Continuous growth of fiscal revenue
In year 2007 and 2008, there is a steady increase in fiscal revenue of Wuhan Urban Agglomeration because of the continuous rising economic efficiency of enterprises in this region. With the increased fiscal revenue, other kinds of economic and social activities can be undertaken smoothly. In which, in year 2008, the nine cities in this economic region totally complete a fiscal revenue of 38.583 billion yuan (not include local tax and state tax), accounting for 54.32% of the whole province’s fiscal revenue and about 25.72% higher than that of year 2007. Among these cities, Wuhan City again completes the most, which is 27.732 billion yuan, accounting for 71.88% of the whole region. Other cities like Xiaogan City, Huanggang City and Xianning City have a growth rate between 28% and 32%.

Figure 5  Fiscal revenue of Wuhan Urban Agglomeration  Unit: 100 million yuan

Data resource: Hubei Province Statistic Bureau     Note: This fiscal revenue not includes local tax and state tax.

4.1.4 Sustainable increase of consuming power
With the promotion of national policies to stimulate consumption, people in the nine cities of Wuhan Urban Agglomeration have changed a lot on consumption concepts, which in end lead to a continuous release and a considerable increase in purchasing power, especially in travelling, accommodation and catering industry. To some extent, these consumptions promote the rapid growth of retail sales of consuming goods. According to Figure 6, the total retail sales of consuming goods in Wuhan Urban Agglomeration are 315.042 billion yuan. Compared to year 2007, it increases 23.22% and accounts for 63.44% of the provincial level. Viewing sub-region, Wuhan City has 185.005 billion yuan, sharing 58.72% of the total region, with a high increase of 21.85%. Other 8 cities together have another half cake. When compared to Wuhan City, it is little, though some cities have increased a lot.
4.1.5 Growth of disposable income although with decreasing growth rate

In recent years, the residents’ disposable income of Wuhan Urban Agglomeration had a steady increase. Figure 7 shows, in 2008, urban residents’ disposable income has increased than year 2007. Among them, the highest disposable income of urban residents is in Wuhan City (16,712 yuan), followed by Huangshi City (12,734 yuan), and the lowest is Huanggang City (9,952 yuan). Looking at the growth rate, all nine cities rise between 10%-20%. With the exception of Xianning City, Huanggang City and Wuhan City, which has increased slightly over the previous year, the other six cities present different process down, in which, Xiaogan City has the biggest drop in yearly growth rate, followed by E’zhou City.

4.2 General real estate development status of Wuhan Urban Agglomeration

After a round of real estate market ups and downs in China, its characteristics can not be summarized as simple increases or decreases and its changes are not determined by the laws set up in the market. Because the land market is not completely monopolized, making the land price not full compliance with market rules, which leads to its derivation, the real estate market, also not have full market features. In year 2007, in
some cities of *Wuhan Urban Agglomeration*, the investment and sales of real estate increase a lot in a short time. In 2008, affected by national macro-control policies to calm down the over-heating real estate development, the total sales of property decrease, but meanwhile, the unit property price keeps on rising. There is significantly irrational development of real estate industry in these cities. But why and what leads to this abnormal development?

### 4.2.1 Status of land transactions

#### 4.2.1.1 Land turnover

With the rising central China policy and the accelerated construction of *Wuhan Urban Agglomeration*, attracted by the potential market, real estate market accelerated shift from coastal and big cities like *Beijing* and *Shanghai* to middle cities of mainland China. As the most prosperous area in the middle of China, land values and real estate values along with the development of the economic region are rapidly upgrading, land transactions become more and more regulated, the trading index has increased substantially. In year 2006 and 2007, real estate companies crazily expand, leading to the phenomenon “flour is more expensive than bread”, which means land price have incredible increase. Then in 2008, in order to drive the real estate market onto the right track of sound development, there begins a correction period, also on the land market. During the adjustment, except a very few cities’ land transactions occur faster growth, the most land transactions in this economic region end deserted.

With the combined analysis of table 1 and 2, there are 583 cases of land transactions in *Wuhan Urban Agglomeration* in year 2007 and 2008, achieving a total transaction area of 21,333,800 square meters. And the total transaction amount is 5.104 billion *yuan*. Among them, *Wuhan City* has 275 cases of land transactions, with a total transaction area of 10,199,800 square meters. And its land transaction amount is 1.889 billion *yuan*. When compared to 2007, these three indicators all decline, in which, land completed cases and areas decrease slightly, land transaction amount decreases 41.23%, showing that unit price of land transaction have substantial drop. Concerning the land transaction areas in the nine cities of year 2008, *Wuhan City* has a proportion of 36.29%, sharing the biggest part, and then followed by *Huanggang City* (25.15%), *E‘zhou City* (20.48%) and *Xianning City* (6.55%). From the land transfer pattern, listing out method is the most common method, followed by the negotiation and the auction. (Note: Listing out is a land acquisition method that the government buy a large number of land from private, then they list out these lands in the local newspaper or other public resource to sell it in a fixed price, real estate development companies who want this land can bid for it. Negotiation is a land acquisition method that real estate companies negotiate with the government to buy land with public auction. Then auction means the several real estate companies bid for a piece or several pieces of land.)
### Table 1  Land transaction figures of *Wuhan Urban Agglomeration* (2007)

Unit: hectare | 10 thousand yuan | case
--- | --- | ---

<table>
<thead>
<tr>
<th>City name</th>
<th>Listing out</th>
<th></th>
<th></th>
<th>Negotiation</th>
<th></th>
<th></th>
<th></th>
<th>Auction</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas</td>
<td>Account</td>
<td>Cases</td>
<td>Areas</td>
<td>Account</td>
<td>Cases</td>
<td>Areas</td>
<td>Account</td>
<td>Cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>204.89</td>
<td>81027.68</td>
<td>35</td>
<td>499.06</td>
<td>153664.97</td>
<td>123</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>E’zhou</td>
<td>78.09</td>
<td>16884.93</td>
<td>19</td>
<td>103.23</td>
<td>24045.92</td>
<td>53</td>
<td>18.04</td>
<td>3909.00</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Qianjiang</td>
<td>33.36</td>
<td>6872.00</td>
<td>3</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Huangshi</td>
<td>35.75</td>
<td>5380.00</td>
<td>2</td>
<td>57.86</td>
<td>15267.50</td>
<td>43</td>
<td>8.07</td>
<td>2746.00</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Xiaogan</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Huanggang</td>
<td>65.69</td>
<td>10364.79</td>
<td>19</td>
<td>5.61</td>
<td>879.65</td>
<td>5</td>
<td>0.48</td>
<td>84.38</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Xianning</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>3.27</td>
<td>373.76</td>
<td>2</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>417.78</strong></td>
<td><strong>120529.4</strong></td>
<td><strong>78</strong></td>
<td><strong>669.03</strong></td>
<td><strong>194231.8</strong></td>
<td><strong>226</strong></td>
<td><strong>26.59</strong></td>
<td><strong>6739.38</strong></td>
<td><strong>4</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: As the land transaction data of Xiantao City and Tianmen City have not yet included in the statistic monitoring system, it is not available here. (1 hectare=10000 square meters)


### Table 2  Land transaction figures of *Wuhan Urban Agglomeration* (2008)

Unit: hectare | 10 thousand yuan | case
--- | --- | ---

<table>
<thead>
<tr>
<th>Cities</th>
<th>Listing out</th>
<th></th>
<th></th>
<th>Negotiation</th>
<th></th>
<th></th>
<th></th>
<th>Auction</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas</td>
<td>Amount</td>
<td>Cases</td>
<td>Areas</td>
<td>Amount</td>
<td>Cases</td>
<td>Areas</td>
<td>Amount</td>
<td>Cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>359.91</td>
<td>78479.12</td>
<td>87</td>
<td>10.20</td>
<td>2249.09</td>
<td>43</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>E’zhou</td>
<td>208.85</td>
<td>64901.00</td>
<td>57</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Qianjiang</td>
<td>4.59</td>
<td>937.00</td>
<td>3</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Huangshi</td>
<td>82.53</td>
<td>11049.55</td>
<td>20</td>
<td>0.07</td>
<td>19.22</td>
<td>1</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Xiaogan</td>
<td>17.13</td>
<td>2247.69</td>
<td>6</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>13.42</td>
<td>1494.00</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Huanggang</td>
<td>41.55</td>
<td>4081.55</td>
<td>8</td>
<td>214.97</td>
<td>12890.58</td>
<td>38</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Xianning</td>
<td>66.76</td>
<td>10595.00</td>
<td>10</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>781.32</strong></td>
<td><strong>172290.91</strong></td>
<td><strong>191</strong></td>
<td><strong>225.24</strong></td>
<td><strong>15158.89</strong></td>
<td><strong>82</strong></td>
<td><strong>13.42</strong></td>
<td><strong>1494.00</strong></td>
<td><strong>2</strong></td>
<td></td>
</tr>
</tbody>
</table>

4.2.1.2 Land price

Land price in other cities of *Wuhan Urban Agglomeration* first rise more than the land price of *Wuhan City*. Except for *Xiantao City*, the commercial, residential and industrial land price of the cities in this urban circle show up in varying degrees, but the overall growth rate declines.

According to the data calculating from “Urban Land Price Monitoring Report of Hubei Province of 2008”, the integrated land value of *Wuhan Urban Agglomeration* is 751.78 yuan/square meter, which is 9.11% higher than the average price of the 16 cities included in the monitoring. From table 3 we can see, the land prices of 9 cities in *Wuhan Urban Agglomeration* vary a lot. The integrated, residential, commercial and industrial land price of *Wuhan City* all state in the first level in this city circle.
Table 3 Land price of *Wuhan Urban Agglomeration* (2007-2008) Unit: yuan/m²

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wuhan</td>
<td>2161</td>
<td>2283</td>
<td>4329</td>
<td>4868</td>
<td>2346</td>
<td>2397</td>
<td>632</td>
<td>681</td>
</tr>
<tr>
<td>Huanggang</td>
<td>494</td>
<td>716</td>
<td>790</td>
<td>1152</td>
<td>420</td>
<td>684</td>
<td>272</td>
<td>313</td>
</tr>
<tr>
<td>Tianmen</td>
<td>686</td>
<td>713</td>
<td>1388</td>
<td>1437</td>
<td>428</td>
<td>451</td>
<td>242</td>
<td>252</td>
</tr>
<tr>
<td>E’zhou</td>
<td>662</td>
<td>686</td>
<td>996</td>
<td>1033</td>
<td>590</td>
<td>625</td>
<td>399</td>
<td>401</td>
</tr>
<tr>
<td>Qianjiang</td>
<td>519</td>
<td>539</td>
<td>878</td>
<td>886</td>
<td>385</td>
<td>425</td>
<td>295</td>
<td>306</td>
</tr>
<tr>
<td>Xiantao</td>
<td>526</td>
<td>515</td>
<td>651</td>
<td>679</td>
<td>694</td>
<td>635</td>
<td>234</td>
<td>232</td>
</tr>
<tr>
<td>Xianning</td>
<td>284</td>
<td>463</td>
<td>465</td>
<td>832</td>
<td>198</td>
<td>336</td>
<td>190</td>
<td>231</td>
</tr>
<tr>
<td>Huangshi</td>
<td>439</td>
<td>448</td>
<td>611</td>
<td>637</td>
<td>417</td>
<td>445</td>
<td>289</td>
<td>299</td>
</tr>
<tr>
<td>Xiaogan</td>
<td>395</td>
<td>403</td>
<td>542</td>
<td>556</td>
<td>397</td>
<td>406</td>
<td>245</td>
<td>247</td>
</tr>
<tr>
<td>Average</td>
<td>685.11</td>
<td>751.78</td>
<td>1183.33</td>
<td>1342.22</td>
<td>652.78</td>
<td>711.56</td>
<td>310.89</td>
<td>329.11</td>
</tr>
</tbody>
</table>

Note: Wuhan and Huangshi City, which are included in the national urban land price monitoring system, their integrated land price is calculated in weighted average method. Other 7 cities use the arithmetic mean method.

Table 4 Land price growth rate of *Wuhan Urban Agglomeration* (2008) Unit: %

<table>
<thead>
<tr>
<th>City</th>
<th>Integrated</th>
<th>Commercial</th>
<th>Residential</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wuhan</td>
<td>5.65</td>
<td>12.45</td>
<td>2.17</td>
<td>7.75</td>
</tr>
<tr>
<td>Huanggang</td>
<td>44.94</td>
<td>45.82</td>
<td>62.86</td>
<td>15.07</td>
</tr>
<tr>
<td>Xianning</td>
<td>63.03</td>
<td>76.99</td>
<td>69.70</td>
<td>21.58</td>
</tr>
<tr>
<td>E’zhou</td>
<td>3.63</td>
<td>3.71</td>
<td>5.93</td>
<td>0.50</td>
</tr>
<tr>
<td>Xiaogan</td>
<td>2.03</td>
<td>2.58</td>
<td>2.27</td>
<td>0.82</td>
</tr>
<tr>
<td>Tianmen</td>
<td>3.94</td>
<td>3.53</td>
<td>5.37</td>
<td>4.13</td>
</tr>
<tr>
<td>Qianjiang</td>
<td>3.85</td>
<td>0.91</td>
<td>10.39</td>
<td>3.73</td>
</tr>
<tr>
<td>Huangshi</td>
<td>2.05</td>
<td>4.26</td>
<td>6.71</td>
<td>3.46</td>
</tr>
<tr>
<td>Xiantao</td>
<td>-2.09</td>
<td>4.30</td>
<td>-8.50</td>
<td>-0.85</td>
</tr>
<tr>
<td>Average</td>
<td>9.73</td>
<td>13.43</td>
<td>9.00</td>
<td>5.86</td>
</tr>
</tbody>
</table>

Note: The growth rate is compared to 2007.


Table 3 and Table 4 show that, in 2008, *Wuhan City* have the highest integrated land price in this economic region, followed by *Tianmen and E’zhou City*. The lowest integrated land price exists in *Xiaogan City*, which is 403 yuan/m². Then the highest growth rate of integrated land price appears in *Xianning City*, up to 63.03%. Influenced by the decrease of residential and industrial land use, the integrated land price of *Xiantao City* has negative growth, which is -2.09%. Then except for *Wuhan City*, *Tianmen City* has the highest commercial land price, about 1437 yuan/m² but *Xiaogan City* has the lowest, only 556 yuan/m². The highest growth rate is in *Xianning City*, up to 75.99%, followed by *Huanggang City*, with the growth rate of 45.82%. However, *Qianjiang City* has the lowest growth rate, which is only 0.91%. For residential land price, *Wuhan City* has the highest price, followed by *Huanggang City*, with the price of 684 yuan/m². Though the residential land price of *Xianning City*...
City is the lowest, only 336 yuan/m², it has the highest growth rate when compared to year 2007, rising about 69.07%. The same thing happen in industrial land price, Xianning City again has the lowest industrial land price but with the highest growth rate.

### 4.2.2 Status of commercial real estate market

#### 4.2.2.1 Real estate development and investment

Data from Statistic Bureau of Hubei Province indicate that, in 2008, the real estate investment amount of the whole province is about 89.267 billion yuan, which have increased 23.34%. And the real estate investment amount of Wuhan Urban Agglomeration is 68.778 billion yuan, accounting for 77.05% of the whole provincial one, obviously occupying the leading position in real estate development throughout the province.

Shown in Figure 8, in 2008, real estate investment amount have increased in sub-cities in Wuhan Urban Agglomeration, but the growth rate have run back. The top three with the highest real estate investment are Wuhan City, Xiaogan City and Huanggang City, and the amount is respectively: 57.036 billion yuan, 2.786 billion yuan and 2.74 billion yuan. The lowest investment is in Qianjiang City, with the amount of 276 million yuan. The real estate investment amount of Wuhan City is 4.86 times of the total amounts of other 8 cities, 20 times of Xiaogan City, which is the top 2, and it is 207 times of Qianjiang City, which is the lowest. Thus, there is wide real estate investment gap among the cities in the circle. Wuhan City occupies the absolutely dominant position, with the maximum adsorption capacity.

![Figure 8](image-url)  
Real estate investment of Wuhan Urban Agglomeration (2007-2008)  
Unit: 100 million yuan

Data resource: Real Estate Management Bureau of different cities in Wuhan Urban Agglomeration.

From sub-annual perspective, the amount invested in real estate development in the 9 cities of Wuhan Urban Agglomeration all have increased in different degrees when compared to 2007. Qianjiang, Tianmen and Xiantao City have the most prominent increase rate as these three cities have a very low real estate investment base. For example, the increase rate of Qianjiang City in 2008 is 91.67%, the top of the city.
circle, followed by *Xiantao City*, with a growth rate of 73.22%. Then the growth rates of other 6 cities all have drawn back in different extent. Among them, the growth rate of *Huanggang City* drops 74.25%, followed by *Xianning City*, 64.05%.

### 4.2.2.2 Supply of commercial properties

In general, in 2007 and 2008, the real estate market supply of *Wuhan Urban Agglomeration* is adequate, but developers become more cautious on investment. Real estate development and pace of progress slow down. There is less completion areas because less new construction is started.

1) Construction area of commercial real estate

From 2007 to 2008, the total construction of commercial real estate area of *Wuhan Urban Agglomeration* is 9165.76 hectare, in which, 4945.10 hectare construction areas are started in year 2008. The construction area of 2008 has increased only 17.16% when compared to 2007.

Under the double impact of international financial crisis and state real estate adjustment, real estate developers become more and more cautious, the total and new construction area both are controlled. Some developers in this economic circle get the land slice into small blocks and develop them in different time to reduce risk and cost. Also they will adjust the construction progress based on market sales.

Shown in Figure 9, in 2008, *Wuhan, Huanggang* and *Xianning City* are the top three cities with the most construction area, and the amount is: 3,798.1 hectare, 277.67 hectare and 230.8 hectare. The construction area of *Qianjiang City* is 24.37 hectare, which is the lowest in *Wuhan Urban Agglomeration*. All cities in this city circle show a different magnitude of positive increase of commercial real estate construction area except *Xiaogan City*, which have a negative growth. And *Tianmen City* have an unbelievable increase, as compared to 2007, its construction area has increased 252.02% due to its low base in 2007.

![Construction area of commercial real estate in Wuhan Urban Agglomeration](chart)

**Figure 9** Construction area of commercial real estate in *Wuhan Urban Agglomeration*  Unit: hectare

2) Completed area of commercial real estate

From 2007 to 2008, the total completed area of commercial real estate in *Wuhan*
**Urban Agglomeration** is 2926.92 hectare, in which 1518.89 hectare is completed in 2007 and the left 1408.03 hectare is completed in 2008, which have decreased 7.30%.

**Figure 10** Completed area of commercial real estate area of **Wuhan Urban Agglomeration**

Data resource: Real Estate Management Bureau of different cities in Wuhan Urban Agglomeration

Note: 1 hectare = 10000 square meters

As Figure 10 shows, in 2008, **Wuhan**, **Huanggang** and **Xiaogan City** respectively completes 869.83 hectare, 118.32 hectare meters and 107.50 hectare meters, listing the top 3 in the whole **Wuhan Urban Agglomeration**. Other cities like **Xianning** and **Huangshi City** have similar complete area. The complete commercial real estate area of **Tianmen City** is only 5.55 hectare meters, equivalent to only 6.38% of **Wuhan City**.

Blocked by the real estate sales, slower recovery of investment and uncertainty on future market, real estate developers all begin to reduce their investment and slow down the construction pace. In 2008, except **E’zhou**, **Xiantao** and **Qianjiang City**, other cities of **Wuhan Urban Agglomeration** all have different degrees of decline in complete areas. Among them, the decline of **Tianmen City** is the biggest, fell as much as 28.57% of the complete areas.

3) Sales of commercial real estate
   a. Sales area

   Broadly consistent with the national real estate sales trends, in 2007 and 2008, housing market of **Wuhan Urban Agglomeration** changes through the peak to the trough. Shown in Figure 11, in 2008, the total sales area of commercial real estate is 1235.58 hectare meters, with a decrease of 553.72 hectare meters. Other cities also have declined sales area except **Qianjiang** and **Tianmen City**, which have slight increase. **Xiaogan** and **Wuhan City** have the sharpest declines in sales of commercial space; they respectively decline 38.05% and 35.52%.  

26
b. Sales price

Except for Huanggang, Tianmen and Qianjiang City, the commercial real estate’s sales price of the other 6 cities in this city circle all decline, in which, the largest decline is in Wuhan City, up to 29.47%. Figure 11 shows, the sales price of Wuhan city is much more higher than other cities in this region, for example, in 2008, the commercial real estate sales price (37.687 billion yuan) is 25.24 times of the sales price of Xiaogan City (1.495 billion yuan), 47.29 times of the sales price of E’zhou City (0.797 billion yuan) and even 285.51 times of that of Qianjiang City (0.132 billion yuan).

In general, the overall commercial real estate sales in Wuhan Urban Agglomeration is mixed, some cities have rising sales meanwhile others have decreasing ones. For example, the sales of Huanggang, Tianmen and Qianjiang City all increase and the yearly growth rate of Tianmen and Qianjiang City are more than 40%. On the other hand, the commercial housing sales of Wuhan City drop as much as 29.47%, which is the biggest decline in the city circle. Other cities fell in range between 1%- 30%.

In 2007, based on the rapid economic development, stable social situation, people’s living standards gradually rises, at the same time, the disposable income increase a lot, and the rigid needs for comfortable housing make the unit real estate price of Wuhan Urban Agglomeration have the most and fastest increase. Meanwhile, impacted by the rocketed housing price, many developers stock a considerable part of housing to wait
and see, they cover their houses for sale and bid up prices, leading to significantly increase of unit housing prices. Although most cities in Wuhan Urban Agglomeration suffer real estate adjustment, the main impact is on real estate investment and sales. For unit housing sales price, the impact mainly reflects on the slowdown of growth rate. As shown in Figure 13, the unit housing prices of the total 9 cities in Wuhan Urban Agglomeration are all on upward trend. Among them, Tianmen, Huanggang and Xiaogan City are the top 3 to have the highest growth rates; those are 35.76%, 28.45% and 21.47%. E’zhou City has the lowest increase over the previous year, only 1.67%.

Figure 13 Average unit housing price of Wuhan Urban Agglomeration
Unit: yuan

<table>
<thead>
<tr>
<th>City</th>
<th>Average Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wuhan City</td>
<td>1093</td>
</tr>
<tr>
<td>Henggan City</td>
<td>873</td>
</tr>
<tr>
<td>Huangshi City</td>
<td>1291</td>
</tr>
<tr>
<td>Huanggang City</td>
<td>1635</td>
</tr>
<tr>
<td>Xianning City</td>
<td>1852</td>
</tr>
<tr>
<td>E’zhou City</td>
<td>1127</td>
</tr>
<tr>
<td>Xiantao City</td>
<td>1564</td>
</tr>
<tr>
<td>Tianmen City</td>
<td>2695</td>
</tr>
<tr>
<td>Qianjiang City</td>
<td>2871</td>
</tr>
</tbody>
</table>

Date resource: Real Estate Management Bureau of different cities in Wuhan Urban Agglomeration

c. Conclusion of supply and demand of commercial housing market
As shown in Figure 14, excluding stock houses carried over from previous years, taking only construction and completed area into consideration, there are only four cities in Wuhan Urban Agglomeration have housing sales area larger than housing completed area, the overall real estate housing sales is too optimistic. The other five cities’ housing supply is larger than housing demand, there have been varying degrees of slow moving state on housing sales, and E’zhou, Xianning and Xiaogan are the top three prominent cities of this performance. There is prominent contradiction of housing supply and housing demand in these three cities. This imbalance situation in Wuhan and Huangshi City is relatively light. In 2009, the government supplies a heavy volume of economically affordable housing, which reduces the low-income groups’ consumption of commercial housing. In general, in short time, the housing supply is greater than housing demand, together with the increase of vacant space, the balance of housing supply and demand is not very optimistic.

Figure 14 Completed area and sales area comparison of commercial real estate market of Wuhan Urban Agglomeration (2008)
Unit: hectare
4.2.2.3 Real estate consumption feature

1) Consuming groups
In consideration of geography convenience, in any city, local residents should be the main force in the city to buy a house. Up to now, according to the relevant data show that the local city citizen is still the main consumption power in the nine cities of Wuhan Urban Agglomeration. However, with rapid construction of transportation system in Wuhan Urban Agglomeration, the proportion of home buyers across different cities will gradually increase. And with the formation of “one-house commuter circle”, the proportion of home ownership across the region will have periodically rapid growth. For example, in 2008, the proportion of home buyers in the province accounts for 25% of its total sales, the proportion of other local residents increased by more than 0.23% in 2007\textsuperscript{10}.

2) Property characteristic
Since the housing reform in 1998, the multi-storey housing within 10 floors accounts for the mainstream market for more than 10 years, and is still being seen as the most comfortable type of residence, it maintains the market attention so far. In particular, the other eight cities in Wuhan Urban Agglomeration, not like Wuhan City, their urbanization level and real estate market is relatively in low maturity. Consumers in these cities resist on high-storey properties, instead, they still prefer multi-storey buildings not only because of high property management fee but also the large pooled area of high-storey buildings.

With the acceleration of urbanization and industrialization process of Wuhan Urban Agglomeration, a large number of agricultural populations pour into the urban area. Limited land and increasing housing demand determine that the real estate developers should try their best to improve land use efficiency. There is the inevitable trend for the real estate developers in this city circle to build more high-storey buildings. From statistic data in these nine cities, the supply of high-storey buildings is gradually rising. For example, in 2007, the high-storey buildings account for 82.84%\textsuperscript{11} of the total new supply.

\textsuperscript{10} Data resource: Wuhan Real Estate Management Bureau
\textsuperscript{11} Data resource: Wuhan Real Estate Management Bureau
5. Regional status of Real Estate development in each city among Wuhan Urban Agglomeration of year 2007 and 2008

5.1 Real estate development of Wuhan central districts

Wuhan City is the capital city of Hubei Province, also it is the biggest and center city in the central China. The world’s third longest river Yangtze River and its tributary run through the urban area. Wuhan City is the important industrial base, science and technology base and integrated transport hub of China. Now the area of Wuhan City is about 8,494 square kilometers, accounting for 4.6% for the area in Hubei Province. To the end of 2009, the city’s permanent population is 9.1 million, of which urban population is 5.37 million. Nowadays, there exist 13 districts in Wuhan City, including Jiangan District, Jianghan District, Qiaokou District, Hanyang District, Wuchang district, Hongshan District, Qingshan District for the urban area (seven, all located within the Third Ring), East and West Lake District, Caidian District, Jiangxia District, Huangpi District, Xinzhou District and Hannan District for the suburban area (six, all located outside the Third Ring)\(^{12}\). Because of conditions limited, there is no way to obtain the outskirts’ data of Wuhan City in 2007-2008, so here only have economic analysis of seven urban areas of Wuhan City.

In recent years, with the rapid socio-economic development and the greatly improved living standards, people have great desire to improve living conditions, and the demand for housing is gradually released. In 2007, in the central districts of Wuhan, the real estate market is booming out of supply and demand, housing demand is rapidly released in a short time, which brings sustained and rapid house price increase, thereby affecting the buyers mental expectations, leading them to follow the trend of housing buying, creating another more market demand, which in turn then exacerbated the price increase. In the end of 2007, in order to curb the irrational housing price rising, the national and Wuhan municipal government issued a series of tight monetary policy, making the annual growth rate of housing price leveling off, people become calm and wait. In 2008, as infected by U.S. subprime mortgage crisis, on one hand, some buyers are frustrated by the whole market, on the other hand, a large part of investors and public funds are stuck in the stock market, people have not enough funds to buy houses. These reasons make the real estate market of Wuhan central districts rapidly cool down; commercial housing turnover has shown a significant decline. In the second half of 2008, stimulated by a lot of government policies to expand domestic consuming, there is a slight callback of housing demand, but the overall downward trend has not changed. While the buyers have the mentality to wait and see, the real estate investment of Wuhan central districts is still rising in 2007 and 2008. Figure 15 shows, in 2007, Wuhan central districts have a total real estate investment of 29.398 billion yuan, the average increase is 22.64%. Then in 2008 this number reached 36.621 billion yuan, increase 24.57% than 2007. Market

---

\(^{12}\) Data resource: [http://baike.baidu.com/view/1267.htm](http://baike.baidu.com/view/1267.htm)
downturn does not seem to affect the real estate developers in Wuhan central districts to invest.

Figure 15    Real estate investment of *Wuhan* central districts (2007-2008)

Unit: 100 million *yuan*

Data resource: Wuhan City Statistic Bureau

In 2007 and 2008, there is a substantial fluctuation in housing turnover volume. For example, in 2006, sales of commercial property in *Wuhan* central districts are 960.88 hectare, and in 2007, the sales increase 174.53 hectare meters more than 2006. But market decline in 2008 as the sales volume is only 626.62 hectare meters, decreased 44.81%\(^{13}\).

In 2007 and 2008, the average unit housing price in *Wuhan* central districts is respectively 4,706.26 *yuan/m\(^2\) and 5,148.13 *yuan/m\(^2\). As shown in Figure 15, the average unit housing price in *Wuhan* central shows a continuous growth quarter by quarter, with increases of 5.19%, 10.88%, 23.01% and 36.57%. From the first quarter of 2008, the unit housing price drops slightly, but the price rebound in the second quarter. From the third quarter to fourth quarter, the selling price drops one after another, and the price fall 12.41% in the fourth quarter. Viewing from different unit sales price, in 2007 and 2008, the total houses sold in *Wuhan* central districts are 77,436 sets and 42,334 sets, in which, 17,656 sets of houses are sold above the unit price of 6,000 *yuan/m\(^2\), accounting for 22.80% of the total turnover. The second favorite unit price is 4,000-5,000 *yuan/m\(^2\), with total sets of 16,935 houses, accounting for 21.87% of the total turnover. And the houses sold with the unit price between 5,000-6,000 *yuan/m\(^2\) are 15,022 sets, and unit price under 3,000 *yuan/m\(^2\) are 11,417 units, they two respectively account for 19.40% and 14.74% of the total turnover. (See Figure 16)

---

\(^{13}\) Data resource: Wuhan City Real Estate Management Bureau
5.2 Real estate development of Huangshi City

Huangshi City is located in the southeast of Hubei Province; it’s the second largest city in this province. The total area of Huangshi City is 4,583 square kilometers, with a total population of 2.55 million. Huangshi City is 79 kilometers away from Wuhan City; this city has been inextricably linked with Wuhan City in the economic and social life. Recent years, the real estate investment amount of Huangshi City increase year by year, but the growth shows a decline trend when it peak in 2006. According to data got from Huangshi City Statistic Bureau and the information networks for residential and real estate, from 2005 to 2008, the real estate investment of Huangshi city is 1.133 billion yuan, 1.696 billion yuan, 1.96 billion yuan and 2.153 billion yuan, the increase rate is respectively 48.30%, 49.69%, 15.57% and 9.85%. Although the total investment has maintained modest growth, the gains began to decline since 2007. Obviously, real estate developers in Huangshi City are affected by the external economic environment of 2007 and 2008.

---

14 Data resource: Huangshi City Statistic Bureau
Data from *Huangshi Real Estate Management Bureau* shows that, in 2007 in *Huangshi City*, the housing construction area is 114.95 hectare meters; the number is 132.17 hectare meters in 2008, which have increased 14.98% when compared together. Then the completed housing area of 2007 is 103.72 hectare meters, in 2008, this city totally completed housing area of 102.3 hectare, about 1.37% lower than 2007. There is slight down in completed housing area, together with the slowing down of commercial housing development pace.

Figure 18   Construction area and completed area of *Huangshi City* (2007-2008)

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction Area</th>
<th>Completed Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>114.95</td>
<td>103.72</td>
</tr>
<tr>
<td>2008</td>
<td>132.17</td>
<td>102.3</td>
</tr>
</tbody>
</table>

Data resource: Huangshi City Real Estate Management Bureau

| Note: 1 hectare=10000 square meters |

Like the development track of real estate market in many other cities in China, the real estate market of *Huangshi City* enters into a rapid development. In 2007, real estate sales area is 118.27 hectare meters, which is 18.78% more than 2006. Sales velocity is acceleration. In 2008, there is lack of housing buyers in *Huangshi City* because of the national real estate control. For example, the housing sales area is only 89.12 hectare meters, with a decline of 24.65%. Although there is still some rigid demand existing in the housing market of *Huangshi City*, and the residents’ disposable income level also grow rapid, there is still wide gad between house price and the too swiftly increased housing prices, the sales situation is serious. Influenced by lengthening of sales cycle, there has been relatively high growth on housing vacancy rate in *Huangshi City*. In 2007, the vacant housing area is 7.12 hectare meters\(^{15}\).

In 2007 and 2008, in *Huangshi City*, commercial housing sales are 2.289 billion yuan and 1.936 billion yuan. Among them, commercial housing sales in 2007 rises about 44.51%. However, sales decline 15.42% in 2008. For unit sales price, the overall average selling price of real estate in 2007 is 2,694.54 yuan/m\(^2\), the unit price increase into 2,871.21 yuan/m\(^2\) in 2008\(^{16}\). Unit sales price increases a little in 2008.

\(^{15}\) Data resource: Huangshi City Real Estate Management Bureau

\(^{16}\) Data resource: Huangshi City Real Estate Management Bureau

33
5.3 Real estate development of Xiaogan City

Xiaogan City locates in the northeast of Hubei Province, and the north of Wuhan City. It is the nearest central city distance from Wuhan. The current total area of this city is 8,910 square kilometers, with a total population of 5.06 million\(^{17}\).

In 2007 and 2008, by taking the advantages of the acceleration construction of Wuhan Urban Agglomeration and the improvement of transport condition, real estate investment of Xiaogan City increases a lot. But the growth rate fall a bit in 2008. For instance, in 2004, the real estate investment is only 0.66 billion yuan, in 2008, this amount increase to 2.786 billion yuan. In these five years, the average annual increase is up to 80.50%, in which, the annual growth rate for 2007 is 52.22%, and the growth rate in 2008 is only 17.85%. It is obvious that though the total real estate investment maintain grow, there is a substantial decline on increase pace in 2008.

Figure 19    Real estate investment of Xiaogan City    Unit: 100 million yuan

Data resource: Xiaogan City Statistic Bureau, Xiaogan City Real Estate Management Bureau

Figure 20 shows, from 2004 to 2008, commercial housing construction area and sales area have synchronous growth. But in 2004 and 2005, the real estate sales pace is relatively low, the market supply is adequate. From 2006, the completed areas and sales areas both double, real estate sales significantly accelerate, sales areas become larger than the completed areas, the commercial real estate market of Xiaogan City appears short supply in a short period of time.

\(^{17}\) Data resource: Xiaogan City Statistic Bureau
In 2007, the completed commercial housing areas are 124 hectare meters and the sales areas are 121.4 hectare meters, the sales of commercial housing almost equal to the completed commercial housing areas, the supply and demand become a kind of balance. And in that year, the construction areas are 215 hectare meters. Things change in 2008 as the construction areas, completed areas and sales areas all have large drop, the supply in the housing market is absolutely larger the demand. In which, the completed areas is 107.5 hectare meters, but the sales areas is only 75.2 hectare meters. Compared to 2007, the completed areas decrease by 13.31% and the sales areas decline 38.06%.

Although sales areas decline, the selling price of commercial housing in Xiaogan City has been on the rise and rise faster. In 2006, the average sales price of commercial housing in Xiaogan City is only 1,157.8 yuan/m², in 2007, the price rapidly increase into 1,635 yuan/m², the price increased about 41.22%. Then in 2008, the price goes even higher to 1,986 yuan/m², increase another 21.47% since 2007. From the above data we can analyze that in 2007, the commercial housing sales price of Xiaogan City increases considerably, and in 2008 sales prices of commercial property continue to maintain growth momentum, but the growth rate is significantly down.

In 2007 and 2008, the local residents account for 89.41% of the housing buyers of Xiaogan City. Residents from Wuhan City account for 4.28%, citizens from other regions of this province account for 3.17%. More information we can see that the proportion of purchasing from local residents in Xiaogan City account for 2/3.

5.4 Real estate development of E’zhou City
E’zhou City locates in the east of Hubei Province, which is an important part of Wuhan Urban Agglomeration as it is the connection of Wuhan to other prosperous cities like Shanghai. The total area of the city is 1,504 square kilometers, with the
total population of 1.07 million.\textsuperscript{19}

From 2004 to 2008, \textit{E’zhou City}’s investment in real estate development is respectively 415 million \textit{yuan}, 606 million \textit{yuan}, 784 million \textit{yuan}, 940 million \textit{yuan} and 1.079 billion \textit{yuan}, the annual average growth rate reaches 40%. With the growth in total investment base, the real estate investment growth rate declines year by year though total investment increases yearly. See Figure 21. The total growth rate is only 14.79\%, it is a rare growth rate in recent years. Reduce in real estate investment has greatly inhibited consumption of building materials, appliance and furniture.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure21}
\caption{Real estate investment of \textit{E’zhou City}}
\end{figure}

\begin{tabular}{c|c|c|c|c|c}
\hline
\hline
Investment (\textit{yuan}) & 4.15 & 6.06 & 7.84 & 9.4 & 10.79 \\
Growth rate (\%) & 40.43 & 28.67 & 19.89 & 14.79 & 0.00 \\
\hline
\end{tabular}

Data resource: \textit{E’zhou City} Real Estate Management Bureau

From 2004, the construction areas of commercial housing increase every year, but the completed areas are relatively small, the development has been slow. For example, in 2007, the commercial housing’s construction area is 120.7 hectare, but the completed area of that year is only 42.3 hectare meters. In 2008 the construction area increases to 162.75 hectare meters, with a growth rate of 34.84\%, but again the completed area is only 67.5 hectare meters, accounting for only 41.47\% of the construction area.

These years, the commercial housing sales area has risen markedly. Real estate sales hit the highest sales in 2007, with a total sales area of 58.03 hectare meters, increased 26.48\%. In 2008, sales area of commercial property drop significantly, with a drop of 25\%. We can see that the real estate market of \textit{E’zhou City} is heavily influenced by the external environment. At the same time, as the house prices rise rapidly in 2007, which overdrafts a part of consumer demand ahead, commercial housing sales pressure increases and sales cycle extends. From 2005 to 2008, there is large variation in vacant area of commercial housing in \textit{E’zhou City}. As shown in Figure 21, in 2005, vacant area in commercial housing is 13.2 hectare meters, which is the highest vacancy in these four years. With the heating up of real estate market and the acceleration selling progress, in 2006 and 2007, the vacant area of commercial housing become smaller and smaller year by year, the vacancy drops 62.71\% in 2007, showing a high occupancy rate of commodity. But in 2008, there is another significantly increases in housing stock, sales again slow down. When compared with

\textsuperscript{19} Data resource: \textit{E’zhou City} Statistic Bureau

36
2007, the vacancy rate increases 336.36%, with the highest increase rate of these years.

Figure 22 Construction areas, completed areas, sales areas and vacant areas of commercial housing in E’zhou City

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction areas</th>
<th>Completed areas</th>
<th>Sales areas</th>
<th>Vacant areas</th>
<th>Growth rate of construction areas</th>
<th>Growth rate of completed areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>94</td>
<td>46.2</td>
<td>41.35</td>
<td>13.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2006</td>
<td>104.7</td>
<td>38.4</td>
<td>45.88</td>
<td>5.9</td>
<td>11.38%</td>
<td>-16.88%</td>
</tr>
<tr>
<td>2007</td>
<td>120.7</td>
<td>42.3</td>
<td>58.03</td>
<td>2.2</td>
<td>15.28%</td>
<td>10.16%</td>
</tr>
<tr>
<td>2008</td>
<td>162.75</td>
<td>67.5</td>
<td>42.35</td>
<td>9.6</td>
<td>34.84%</td>
<td>34.84%</td>
</tr>
</tbody>
</table>

Data resource: E’zhou City Statistic Bureau and E’zhou City Real Estate Management Bureau

Note: 1 hectare = 10000 square meters

In sales, in 2007, the total sales of commercial housing are 1.276 billion yuan, the amount increase 142.13% when compared to 2006. The amount drops to 0.797 billion yuan in 2008, with the decline rate of 37.54%. In unit sales price, the average unit commercial housing price is 1,258 yuan/m² in 2005, and it rise to 1,883 yuan/m² in 2008, with an average annual growth rate of 16.56%. In 2007, the unit price is 1,852 yuan/m², increased 59.11% from the previous year. When analyzing the reasons for rising housing prices, in addition to macroeconomic factors like the increase of disposable income and improvement of transport system, land price increasing and immigrants from other regions are also reasons to promote the high housing price. These years, the E’zhou government uses the regular market tools to allocate limited land resources, land cost is obviously increased. With the increase in land prices, real estate developers also gradually increase the volume ratio in a project, small high-rise and high-rise buildings become the mainstream of housing market, which directly form a strong pull to commercial housing price. However in 2008, within all the sales, about 20% are bought by residents from other cities, for instance, Wuhan and Huang City. Though the growth rate of unit housing price drops in 2008, the drop is relatively limited because the communication between these two cities is accelerating after they all enter Wuhan Urban Agglomeration.

Data resource: E’zhou City Real Estate Management Bureau

---

20 Data resource: E’zhou City Real Estate Management Bureau
5.5 Real estate development of Xianning City

Xianning City is located in the south of Hubei Province. Its total area is 9,861 square kilometers, with the second largest area in Wuhan Urban Agglomeration, and the total population is 2.8681 million. As the south open window of Hubei Province, Xianning City has crucial role in Wuhan Urban Agglomeration.

With the policy support in Xianning City, as well as improvement of the urban infrastructure, real estate market in Xianning City is activated. Till 2008, there are total 151 real estate companies in Xianning City. Because of its strategic location in Wuhan Urban Agglomeration, it attracts many real estate developers from other provinces to invest. With the entrance of these companies, not only the overall strength for real estate market in Xianning has been improved, but also the whole real estate market in Xianning has been strongly driven. At the same time, the construction quality of commercial properties is also improved.

According to Figure 24, from 2004 to 2008, the growth in real estate investment in Xianning City is jump-style, in which, the highest increase in recent years is in 2006, increased for 107.37%. Beginning from 2007, the growth begins to decline. According to the real estate industry practice, if a city has a higher degree in the real estate market, the real estate industry should at least account for 15% of the total fixed assets investment of that city. For Xianning City, the proportion has risen from 7.59% in 2006 to 10.55% in 2007. Though the contribution for the overall fixed asset investment is increasing, the proportion is still low, and with the drop of real estate investment growth, the proportion also begins to decline. But in the long run, real estate is becoming a crucial industry in Xianning City, there is huge potential for real estate investment.

---

21 Data resource: Xianning City Statistic Bureau
22 Data resource: Xianning City Real Estate Management Bureau
From 2004 to 2008, there is continuous growing of the commercial housing construction, which, in 2005, the commercial housing construction area of Xianning City is only 72.1 hectare meters, and it grows to 133.9 hectare in 2006, with a growth rate of 85.71% to achieve the growth by leaps and bounds. In 2007, the construction area is 228.01 hectare meters, maintaining a high growth rate. With the economic downturn in 2008, in Xianning City, under the influence of the significant slowdown in sales of commercial property, as well as the increased number of commercial houses reserved from the previous two years, developers in Xianning City face tight funding situation, they also significantly slow down the construction progress. The construction area of 2008 is 230.8 hectare meters, with an increase rate of only 1.22%, obviously down compared with previous year.
However at the same time, the sales area in commercial real estate market also shows a rapid growth trend. In 2007, the completed area is the highest. In 2008, with a drop rate of 25.36%, the completed area of commercial houses in Xianning City first decline since 2003. From Figure 23, it is no difficult to see that year 2005 and 2006 are a stage of rapid development of real estate industry in Xianning City. In 2006, the sales areas of commercial properties grow more than 100%, with a sales area of 77.37 hectare meters. In 2007, the sales area grows to 97.78 hectare meters, grown by 20.23%. But in 2008 the sales area of commercial housing is only 71.26%, declined by 27.12%. In addition, the commercial houses in Xianning City is relatively big, in a certain extent, it restricts the market purchasing power, also resulting in slower real estate sales in Xianning City. When comparing the completed areas and sales areas of commercial houses in Xianning City; it is clear that the completed areas are larger than the sales areas, it means the real estate market in Xianning City is in excess of housing supply.

In Xianning City, the average selling price of commodity housing also rises year by year. From 2004 to 2008, the average annual increase is 44.74%. Among them, in 2007, the average unit price for the sales of commercial properties in Xianning City is 1,291 yuan/m², increased by 15.99%, and in 2008 the unit price of real estate sales is 1,590 yuan/m², with an increase of 23.16%. Compared to 2004, the average unit selling price has risen 178.95%.

The main housing purchasing power in Xianning City is subject to local residents, accounting for 86% of the total commercial housing sales. With the open of high-speed railway from Wuhan City to Guangzhou City, it costs only 15 minutes to Xianning City, because of this, some residents from Wuhan City is another small amount of commercial housing purchasing power in Xianning City.

5.6 Real estate development of Huanggang City
Huanggang City locates in the east of Hubei Province, with a total area of 17446 hectare meters, with the largest territory in Wuhan Urban Agglomeration, which represents 30% of the total areas in Wuhan Urban Agglomeration. The city’s total population is 7.3098 million. The population is only less than Wuhan City in Wuhan Urban Agglomeration, accounting for 24% of the whole city circle. Huanggang City is the connecting channel and port of Wuhan Urban Agglomeration and East China; it plays a decisive role in Wuhan Urban Agglomeration.
Since 2005, the real estate investment in Huanggang City continues to grow rapidly, but the growth rate fluctuates. From 2005 to 2008, the growth rate is respectively 158.69%, 34.03%, 91.7% and 17.45% (see Figure 26 below). According to “Huanggang City National Economic and Social Statistic Report of 2007”, the total real estate investment in 2007 is 2.333 billion yuan. The total investment rose to 2.74 billion yuan in 2008, but the increase is significantly declined.

Figure 26  Real Estate Investment of Huanggang City  Unit: 100 million yuan


In 2007, there is an increase in the size of commercial housing construction in Huanggang City, construction progress has accelerated. In which, the construction area of commercial housing in Huanggang City is 272.74 hectare meters. The construction progress is a little slowing down in 2008, with a construction area of 277.67 hectare meter, increased only 1.81%. In 2007, the completed area in Huanggang City’s commercial real estate market is 139.86 hectare meters. The completed area reduced by 15.4% in 2008, and is declined to 118.32 hectare meters. The slowdown in real estate construction and the reduction of construction area is the main caused of the decline of completed areas. Subject to the impact of national macro-economic weakness, real estate companies in Huanggang City slow down the pace of investment, which leads to significantly decline in new construction areas. In 2008, the new construction area of Huanggang City is 160.49 hectare meters, which has declined by 16.30%. To some extent, the slide of new construction area will influence the latter rapid development in property market in Huanggang City.
From Figure 27 we can see, in 2007 and 2008 the sales areas of commercial properties in Huanggang City increase year by year. In which, in 2007, the sales area of commercial real estate is 154.87 hectare meters, which has increased by 78.30%. Then in 2008, the sales area is 127.58 hectare meters, which has decreased by 17.62%. Comparing with the completed areas and sales areas in Figure 26 we can conclude that in 2007 and 2008, in Huanggang City, the sales areas of commercial properties are slightly more than the completed areas, there is balance in housing supply and demand.

In 2007, the average unit selling price of commercial properties in Huanggang City is 1,093.17 yuan/m². Though the unit house price has increased a lot when compared to previous year, it is still a bit low when compared with other cities in Wuhan Urban Agglomeration. In 2008, the average unit selling price grows into 1,404 yuan/m², with a growth rate of 28.43%.

5.7 Real estate development of Xiantao City
Xiantao City is located in the south of Wuhan Urban Agglomeration, which is 1 hour’s distance away from Wuhan City. The total area of Xiantao City is 2,538 square kilometers, with the total population of 1.4816 billion. Early in 2000, due to inadequate specification in land acquisition, use and management, real estate market in Xiantao is lagging behind. To 2003, the dispersion living pattern in Xiantao City has gradually transferred to residential living. People now have more demand on living environment, transport, medical care, children education and facilitation, new residential community becomes a focus of public concern. With the regulation of land transference, usage and the improvement of real estate industry, the real estate market in Xiantao City becomes increasingly active.

Data resource: Xiantao City Statistic Bureau
Figure 28 show, from 2003 to 2005, the real estate investment in *Xiantao City* maintain high growth except year 2005, but the investment growth fluctuates significantly, the increase rate ranges from -21.91% to 147.69%, the span is as much as 169.60%. The main reasons for this abnormal phenomenon can be attributed to the small base of real estate investment in *Xiantao City*, and real estate investment is largely impacted by urbanization and industrial levels.

Figure 28    Real estate investment of *Xiantao City*  

Unit: 100 million yuan

Data resource: Yearly Statistic Book of Hubei Province (2004-2007), the data of 2007 and 2008 comes from Xiantao City Real Estate Management Bureau

From 2005 to 2008, in *Xiantao City*, both the construction and completed area of commercial housing grow year by year. Within the four years, the total construction area of commercial housing increase 32.9 hectare meters, with a total increase of 138.2% and an average increase of 46.27%. Then the total completed area is 6.82 hectare meters, the average annual increase rate is 12.79%. From the annual growth rate we can know, while the construction area of commercial housing in *Xiantao City* maintain a rapid growth, the completed area keep a stable one. And the proportion of completed area to construction area decline year by year, for example, in 2005, the completed area accounts for 75.02% of the total construction area, in 2008, the proportion falls to 43.46%. There is wider and wider gap between construction area and completed area in real estate market of *Xiantao City*.

During these periods, except in 2006, the real estate sales in *Xiantao City* are stable. And the commercial housing sales in 2005 are the best since 2003, followed by the sales of year 2007. In 2008, affected by economic environment, sales of commercial property in *Xiantao City* slow down, and the sales area slightly decline.
Figure 29  Construction areas, completed areas and sales areas of Xiantao City

Unit: hectare

<table>
<thead>
<tr>
<th>Year</th>
<th>Construction areas</th>
<th>Completed areas</th>
<th>Sales areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>23.7</td>
<td>17.78</td>
<td>90.63</td>
</tr>
<tr>
<td>2006</td>
<td>27.51</td>
<td>19.43</td>
<td>50.68</td>
</tr>
<tr>
<td>2007</td>
<td>47.33</td>
<td>21.6</td>
<td>84.27</td>
</tr>
<tr>
<td>2008</td>
<td>56.6</td>
<td>24.6</td>
<td>76.03</td>
</tr>
</tbody>
</table>

Data resource: Xiantao City Real Estate Management Bureau
Note: 1 hectare = 10000 square meters

From 2005 to 2008, the unit sale price increase from 961.23 yuan/m² to 1,708.08 yuan/m², with an annual increase rate of 25.9%28.

5.8 Real estate development of Qianjiang City

Qianjiang City is located in the south-central of Hubei Province, and the west wing of Wuhan Urban Agglomeration. It is the metropolitan bridges connecting the western cities of Hubei Province and Wuhan Urban Agglomeration, with high economic and strategic role. The total area of this city is 2,004 square kilometers, with the total population of 1.0023 million29.

The real estate investment starts late in Qianjiang City, the total real estate investment is relatively small. As shown in Figure 30, the real estate investment of Qianjiang City keeps growth since 2004, in which, the increases in 2005 and 2008 are especially high, respectively reaching 168.75% and 91.67%. In 2008, the total real estate investment is 276 million yuan, marking its highest level since 2002, is 1.92 times of 2007.

Figure 30  Real estate investment of Qianjiang City  Unit: 100 million yuan

Data resource: Hubei Province Statistic Bureau
Data resource: Qianjiang City Statistic Bureau
In 2007, the construction area of commercial housing in *Qianjiang City* is 12.93 hectare meters, with the completed area of 5.47 hectare meters. In 2008 the construction area is 24.37 hectare meters and the completed area is 7.33 hectare meters. Compared with 2007, in 2008, both the construction and completed commercial housing areas grow, and respectively grow by 88.48% and 34%, the housing area significantly increase in the market. From 2004 to 2008, the commercial properties’ sales area states a U-style, with lower sales area between 2004 and 2006 and faster development between 2007 and 2008. In these two years, the residents’ purchasing power is improved, real estate market is gradually released, and real estate sales area gradually increases. Relatively to completed area, the housing market of *Qianjiang City* is in short supply in 2007 and 2008.

Figure 31  Construction areas, completed areas and sales areas of *Qianjiang City*

![Figure 31](image)

Data resource: Data of construction areas and completed areas comes from Qianjiang City Real Estate Management Bureau; data of sales areas comes from Xiaogan City Real Estate Management Bureau

In the meantime, commercial housing sales of *Qianjiang City* move up year by year. In 2007, the sales first rush to 100 million yuan, increased by 61.29%. In 2008, the commercial housing sales continue to maintain rapid growth, and it reaches 132 million yuan, as the highest sales in history. With the growth of sales, unit sales price is commercial property also grow fast, with an average annual growth of 36.5%. Specially, in 2007, the average selling price is 1,127 yuan/m², and it increases to 1,257 yuan/m² in 2008.

As the natural population growth rate of *Qianjiang City* is low, also there is less alien population; local residents are the main buying power in the real estate market. Because of its relatively backward economic base, the real estate market of *Qianjiang City* start later than other cities in *Wuhan Urban Agglomeration*, the purchasing power from other urban residents of *Wuhan Urban Agglomeration* is relatively small.
5.9 Real estate development of Tianmen City

Tianmen City is located in the hinterland of Hubei Province, the north of Wuhan Urban Agglomeration. Now the total area of the city is 2,622 square kilometers, with a population of 1.73 million. Tianmen City has strong acceptance and radiation abilities in Wuhan Urban Agglomeration, which makes the city an important city in Jianghan Plain.

After pouring into the Wuhan Urban Agglomeration, attracted by its optimistic future development, many real estate development enterprises enter into the real estate market of Tianmen City and invest a portion of real estate projects. To the end of 2008, there are a total of 31 real estate developers in Tianmen City, and half of these companies are from other regions, especially from Wuhan City and Zhejiang Province.

Real estate investment of Tianmen City volatiles a lot. Because of the later development, in 2004, real estate investment base is very small in Tianmen City. But in 2007, the real estate investment is 292 million yuan; in 2008 it increases to 427 million yuan, increases significantly by 46.23%.

Figure 32  Real estate investment of Tianmen City  Unit: 100 million yuan

From 2007 to 2008, construction area of commercial housing in Tianmen City rise significantly over the previous year, with an increase of 252.24%. But in this period, the completed area of commercial housing has decreased by 28.75%. The sales area of commercial housing increases slightly, with an increase of 4.18%. For instance, in 2007 the construction area is 13.59 hectare meters and it grows to 47.84 hectare meters. Then the completed areas of these two years are respectively 7.77 hectare meters and 5.55 hectare meters. In 2008, the completed area only accounts for 1/3 of the construction area. In the same years, the sales areas of commercial housing are 11.01 hectare meters and 11.47 hectare meters, the sales area is slightly larger than the

Data resource: Data from 2004 to 2007 comes from Hubei Province Statistic Bureau; data of 2008 comes from Xiaogan City Real Estate Management Bureau

30 Data resource: Tianmen City Statistic Bureau
completed area of commodity marketing\textsuperscript{31}.

Because the market supply is smaller than market demand, the real estate sales price of \textit{Tianmen City} increase rapidly in 2007 and 2008, in which, the average unit sales price of commercial property in Tianmen is 1,471 yuan/m\textsuperscript{2} and 1,997 yuan/m\textsuperscript{2}. The price has increased by 35.76\% when compared with the unit sales price of 2007\textsuperscript{32}.

\textsuperscript{31} Data resource: Xiaogan City Real Estate Management Bureau
\textsuperscript{32} Data resource: Xiaogan City Real Estate Management Bureau
6. Empirical analysis

Looking at macroeconomic data, in 2007 and 2008, after joining *Wuhan Urban Agglomeration*, there appears significant increase in GDP, fiscal revenue, fixed assets investment and residents’ disposable income in all the nine cities in this city circle. People’s living standard and living quality together with city landscape in these nine cities also have been improved a lot. But cities in *Wuhan Urban Agglomeration* have great differences and a gap in economic development level and pace. The opening up of these cities is uneven. As *Wuhan City* locates exactly in the middle of China, it is the key meeting point of both the north and south China and also the east and west China, so it is an important fulcrum of China. This leads to the good economic foundation with high level of economic development of *Wuhan City*. *Huangshi City* is the second prosperous city in *Wuhan Urban Agglomeration* based on good old industrial base. The economy of the other 7 cities is at the general level. In theory, no matter it is the central city or just surrounding areas, if the economic development gap is increasing steadily, it is very conducive to the coordinated development of the region. If the central city outshines other, more and more production resource will gradually gather to the central city, which will deprive the development opportunities of the surrounding areas, which in turn expand the economic development gap between the central city and surrounding areas more in the future. Similarly, if the development of different regions is lack of coordination, it will also impede the region’s overall economic development level.

By analyzing the data of real estate markets of the nine cities in *Wuhan Urban Agglomeration*, we can see that in the nine cities, real estate market all grow in abnormal speed, not only the construction areas, sales areas but also the property sales price increase dramatically. But in 2008, as the financial crisis of 2008 has deeper impact on entity economy, it is more difficult to get employment. People have lower income expectation, which leads to the cautious consumption on housing, there exist different levels of retention in real estate sales. From the end of 2007, the real estate consolidation starts from *Wuhan City* and then spreads to other cities in *Wuhan Urban Agglomeration*. There is strong atmosphere of waiting and seeing in the real estate market since then.

In 2007 and 2008, with the slow progress of the real estate market and declining sales area, different degrees of vacancy rate have increased in commercial housing market in some cities of *Wuhan Urban Agglomeration*. According to data from *Hubei Province* and *Wuhan City Statistic Bureau*, in *Wuhan City*, the vacancy rate of commercial houses in the first quarter of 2009 is 199 hectare meters, with an increase of 87.40%. In addition, commercial housing supply is still increasing in the nine cities in 2009. It needs more time to adjust the housing supply and demand in *Wuhan Urban Agglomeration*, inside cities like *Wuhan, Xiaogan* and *Xianning City* have very high commercial housing vacancy rates than other cites.

---

33 “There are 42000 commercial properties vacant in Wuhan City”, “Wuhan Night Paper”, October 19, 2008.
Large number of vacant and idle commercial housing not only wastes a lot of social resources, but also dampens the real estate developers’ investment desire, which brings negative impact on consumer demand and investment growth. These will lead to the shrinking of downstream industry relative to real estate industry, which in turn have negative impact on development of the whole economy.

In 2007 and 2008, subject to the downturn of real estate market and the tightening of credit funds, on one hand, funding sources of real estate companies become limited. In order to support development, some small and medium real estate enterprises even borrow high interest lending, the corporate financing costs increase sharply; on the other hand, the progress of real estate sales slow down, the sales cycle become longer, cash flow in real estate companies become tight, real estate developers have less confidence on the whole market. From the real estate market operation data we can see, from 2007 to 2008, there are different degrees of decline in real estate investment in the nine cities in Wuhan Urban Agglomeration, also the new construction areas and other indicators decline. Only the real estate investments in Qianjiang City, Tianman City and Xiantao City have prominent growth in this time due to their small investment base.

Since there is an obvious gap in the administrative level, economic development level, urbanization level and income level in the nine cities in Wuhan Urban Agglomeration, there exists huge gap in real estate industry between Wuhan City and other cities in this city circle. For example, in 2008, the real estate investment of Wuhan City accounts for 63.89% across the province, other eight cities in Wuhan Urban Agglomeration in total real estate investment only accounts for 13.15% across the province. The real estate investment of Wuhan City is 4.86 times of the total real estate investment of other eight cities in the economic region. This kind of gap not only appears in the level of real estate investment, housing prices, real estate supply and demand, real estate sales, property management level, but also available land for real estate development. Existence of this gap leads to imbalance in real estate investment and an uneven industrial distribution; it is also the obstacle to build the integration platform for real estate policy and information in Wuhan Urban Agglomeration. So far, the nine cities in the economic region have not yet establish real estate information from a unified platform, the communication and information sharing mechanism of real estate market in these nine cities is still in the blank.

In 2007 and 2008, with the rapid real estate development in the nine cities in Wuhan Urban Agglomeration, housing quality gap between Wuhan City and other eight cities in the city circle gradually narrow down. But house price of other cities in the region is only 1/3 or even 1/4 of the house price of Wuhan City. This price difference has attracted many groups of inter-city home buyers. According to statistics, foreign housing purchases in Wuhan City are less than 10% in 2004, but it have exceeded
40% in 2008, of which nearly 25%\textsuperscript{34} of the proportion is from the cities within the economic circle. Also the proportion of home buyers from \textit{Wuhan City} to \textit{Huangshi City}, \textit{E’zhou City} etc is increasing year by year. In addition to attractive pricing, the construction of intercity rail and highway transportation system also open a passageway for home buyers across the whole \textit{Wuhan Urban Agglomeration}.

\textsuperscript{34} Data resource: Wuhan Real Estate Management Bureau
7. Conclusion

In recent years, as China accelerated the pace of regional economic development, enhancing regional economic development is becoming an effective way of improve regional competitive power; their development has already attracted government and economist’s attention. Economic integration of the urban agglomeration is the main carrier to promote regional economic development. In June 2002, in the eighth Congress Report of Communist Party of Hubei Province, the provincial government made a timely and important development strategy, which is establishing *Wuhan Urban Agglomeration* and calling for *Wuhan City* to play the full leading role so finally the whole province can have rapid economic development. Then in the ensuing years, the government use great energy to establish *Wuhan Urban Agglomeration*. In order to swiftly and significantly develop the provincial economy, the government tries best to construct *Wuhan Urban Agglomeration*, and promote the rationalization of urban structure and integration of regional economy in this urban agglomeration.

From first presented in 2002, *Wuhan Urban Agglomeration* has showed its core level of the good economic development of *Hubei Province*. In 2008, the *Wuhan Urban Agglomeration* achieves a GDP of 6,972.11 billion yuan, accounting for 61.53%\(^\text{35}\) in the provincial economy.

After analyzing the whole macroeconomic development situation in *Wuhan Urban Agglomeration* and the real estate industry market in the nine cities in this economic circle, I found that after joining *Wuhan Urban Agglomeration*, there is significant increase not only in macro economy but also in the real estate market.

In year 2007 and 2008, like many other big cities in China, the real estate industry of *Wuhan Urban Agglomeration* has experienced intensive national and macro policy control. Before October 2007, there is rapid growth in the real estate industry of *Wuhan Urban Agglomeration*, the real estate enterprises have high investment enthusiasm while the real estate market is boosted both by supply and demand. In some cities of this region, real estate investment and sales even doubles and property price increases sharply, stating significantly irrational increase. Then after October 2007, influenced by international economic crisis and strictly national and macro-control policies on real estate industry, the *Wuhan City’s* real estate market first entered to the real estate correction period, following with that, other 8 neighboring cities in this region has adjustment of different procedures. Phenomenon like deserted land market transition, property price correction, lengthening of property sales cycle and rapid increase in stock space appeared in the nine cities. In the end of year 2008, the whole real estate industry of Wuhan Urban Agglomeration dropped to a downturn since year 1998.

Accompanying with this development, there also problems existing in the real estate

---

35 Data resource: Hubei Province Statistic Bureau
development in the region. For example, although the city circle is with high density, and infrastructure is good, the economic development of each city is apart from each other, it is still far to form a city circle pattern that has complementary advantages, resource sharing, shared market common interests and integrated economies.

Also in some cities there exists overheating phenomenon in the real estate market, housing price increase in an abnormal speed, sales can not follow the pace of growth of housing price, which leads to a lot of stock in commercial houses.

After looking through the macroeconomic factors of Wuhan Urban Agglomeration and also the real estate development, it is not difficult to prove that with the increase of disposable income and the improvement of social investment environment, construction of infrastructure, urban growth together with real estate also have rapid development, like Burgess’s point I have mentioned in the theoretical framework that social status and income increasing are main factors in urban development. But the overall development pattern of Wuhan Urban Agglomeration is like the multiple nuclei model mentioned above, with Wuhan City works as the core city, other 8 neighboring cities work like nuclei cities around it. But the effect of this development model is not obvious in Wuhan Urban Agglomeration from 2007 to 2008. There could be many reasons for this light effect, for example, in year 2007 and 2008, it is the run-in period of Wuhan Urban Agglomeration, because of city dynamic, it costs time to integrate all the nine cities’ resources and then redistribute them to different cities in accordance with each city’s unique characteristic. But in long-time run, encouraged by the rapid urbanization and real estate development pace of different cities in the first transition period, we can predict that in a few years, under this model, Wuhan Urban Agglomeration will be growing one of the best economic regions in China.
References


Appendix: Data sources


http://baike.baidu.com/view/1267.htm

http://news.sohu.com/20040824/n221710337.shtml