LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

MASTER OF SCIENCE IN FINANCE

MASTERS FINAL WORK
PROJECT

EQUITY RESEARCH: CHINA VANKE CO., LTD

SANG JINLAMU

APRIL 2019

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SUPERVISOR:
JOÃO CARVALHO DAS NEVES

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Abstract

The Residential Housing Market in China has more than 30 years of development history. Due to the reform and liberalization in 1980's, Deng Xiaoping started to define real estate as commodity in China. In 1987, Shenzhen conducted the first public land auction, symbolizing the official commercialization of Chinese real estate. Vanke, one year later, entered the real estate industry. After more than 20 years, it has become the largest residential developer in China, and is known as the "city real estate and service provider". From Vanke, we can see the epitome of development of all Chinese real estate companies. The economic downturn and the changing world pattern are the major concerns for Chinese real estate developers in the recent years. These concerns are reflected by Vanke, which is the reason why I choose Vanke for Master Final Work equity research.

This report adopts the research report format recommended by the CFA Institute. The full text includes 8 parts including Research Snapshot, Business Description and Management and Corporate Governance. It analyzes finance and management of Vanke in the past four years and forecasts the operations for the next five years. Generally, Vanke's operational development is stable. Persisting in high asset turnover strategy, it has about 20% ROE on the period analyzed. In terms of leverage, in the past two years, Vanke has increased its debt level from 16.36% to 17.09%. Besides developing the real estate market, during the last years, Vanke entered in new segments of the real estate market such as real estate services and rental housing.

April 24, 2019 is the current date valuation and 2020YE is the target time for price forecast. The valuation uses DCF as the main method, and Relative valuation as auxiliary method. As a result, the target price is RMB 43.97. Compared with current price at April 24, 2019 of RMB 29.60, presents an upside potential of 48.54%. However, there are significant potential risks. The GDP growth rate deceleration and population are two macroeconomic risks which have long-term and profound impacts. Also, real estate tax legislation and further real estate restrictions are the two most substantial political risks. Finally, the recommendation for Vanke is **BUY** with medium risk.

JEL classification: G10; G18; G32; G34; G35.

Keywords: Equity Research; Valuation; Real Estate; Rental Housing; Deceleration; Population.

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Sang Jinlamu

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Master in Finance

Vanke: Steady development, long-term transformation

China Vanke Co., Ltd

Buy
Medium risk
April 2019
Shenzhen Stock Exchange

(YE2020 Price Target of RMB 43.97 (+48.54%); recommendation is to **BUY** with Medium Risk)

1. Research Snapshot

The final recommendation for Vanke Co., Ltd here is **BUY** with a YE2020 target price of RMB 43.97 and an upside potential of 48.54% in comparison with the last closing price of RMB 29.60 on April 24th, 2019 with medium risk. The company's revenue has grown steadily over the years. Holding a lot of cash and maintaining a relatively low net debt ratio, it owns a high risk-awareness in between the rivals. Facing the downturn of the domestic economy, the industrial transitional dilemma, and the hindered long-term revenue growth of real estate market, Vanke adopted the direction of "Steady development, long-term transformation".

Table 1. Vanke market data
Source: Bloomberg

Market Profile	
Closing price (April 24th)	¥29.60
52-week price range	¥20.4 - ¥33.6
Shares outstanding	11.04B
Market capitalization	326.76B
Avg. Volume	61.46M
P/E	9.73
P/B	2.06
ROE	21.68

Table 2. Vanke's price target
Source: Author

Valuation	Target Price
DCF	¥43.97
Multiples	¥45.70

Revenue growth decelerates

Considering the overall economic and real estate market downturn, the annual growth rate of revenue for 2019F-2023F is forecast to fall stably from 13.86% to 2023F GDP growth rate of 8.58% through five years.

ROE will continue stable

As an industry benchmark, Vanke has kept a ROE ratio around 20% for many years. In the explicit period forecast, the ROE of Vanke will still maintain this advantage.

Keeps high cash ratio

The probability of new big debt plans will decrease in the future due to the ending of HK MTN Programme and two RMB Corporate Bonds Plans, so it is forecasted that cash ratio will be reduced from very beginning in the forecasting period, while it will keep in a reasonable range and start to increase soon.

Figure 1. Vanke's cash and net debt
Source: Vanke annual reports

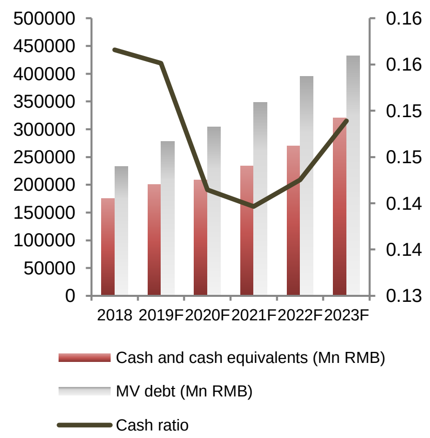


Table 3. Financial highlights
Source: Author

Mn RMB	2018	2019F	2020F	2021F	2022F	2023F
Total Revenues	297,083	341,151	388,237	437,682	489,323	543,015
Net Profit	49,272	55,547	63,182	70,960	79,074	87,142
Total Assets	1,528,663	1,768,535	2,004,416	2,273,438	2,571,829	2,904,567
Total Liabilities	1,293,043	1,498,850	1,696,801	1,924,148	2,177,029	2,460,477
Net Debt	85,539	106,714	132,880	151,193	159,895	157,372
Net Profit Margin	16.59%	16.28%	16.27%	16.21%	16.16%	16.05%
ROE	20.91%	20.60%	20.54%	20.32%	20.03%	19.62%
Interest Coverage Ratio	10.87	9.43	9.33	9.12	9.10	8.94
Net Debt/EBITDA	0.93	1.00	1.10	1.11	1.05	0.93

2. Business Description

China Vanke Co., Ltd., established in 1984, headquartered in Shenzhen, entered the real estate industry in 1988. In 1993, the residential property development was identified as the core business of the company. Initially Vanke focused on the Shenzhen property market. Till 2006, its business has covered more than 20 cities focusing on the economic circles of the Pearl River Delta, the Yangtze River Delta and the Bohai Rim. The company was the second listed private company in the stock exchange of Shenzhen and it is also the largest urban and rural development and living services provider in terms of volume in China. Furthermore, Vanke has built its presence in 7 cities outside of Mainland China, namely, Hong Kong, Singapore, New York, San Francisco, Seattle, London and Kuala Lumpur. In July 2016, the Group was first listed on Fortune Global 500, ranking 356th. In 2017, the Group ranked 307th.

The core business of the Group includes property development, property service and other business (Figure 3). The **Property Development** is the significantly core segment of the company, which represent 96% of the group revenue in 2018 (Figure 2). In 2019, the new construction area of the existing projects of the Group is expected to be 36.090 million sq. m. It is estimated that the area to be completed in 2019 will be 30.766 million sq. m. By geographical regions, the booked area from the Southern Region, Shanghai Region, Northern Region and Central and Western Region accounted for 23.64%, 29.84%, 24.00% and 21.49%, respectively, of the total booked sales derived from the Group's property development business in 2018 (Figure 4).

Property services business adheres to the development strategy of "simultaneous development of the residential and commercial sectors" of the company. In 2018, as a subsidiary company, Vanke Service achieved revenue of RMB9.80 billion, representing a year-on-year increase of 36.1%. Vanke Service was also named "Top 1 in China's Top 100 Comprehensive Property Services Enterprises" for nine consecutive years.

In 2018, the Group further enhanced its positioning to "urban and rural development and living services provider", on the basis of consolidating the inherent advantages of residential properties development and property services.

Employee

In the recent years, the staff size of Vanke has gone through a highly increasing process. As at 31 December 2018, there were 104,300 employees on the Group's payroll (Figure 5), representing an increase of 34.2% from that of the previous year. The average age of the employees was 31.1 and the average year of service was 2.3 years. Among which 68,709 employees were male, and 35,591 employees were female.

Company Strategies

Operating efficiency: Vanke seeks to launch and sell the properties in an efficient and disciplined manner, to extend the application of technological products and innovative technology in each business scenarios in order to achieve a high project operating efficiency, as well as to provide quality products and services to address the genuine demand of customers.

Advanced property services: along with the property pre-sale and after-sale processes, Vanke has actively learned from Pulte Homes, which is one of the top four real estate companies in the United States. The company applies technological tools to effectively respond to the changing customer service needs,

Figure 2. Vanke revenue segments
Source: Vanke annual report 2018

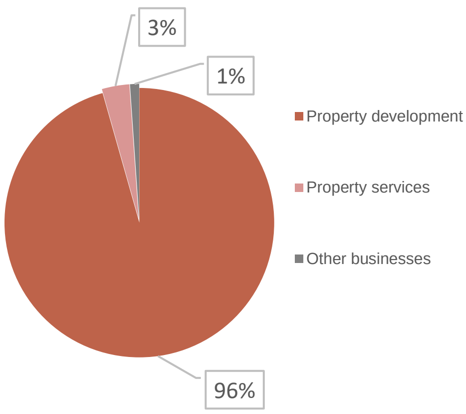


Figure 3. Revenue per segment
Source: Vanke annual reports

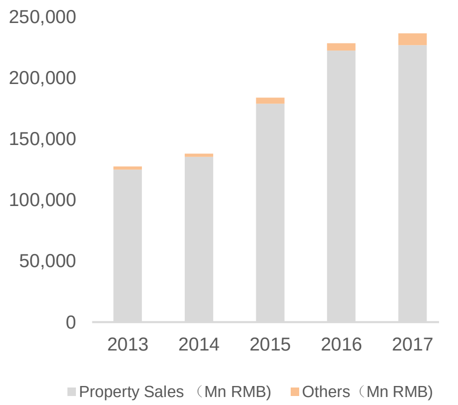


Figure 4. Sale area (sq. m)
Source: Vanke annual reports

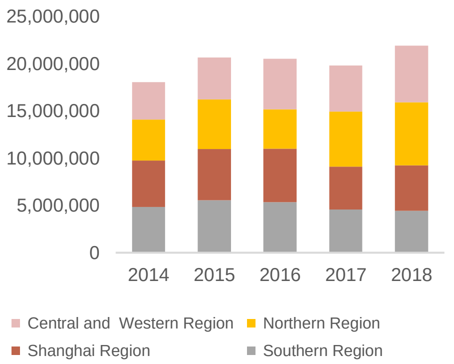
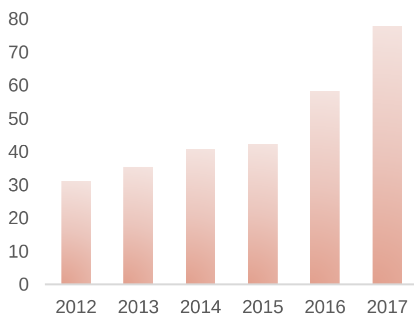


Figure 5. Number of employees (K)
Source: Vanke annual reports



including division in detail by characters of customers and lifelong service to cultivate customer loyalty.

Liquidity-emphasis: under the influence of economic downturn, Vanke seeks to maintain a stable liquidity level by cautious leverage control (Figure 6), in order to ensure the flexibility in financing. It strives to maintain a healthy financial position and a leading credit rating in the industry

Prudent management of investment: the company will broaden resource acquisition channels, pay attention to the opportunity for acquiring quality resources through merger and acquisition and support sustainable development by paying attention to nonlinear development opportunities.

Vanke's "industrialization 2.0": updating and upgrading production system of development business, Vanke has accomplished the concept of "enhancing quality and efficiency, and reducing reliance on labor and environment pollution", to elevate overall construction capability. Practically, it extends the application of technological products and innovative technology in each business scenario.

Rental housing business: In 2018, Vanke upgraded the rental residential business to its core business, and continued to increase the layout of rental housing around the core cities and improve the opening efficiency and quality of the acquired projects. Up to now, Vanke's long-term rental apartment business covers 35 major cities, with a cumulative opening of more than 60,000. The average occupancy rate of projects with more than 6 months of operation is about 92%.

Responsibility and risk prevention system: to ensure safety at work and maintain the bottom-line for quality and moral standards**,** each of the company's business unit will establish risk prevention system applicable to their specific business nature, to contain material exposure, particularly those less likely high-risk incidents. Meanwhile, Vanke realizes correspondence of responsible persons to related activities. That is, each of their business group and business unit will complete organizational realignment and realize correspondence of responsible persons to related activities,

Figure 6. Vanke liquidity
Source: Author

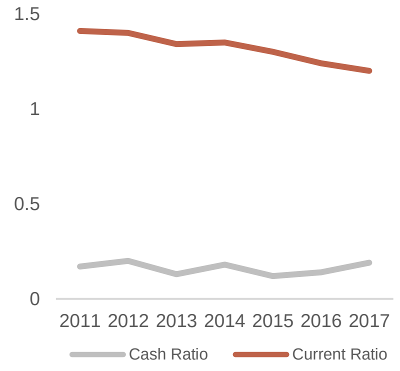
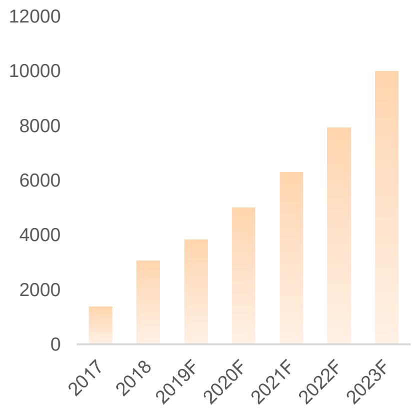


Figure 7. Vanke RH Revenue (Mn RMB)
Source: Vanke's annual reports



3. Management and Corporate Governance

In accordance with the Company Law of the People's Republic of China, the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, the Standards on Corporate Governance of Listed Companies, the Articles of Association of the Company and other relevant regulations, abided by its corporate values of simplicity, transparency, standardization and responsibility, the company has established a corporate governance structure with complete functions.

The management team is composed by the Board of Directors, Supervisory Committee, three other committees and senior management team. **The Board** consists of 10 members (Table 4), including one chairman, one vice-chairman. At least one-third of the Board members are independent, and at least one independent director shall be a professional accountant. The Board of Directors is accountable to the General Meeting of Shareholders, exercising the right of decision-making regarding business operations. **The Supervisory Committee** consists of shareholder representatives and staff representatives (Table 5). Supervisors assumed by the Company's staff representatives shall not be less than one-third of the total number of supervisors. The supervisory committee comprises three supervisors, including a chairman. The Supervisory Committee is

Table 4. Vanke board members
Source: Vanke annual report 2018

Name	Position
YU Liang	Chairman
LIN Maode	Vice Chairman
SUN Shengdian	Non-executive Director
CHEN Xianjun	Non-executive Director
WANG Wenjin	Executive Director
ZHANG Xu	Executive Director
KANG Dian	Independent Non-executive Director
LIU Shuwei	Independent Non-executive Director
NG Kar Ling, Johnny	Independent Non-executive Director
LI Qiang	Independent Non-executive Director

Table 5. Vanke supervisory committee
Source: Vanke annual report 2018

Name	Position
XIE Dong	Chairman
ZHENG Ying	Member
ZHOU Qingping	Employee representative member

accountable to the General Meeting of Shareholders. In addition to inspecting and supervising financial affairs and senior management's duty fulfillment, the Board of Supervisors also organizes inspections to the subsidiaries, strengthening the supervision of their operations. Additionally, there are three other committees: Audit Committee, Remuneration and Nomination Committee, Investment and Decision-Making Committee. All such committees shall consist of directors. The main responsibility of those three committees are supporting the board in related issue and governance, researching on the company's long-term development strategy and making recommendations on major investment decisions. Apart from this, the Company has one senior management team (Table 6).

The **remuneration of the Company's senior management** members was determined not only with reference to market level but also in accordance with the growth in the overall operating results of the Company. In January 2018, the company's economic profit bonus plan was considered and approved at the Fourth Meeting of the Eighteenth Session of the Board (Table 7). Nowadays the Group's remuneration system consists of fixed salary, annual bonus and economic profit bonus.

In relation to the **General Meeting** of Shareholders, this organ of the Company lawfully exercise its powers as follows: i) decide on the business policies and investment plans of the Company; ii) elect and replace directors/supervisors and decide on the remuneration of the directors/supervisors; iii) consider and approve the report of the board and the supervisor committee; iv) make a resolution on the increase or decrease of the registered capital and the issuance of bonds by the Company; v) amend the Company's Articles of Association; etc..

Shareholder Structure

After the so-called most intense equity battle between Vanke and Baoneng (Jushenghua & Foresea Life Insurance) in China's history has come to an end in 2017, SZMC (Shenzhen Metro Group Co., Ltd.), with 14.07% of Vanke's shares transferred from China Evergrande, became the largest shareholder of the Group (Figure 8) with a total stake in Vanke of 29.38% instead of China Resources and Baoneng. Baoneng now occupies the second place by 13.16%. As we can see, the Vanke's mix ownership structure presents an obvious character of dispersion. Along with the stock market downturn in 2016, Vanke's shareholder structure became more fragile and vulnerable than ever before.

Social Responsibility

Responding to national appeals of "housing occupation instead of vicious speculation, and equal emphasis on rent and purchase", since 2017, Vanke have attempted to transform certain old buildings in urban villages into long-term rental apartments to provide a higher quality living environment for young people working in the cities. Meanwhile, the company served as the chief editor and editing member of 9 national, industry and local standards, and obtained over 120 domestic and internal technical patents.

As for environmental protection, Vanke incorporated the goal of "building an excellent green business" into its corporate vision as early as 2008. Over the years, Vanke has continuously explored ecological planning design, green development and construction and innovation and upgrade to green and eco-friendly technology. In 2011, Vanke entered into the Enterprise Initiative of Biodiversity Conservation. In 2014, it participated in the WWF Climate Savers Program and became the world's first real estate climate saver. In 2016, Vanke worked with the Alxa SEE Conservation to initiate the Real Estate Industry Green Supply Chain Action to

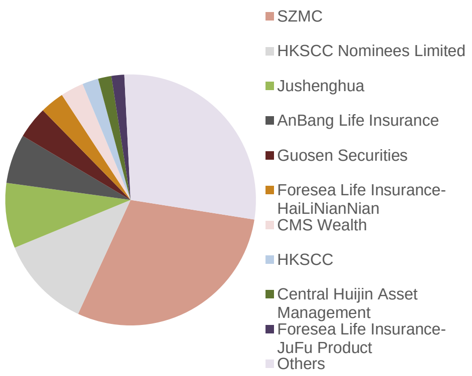
Table 6. Vanke senior management
Source: Vanke annual report 2018

Name	Position
ZHU Jiusheng	President and CEO
WANG Wenjin	Executive vice president and CRO
ZHANG Xu	Executive vice president and COO

Table 7. Average annual economic profit bonus (Mn)
Resource: Vanke documents

Name	Bonus
WANG Shi	16.80
YU Liang	14.96
XIE Dong	5.95
WANG Wenjin	6.46
ZHANG Xu	7.36
SUN Jia	8.87
ZHU Xu	4.09
ZHOU Qingping	1.93

Figure 8. Shareholder's structure
Source: Vanke annual report 2018



motivate upstream and downstream enterprises to fulfill environmental protection responsibilities

4. Industry Overview and Competitive Positioning

Industry Overview

Macroeconomic

In recent years, China has been enjoying the reputation as the engine of the world economy. However, it is now broadly admitted in domestic opinion that our economy now faces a serious deceleration tendency because of several essential factors like trade conflicts, **real estate industry slows down** and heavy industry overcapacity. Starting from the last year's real GDP growth rate result of 6.6% (Figure 9), today economists give a prediction of 6.2% for 2019. Along with two big core points related to limited financing for private companies and state-owned enterprise debt risk, the deceleration pressure seems will stay in the next whole year. The economy-stability strategy and policy are gradually implemented. Those methods include expansion of infrastructure investment, de-capacity and property incentive to private companies. As far as we know, a loose monetary policy will be implemented step by step to help revitalize the real economy in the future. It is predicted that exists a high possibility for Chinese economic growth to bottom out in the second quarter of 2019, though the long-term slowing down risk will still exist.

Money supply

In 2008, the sub-prime crises in the US spread to domestic economy of China. Under the regulation and control of central bank, the M2 in China has presented a large volume. Since then, accompanying with several times of cut in RRR (requirement reserve ratio) and QE (quantitative easing), the M2 in China has step in a high-level progress in relation to GDP (Figure 10). According to analysts, besides direct influence of money policy, there is a large volume of M2 comes from the "production" and "re-investment" in the real estate market, which indicated a relatively **high leverage ratio of the domestic loans** in the recent years, and can be partly proved by the household debt in percentage of GDP (Figure 11). A large volume of money deviated from the real economy. Actually, from 2008 on, except for those short pick-ups between 2011 and 2012 and between 2014 and 2015 due to the macro-control by government, the growth rate of M2 has always been decreasing. In the recent two years, the growth rates of M2 were even lower than the sum of real GDP and CPI growth rates, which represents a scenario of credit squeeze. Briefly speaking, the old loan was too big and the new loan lacks dynamic.

Per capita disposable income growth

In 2018, the per capita disposable income of the national residents was RMB 28,228, with an increase of 8.7% over the previous year. After deducting the price factor, the actual increase was 6.5% (Figure 12). In the past few years, our per capita disposable income has been growing, but the overall growth rate has declined. Studies have shown that the increase in per capita disposable income of urban residents in China is the Granger reason for the development of the real estate industry. This effect is obvious, and the development of the real estate industry has no obvious effect on the increase in per capita disposable income of urban residents.

Population

Figure 9. Real GDP Growth & CPI Growth & M2 Growth
Source: NBS

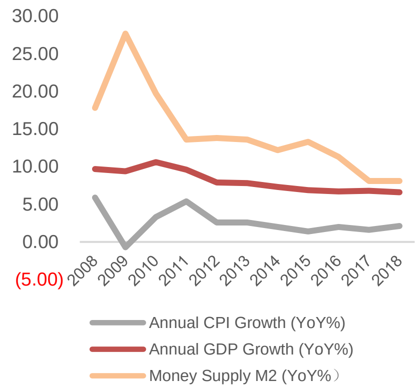


Figure 10. Nominal GDP & M2
Source: NBS

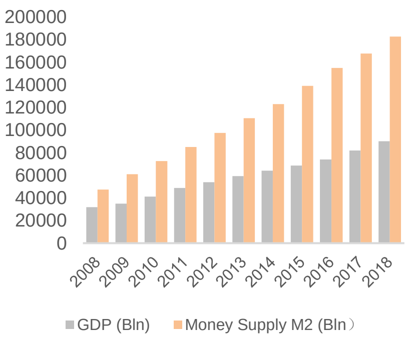


Figure 11. Household debt (% of GDP)
Source: NBS

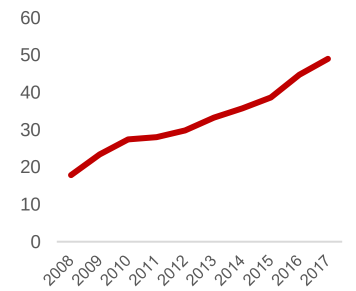
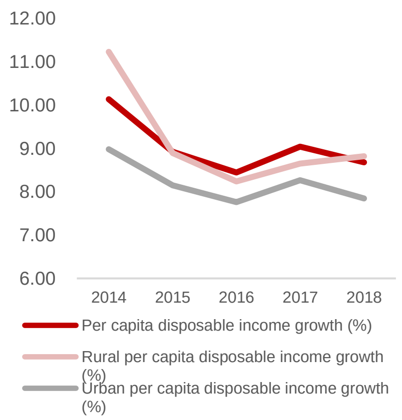


Figure 12. Per capita disposable income g
Source: NBS



In 2016, the Chinese government fully liberated the second children in every family. From the statistical data, it can be found out that only in 2017, the birth rate has got a small pick-up, while, from 2018, the birth rate continued to decrease (Figure 13). Behind the situation, a too high housing price level and high parenting cost impedes the second child plan, which for sure will impact the long-term development of real estate market of China.

“Age before it gets rich” is the core topic in public opinion of China. The aging problem is especially grave in the big Chinese rural area. In the recently years, there has been a large flow of migration from rural area to urban area in China (Figure 14). Along with the macro-policy of regional coordinated development and construction of big central cities, the majority of opportunities has gone into the 1 and tier 2 cities, which in a certain degree, intensify the migration and aging problem of rural and those impacts even spreads to the 3 and lower tier cities.

Land

In 1982, the National People's Congress passed a newly revised constitution, which clearly defined the land ownership system for the first time and added the clause that “the land of the city belongs to the state”. Under the state system, land supply is monopolistic. Due to the lack of competition from other land supply entities, the pressure of population inflow is more reflected in the rise of land prices and house prices.

Since 2013, the land sales volume basically entered a long-term descending process (Figure 15). Although in recent two years it has started to rise with limited growth rate, in last six months, the increase of abortive land auction cases has proved the tendency to cooldown. On the contrary, the land sales value has kept in an increasing form, to a proportion of three times in comparison with 2008. According to analysts, the decreased land supply has a highly high correlation with the surge of housing prices in 2016.

Residential Market of Housing

The newly constructed resident houses have reached a negative growth rate between 2014 and 2015 due to inventory reducing tendency, which leads to a negative growth of constructed volume in the recent two years. What worth noting is that in 2018, the newly started house area reached growth rate of 19.7% (Figure 16). This number implicates the closing of inventory-reducing policy.

From the sales volume and prices of resident housing (Figure 17,18), it can be observed that **2013** and **2016** are two hot years of real estate market, which, respectively, has reached annual growth rates of 17.5% and 22.4% in sales volume. In 2013, the growth jumped because of the credit easing and land price increase. Between 2014 and 2015, the market seems starts to cool down due to the economic downturn pressure, market differentiation and supply exceeding demand, however, in 2016 the market passed a short highly warming stage, after that, the growth rate of sales volume fell rapidly (Figure 17).

The sharply rise in 2016 seems abnormal. There are several factors reasonable to explicate that, for example, the land supply decreases, the inventory reducing process entering the final stage, which lead to supply and demand imbalance and the movement of population. However, a final non-ignorable factor turns to a famous but polemic policy: **Monetized Resettlement of Shelter Reform**, which was one member of the inventory-reducing policies family.

Entering 2017, in real estate market, the housing prices growth rate in tier 1 and tier 2 cities experienced a dramatic decline. This situation has been mitigated in 2018. It worth noting that in 2017, the 3 and lower tier cities’ housing price growth

Figure 13. Natural population data
Source: NBS

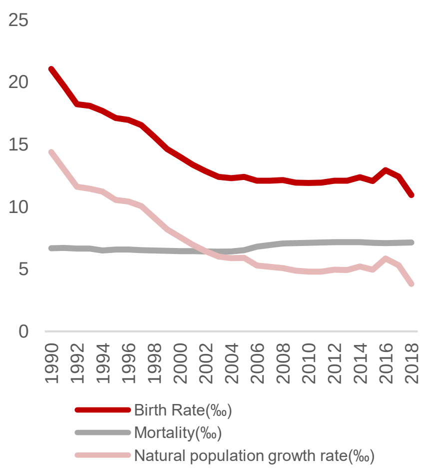


Figure 14. Population growth
Source: NBS

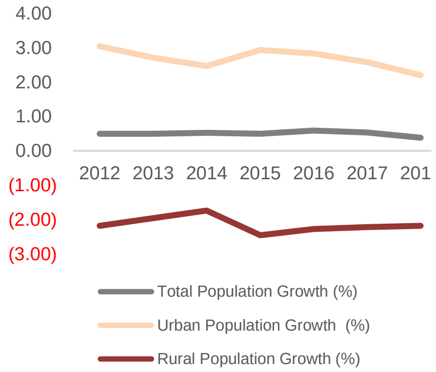


Figure 15. Land sales
Source: NBS

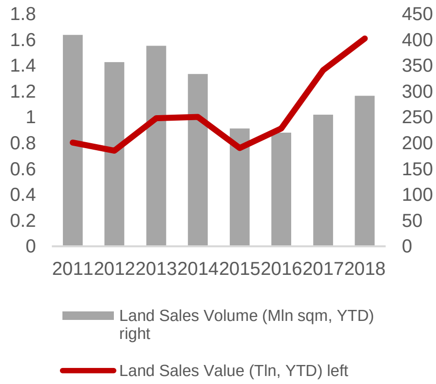
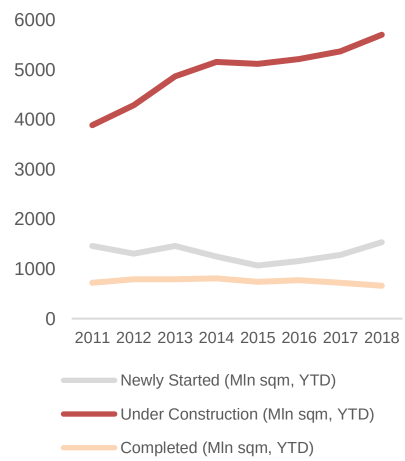


Figure 16. Construction data
Source: NBS



rate went through strange increasing rather than decreasing, which present a hysteretic quality (Figure 18).

The construction and building material cost

In 2017, the construction cost has risen dramatically. Relatively, the labor expense keeps rising steadily. Overall, real estate development costs growth has experienced a sharp rise in 2017 and began to fall back in 2018 (Figure 19).

Real Estate Policy Revision and Prediction

As we already mentioned before, Chinese real estate market discipline is not completely the same as that of occidental market due to various factors. Among them, “land-ownership belongs to the state” and lack of real estate tax are two of the most obvious characteristics. Although recently, there seems appear some reform on these factors. All in all, the government policies play an important role in the market.

Excess-inventory-reducing process

After the global financial crisis from 2008, Chinese government implemented a series of incentive measure included loose monetary policy. Between 2009 and 2011, China has experienced completely house prices rise and housing bubble, which promoted the supply stepped in excessive growth. Between 2011 and 2015, for the reason of restricted purchase limit and unreasonable layout of real estate enterprises, the inventory of real estate accumulated rapidly. In 2015, the central government proposed direction of excess-inventory- reducing in the Residential Market of Housing market. In 2016, under the double impact of inventory-reducing and population movement to the tier 1 and 2 cities, the house price of those cities has experienced a suddenly and sharply rise.

Monetized Resettlement of Shelter Reform involves the demolition of old buildings and the resettlement of the original residents in cities. There are two current practices in China: physical placement and monetization. The monetized resettlement is compensated in the form of cash, allowing the demolished residents to purchase houses on the market without geographical restrictions (Figure 20). Since 2015, the “three-year plan for sheds reform”, especially to increase the proportion of monetization in sheds, is equivalent to government funding to support the purchase of houses, making real estate in the third- and fourth-tier cities extremely hot, and even driving the price of first- and second-tier cities in 2016.

Compared with the obvious decline of the first- and second-tier cities in 2017, the third- and fourth-tier cities keep increasing, and the financial risks contained therein cannot be ignored. Aware of the existence of such risks, the state tightened the approval of PSL (Pledged Supplementary Lending) in 2018. The Monetized Resettlement of Shelter Reform may become the past.

Real estate purchase restriction policy

Historically, real estate purchase restrictions have almost coincided with Residential Market of Housing. Since the commercialization of housing in 1987, the real estate industry experienced the initial barbaric growth and ushered in the first government regulation. In 1993, the Hainan property bubble burst. At the same time, it opened the chapter of the young Chinese real estate market purchase restriction policy.

Policies such as the “National Ten Articles” in 2010, the “National Eight Articles” in 2011, the “New Five Articles in 2013” and the 2015 hotspot cities. As an administrative means, the purchase restriction policy mainly aims to directly curb the demand for real estate investment or speculation, and make the real estate industry develop towards the goal of meeting the basic housing needs of residents. At the same time, the purchase restriction policy is an important way to control

Figure 17. Primary Transaction volume
Source: Bloomberg

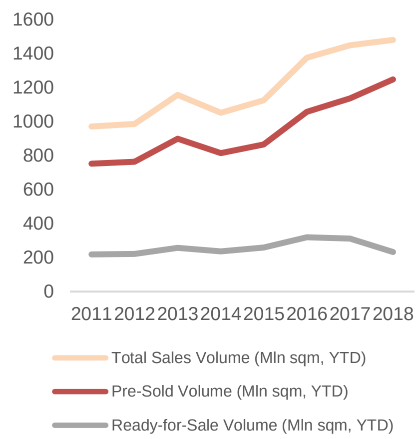


Figure 18. Privative home index (YoY%)
Source: Bloomberg

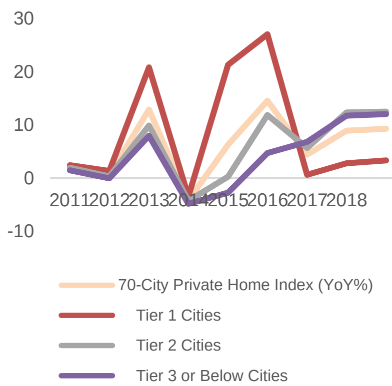


Figure 19. Construction cost
Source: Bloomberg

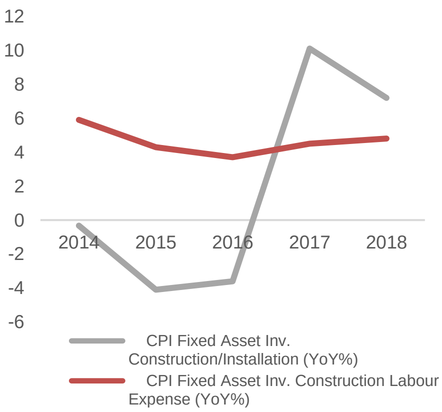
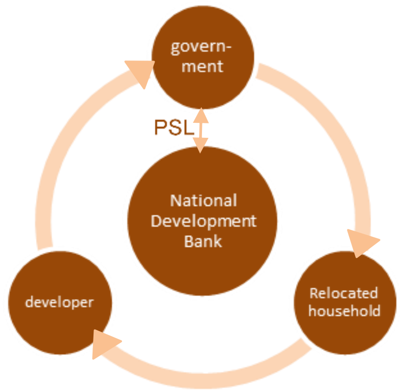


Figure 20. Monetized resettlement of shelter reform process
Source: The author



inflation and reduce the real estate bubble. However, each regulation is subject to the situation, and when the house price goes down, the restriction will be cancelled directly or indirectly. Such policies have not solved the fundamental problems in the real estate market. It is necessary to further reform the implementation of the purchase restriction policy in the future.

Urban talent introduction policy

In 2018, more than 100 cities of different levels across the country issued talent policies. In particular, second-tier cities have become the talent introduction cities with highest intension (Figure 21). In 2019, there were 16 cities that issued various policies for talent introduction and settlement. Lin Bao, a researcher at the Institute of Population and Labor Economics of the Chinese Academy of Social Sciences, believes that the "capture of talents" is closely related to changes in the demographic situation. Lin Bao pointed out that after China's 15-59-year-old working-age population began to decline in 2012, the demographic dividend began to decline. From 2017 to 2018, it may be the turning point for the economically active population to begin to decline. The occurrence of this "talent battle" indicates that the impact of demographic changes has begun to be transmitted to second-tier cities, new first-tier cities and even first-tier cities. This has further spurred the red warning of the long-term forecast of the real estate market in the third- and third-tier cities.

Figure 21. Talent inflow of four new tier 1 cities, first quarter of 2018

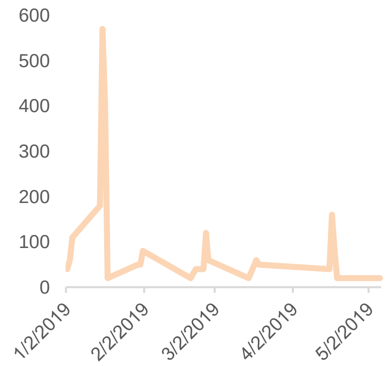
Source: Boss Direct

Prediction: Steady Growth, Alert to Gray Rhinoceros

After experiencing a rapid increase in real estate prices and a bubble, domestic households, enterprises, and government debt ratios have risen. At the same time, since the United States launched the Sino-US trade war, the trade has been limited, and the dollar's foreign exchange reserves have been seriously challenged. Systemic financial risks now cannot be ignored. Since then, domestic policies have begun the reducing of excess inventory, supply-side structural reform, regulation of the real estate market, stabilization of finance, and boosting the real economy. Coordinated with GDP growth for long-term regulation, and slowly squeeze out the real estate bubble in a mitigating manner. At present, the real estate inventory-reducing process is nearing completion. Accompanied with the talent policy, population orientation and the expected loose monetary policy (Figure 22, 23), **first- and second- tier cities are expected to develop steadily**, but in the short term, there is almost no possibility of skyrocketing.

Figure 22. Reverse repo add-in of central bank (Bn RMB)

Source: China Central Bank

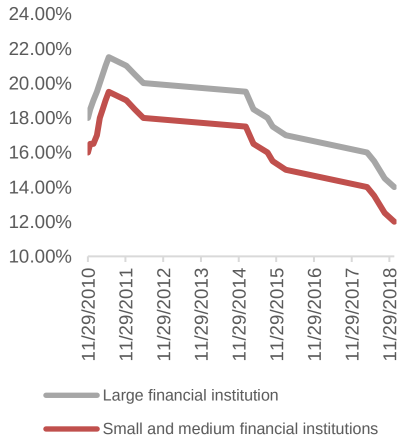


Moreover, we must be alert to the emergence of gray rhinoceros.

Since 2011, **the real estate tax legislation** has been repeatedly mentioned in the official statement. In the 2018 government work report, it was proposed to "stably promote real estate tax legislation." Observing from various sources, it is an indisputable fact that real estate tax is about to be launched soon.

Figure 23. Reserve requirement ratio

Source: China Central Bank

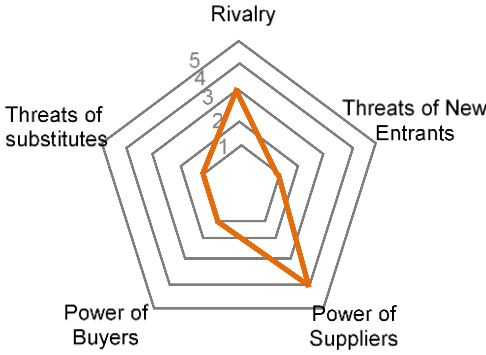


The high social leverage is the second gray rhinoceros. In 2018, the leverage ratio of the resident sector was 53.2%, the leverage ratio of the corporate sector was 153.6%, and the leverage ratio of the government sector was 37%. Although the momentum of de-leveraging of non-financial companies has increased since 2017, the total debt of industrial enterprises dominated by private enterprises has only increased by 2.9% in 2018, but the total liabilities of state-owned enterprises have increased by 16.0%. The proportion of state-owned enterprise debt to the entire non-financial corporate sector debt is rising. Government corporate leverage seems to be low, but if local implicit debt is taken into account, government sector leverage will exceed 90%, which deserves high alert.

Competitive Positioning

To evaluate Vanke's s competitive position in the real estate market, a Porter's Five Forces Analysis (Figure 24), a SWOT Analysis (Table 8) and a PESTLE Analysis (Table 9) were performed.

Figure 24. Porter's Five Forces Analysis
Source: The author



Porter's Five Forces Analysis

Threats of substitutes (low)

The product of real estate market is commercial residential building, the substitutes can be defined as policy-based low-rent housing, public rental housing, economically affordable housing, unit welfare housing and limited property housing, etc... As we can see, those housing mentioned above, basically do not form a significant dimension. As for limited property housing, its characteristic of high risk takes it out of treat consideration. So, the treat of substitutes is negligible.

Bargaining power of suppliers (middle high)

The real estate supply side mainly includes the government, raw material suppliers, designers, construction parties and property management service providers. In particular, the government as a supplier of land, the bargaining power of enterprises in the land market is very weak. However, in China's real estate market, raw material suppliers, designers, construction parties and property management service providers have weak bargaining power. In particular, Vanke is a leading domestic real estate company with higher bargaining power for suppliers.

Bargaining power of buyers (low)

In the real estate market of China, it is largely admitted that the demand was much higher than the supply, especially in the tier 1 and tier 2 cities market. The big gap between the rich and poor determined that the objective clients of real estate developers are those relatively wealthy people. In the wide Chinese territory, there are still so many people live a life under the low-income level. Combing those two factors above, the bargaining power of buyers are very small.

Threats of new entrants (low)

As we can see, the barrier to entry and quit the real estate market are very high. And in recent years, the control policy imposed by the government to the real estate market became more and more intensive. Accompanying with money squeeze and inventory-reducing tendency, the threats of new entrants are low

Rivalry (middle)

China's real estate industry is dominated by ten giants in the real estate market. If companies can combine cost leadership and differentiation, they will have a competitive advantage over companies that rely solely on a dominant strategy. Although the growth rate of the real estate industry started to slow down, the high fixed costs, strong regional and low industry concentration still make the competitiveness between existing competitors not so strong.

Table 8. SWOT analysis
Source: Author

Strengths	**Weaknesses**
Branded advantages	Land reserve below industry level
Market leader in real estate industry	Lack of government relationship
Innovated organizational structure	Lack of attention to employees
Strong R&D capability	High asset-liability ratio
Advanced management model	
Good quality benefit growth	
Opportunities	**Threats**
Sufficient operating cash flow to expand market share	The reforms on economic structure and restrictions on real estate industry by government
Large population move-in, large demand	

Urbanization continues	High land cost
Country supports green real estate	Reduced profits
	Expansion of other real estate giants

Table 9. PESTLE analysis
Source: Author

P	Housing market reform - Purchase limitation, property tax National policy regulation –Supply side reform, QE, RRR, centralized cities
E	GDP growth slows, M2 growth slows Real estate bubble Resident disposable income growth slows down
S	Population growth slow down Population flows into first- and second-tier cities Urbanization continues Traditional family culture - buying a house People's quality and environmental awareness increased
T	Real estate demand turns to be green, environmentally friendly and intelligent Overall improvement in housing construction technology Sales innovation
E	Housing energy saving and environmental protection Scientific city greening Rational planning and use of land
L	Restricting real estate development loans Land reserve management norms Strengthening housing consumption loan management Housing supply structure adjustment

5. Investment Summary

The recommendation for Vanke of this report is **BUY**, with a 2020YE target price of RMB 43.97 representing a 48.54% upside potential to the company's stock price of RMB29.60 on April 24th, 2019, with medium risk.

Vanke's main business, the real estate industry, has occupied the largest part of Vanke's revenue. Although the company has a long-term transformation plan, it can be predicted that real estate will remain the core business within five years. Due to the real estate bubble and its huge impact, Chinese government seeks a soft landing in real estate market. It is predicted in the report that in 2023F, Vanke's real estate revenue growth rate be same as the 2023F GDP growth rate. As China is currently in the middle and late stages of urbanization, real estate demand is still not low in the short term, but in the long run, it will inevitably usher in a stage of sudden decline in demand. It is expected that this stage will appear around 2030, so the choice of terminal growth rate will inevitably be in a lower interval.

The exposure on rental housing and other new business markets will help Vanke go through the difficult long-term transformation. In the next two decades, the transformation of real estate enterprises has become an industry-recognized direction. With the role of real estate developers and excellent property managers, Vanke will have a great advantage in entering the group rental industry. The market share of Vanke in rental housing market is forcasted to grow by 5% in 2019F–2023F (Figure 25).

Table 10. Target price by method
Source: Author

Valuation	Target Price
DCF	¥43.97
Multiples	¥45.70

Table 11. DCF Valuation
Source: Author

Price Target	MN RMB¥
# Shares Outstanding/m	11302.00
Net debt MV	96,102
Equity Value	707,765
Target Price	¥43.97
Price on 2019-4-24	¥29.60
Upside Potential	48.54%

Inventory turnover is a very important indicator in Chinese real estate companies. Due to various restrictions on the real estate, the real estate industry's inventory turnover rate has dropped significantly in recent years. Combined with the forecast of real estate revenue, the probability of a significant rebound in inventory turnover in the future is very low. It is expected that Vanke's inventory turnover will maintain steady in the next five years.

Since Vanke almost finished its three major big plans for bonds financing, combined with the current economic situation, it is expected that the probability of adding large financing plans in the future will be relatively low, which will affect Vanke's cash holdings. Vanke will still issue long-term and short-term debt, but with smaller dimension, and it is predicted that the new debts issued, except for those residual unreleased bonds in old plans, to be all in RMB.

Valuation Method

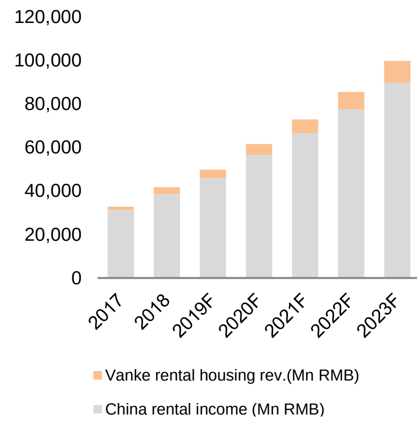
The final target price of this report chooses the results of the DCF, in which uses the method of discounting cash flow. And starting from the final target D/V ratio, use the market values moving backwards method to find the annual predicted WACC value. Finally, we find the target price of RMB 43.97. The Multiple is also used as an auxiliary valuation method, in which arrives at the target price of RMB 45.70.

Investment Risk

The real estate industry is an industry highly influenced by macro indicators. Downside GDP growth and population growth will bring huge challenges to real estate revenue growth. The exchange rate risk brought about by the Sino-US trade conflict will affect Vanke's leverage system with US dollar bond liabilities. At the same time, the high social debt ratio and the existence of the real estate bubble are also very sharp risks. Land policy affects house prices from the supply side, and real estate taxation, environmental policies, real estate financing supervision and restrictions on purchases directly affect the development of the real estate industry. Finally, Vanke's own shareholding issue and lower land stocks compared to the peer companies are not negligible.

Figure 25. Vanke rental housing market shares

Source: The author



6. Valuation

Since the long-term development of China's real estate industry is a core factor, the main valuation method of the report is the DCF method. The purpose is to implement as many assumptions that corresponds the current situation as possible, in the short-term and long-term, in order to bring the final valuation to a reasonable range. In addition to the DCF method, we use the Multiples method as supplement and reference.

Total Revenue

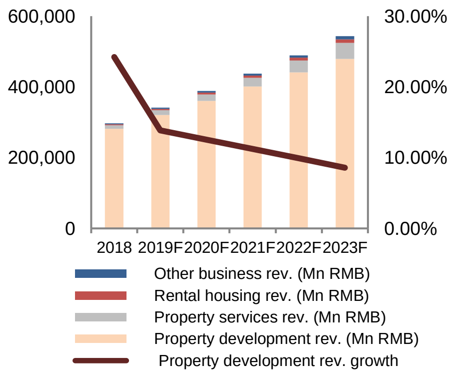
The revenue of Vanke was divided in four parts: Property development revenue, Property service revenue, Rental housing revenue and other business revenue. In fact, only the property development revenue stands for a significant volume (Figure 26). However, since the company has a long run transformation plan and the property service and rental housing service sectors are indeed two factors full of potential, here we also take them into consideration.

Property development revenue

In the past ten years, due to the frenzied growth of the real estate market, which has affected the development of the other industries, the government's restrictions

Figure 26. Vanke rev. segments and PD rev.g.

Source: The author



on real estate have been strengthened year by year. Since 2017, the popularity of the real estate speculation has been sharply reduced. Combined with the long-term growth of population decline, macroeconomic factors such as economic downturn, it can be predicted that the overall real estate industry growth rate in the future will experience a substantial decline and stabilize for many years. The real estate industry has been positioned as a pillar industry in the country before, and the existence of the real estate bubble and its huge impact are indisputable facts. Now the direction of domestic real estate orientation is to seek a soft landing, that is, through the annual GDP growth, combined with the steady low-speed development of the real estate industry, the bubble will be squeezed out. This is a long-term strategy. Therefore, this report predicts that in 2023F, Vanke's real estate revenue growth rate will be parallel to the forecast GDP growth rate in the same year (Figure 26).

For the prediction of PD rev. growth rate in 2019F, we applied a booked area/area completed ratio that corresponds to the historical tendency, which is 73.14% for 2019F. Using the area completed predicted data from 2018 annual report, we can easily get the 2019F booked area. Since in the future five years, the ASP will keep steady, we simply applied the ASP for Housing Market in 2018 as that of 2019F. Finally, we reach the PD rev. of 338274 Mn RMB in 2019F, which stands for a growth rate of 13.86%. See more details in Appendix 9.

Rental housing revenue/sales

Vanke entered the rental market in 2017. From the latest two bonds issued by the rental market, it can be deducted that the entire company attaches great importance to it. Since the rental housing market is greatly affected by macro factors, this report predicts Vanke's rental housing revenue using the market share method:

$$Vanke\ RHM\ revenue\ F = Vanke\ RHM\ share\ F * China\ RHM\ revenue\ F$$

For Vanke RHM share F, it is simply assumed that the relevant growth rate keeps a fixed pace of 5%.

Also, three indicators of Floating population with rental demand growth, Per capita disposable income growth and Commodity housing market ASP growth are introduced as the base of China rental housing market growth F (Figure 27).

$$\begin{aligned} d\ China\ RHM\ \ revenue \\ &= (1 + d\ Floating\ population\ with\ rental\ demand) \\ &* (1 + d\ Per\ capita\ disposable\ income) * (1 + d\ CHM\ ASP) - 1 \end{aligned}$$

For detailed forecast of the three indicators please check Appendix 9.

Property service and other business revenue/sales

Since the two sectors of Property service and other business are in a steady growth process all the year round, it is simply assumed that these two parts will maintain future growth at the rate of the previous year, 36.06% and 25.88%, respectively.

Property Development Sales

A very hallmark feature of China's real estate industry is that the relationship between sales and revenue is not as close as that of other industries. This is because the Chinese real estate industry has a long sales cycle and special revenue recognition standards. Since most real estate companies operate in a pre-sale manner, most of the sales will be delayed for a certain number of years to confirm revenue. However, since sales are directly related to the operation of real estate companies, their correlation is high. Therefore, sales are also forecasted in this report to make reference to some operational indicators (Figure 28). For more information check Appendix 9.

Figure 27. Rental market indicators growth
Source: The author

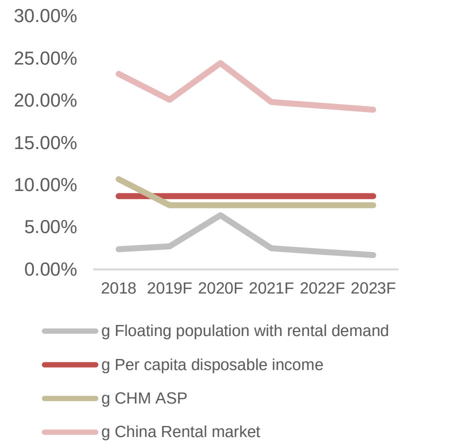


Figure 28. Vanke's sales indicators growth
Source: The author

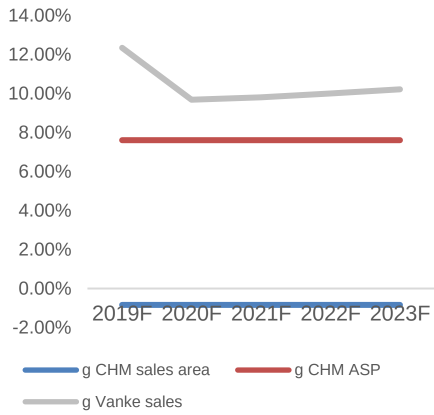
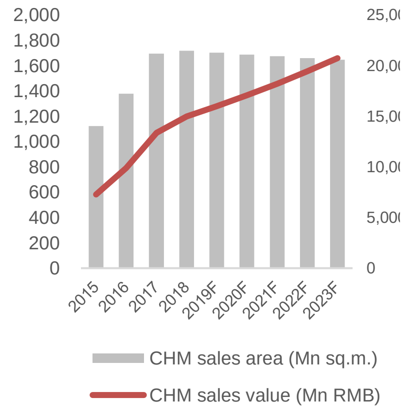


Figure 29. Commodity housing market
Resource: Author



Since most of the real estate companies that operate in first- and second-tier cities in China basically do not have so much difference in their operating methods, the forecast for sales is also based on market forecast and market share forecasts (Figure 29):

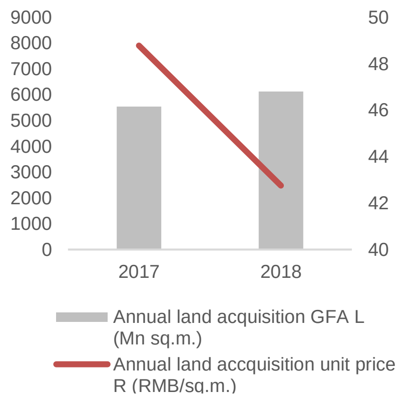
$$Vanke's\ PD\ sales\ F = Vanke\ \mathrm{PD}\ market\ share\ F * China\ CHM\ sales\ F$$

$$China\ CHM\ sales\ F = CHM\ sales\ area\ F * CHM\ ASP\ F$$

For the data of market ASP 2019F, the corresponding report of the Chinese Academy of Sciences Forecast Center is referenced, in which launches the prediction of **7.6% increase in commodity housing market ASP in 2019F**. Due to the long-term stationary of CHM, it is also assumed that from 2019 to 2023, the annual growth rate of CHM ASP will stay 7.6% YoY. For the forecast of **market sales area**, we refer to the Chinese Academy of Sciences Forecast Center's report, and the growth rate of **-0.84% CAGR** is applied. Vanke's commodity housing market shares forecast assumes that the market share growth rate for the next five years is equal to the average of the market share growth rate of the previous four years of 4.08%.

Figure 30. Vanke land acquisition volume and price

Source: Annual reports

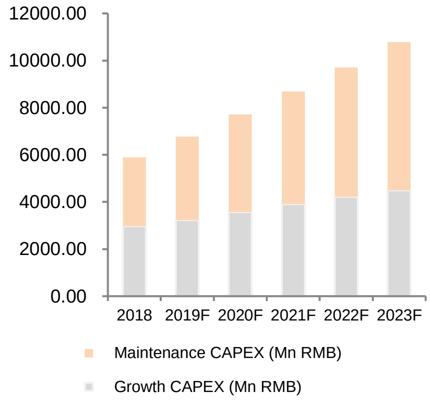


Cost

As we know, the cost of real estate company include: acquisition cost of land, aggregate cost of development, materials and supplies, wages and other direct expenses and an appropriate proportion of overheads and borrowing costs capitalized, etc., in which the cost of land and cost related to construction are two of the costs that occupy large proportions. From the figure 30, we can conclude that recently, Vanke has implemented a strict control on land acquisition cost, which can just cancel the impact of construction cost increasing. So, for cost forecasting, we simply assume that all the costs grow in line with revenue or sales, by the stable historical ratio. More in detail, cost of revenue is assumed to be related to the growth of revenue due to time lag between PD revenue and sales. However, other expenses like Selling and marketing expenses, General and administrative expenses and other operational expenses were assumed to be in line with total sales since those costs usually are confirmed in the same years that they occurred.

Figure 31. Vanke's CAPEX

Source: The author

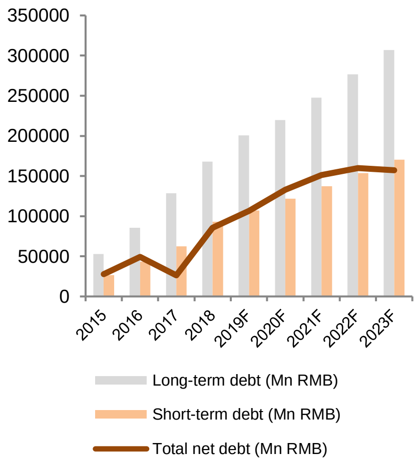


CAPEX

Due to the existence of disposal, inventory transformation in real estate industry. it is not advisable to simply use d PP&E + Dep. as the substitution of CAPEX. So, in the report we simply assume that CAPEX changes along with revenue by a fix ratio of 1.98%. Also, the annual depreciation is considered equivalent to the maintenance CAPEX, the corresponding value of the growth CAPEX then can be derived (Figure 31). Finally, in the terminal column, we assume that terminal CAPEX and terminal depreciation normalized each other mutually.

Figure 32. Vanke debt evolution

Source: The author



D&A

Depreciation's predictions are based on addition, while amortization is based on predictions of Intangible asset addition and the other long-term assets addition. The annual depreciation is a fixed percentage of addition for this year. The same is true for amortization. See the Appendix 8 for more detailed assumptions.

Debt strategy

The report details Vanke's long-term and short-term debts. In conjunction with its financing plan, we do a debt projection in the next five years. So far, Vanke has launched a total of three bond financing plans, including a dollar plan and two RMB plans. HK MTN Programme is a US dollar bond program inherited from Bestgain Real Estate Lyra Limited (one of Vanke's subsidiaries in HK). It has been incremented from the initial USD 3.2B to the current USD 7B. The other two RMB plans are domestically issued RMB Corporate Bonds. Among them, the newest two tranches are 2019 corporate bonds specialized in rental housing issued to qualified investors in public under the RMB Corporate Bonds. Therefore, in terms of debt, the overall forecast is that Vanke will not carry out huge financing plans, but financing will still proceed. It is expected that the future debt will develop according to a certain proportion of the revenue (Figure 32). Among them, according to historical data, for long-term borrowing the proportion is 40.71% of the same year and for long-term bonds 15.85%. For short-term borrowing the proportion is 23.27% of the same year, and for short-term bonds is 8.09%. In addition to the remaining bonds in the three big plans, we predict that the future new debt will be all RMB debt. In terms of interest rates, refer to the various Vanke debt interest rates coming this year, assuming a long-term borrowing interest rate of 5%, a short-term borrowing rate of 3%, and a long-term bond rate of 3.5%, short-term bond rate of 2.5% in the next five years.

Figure 33. Vanke's WACC

Source: The author

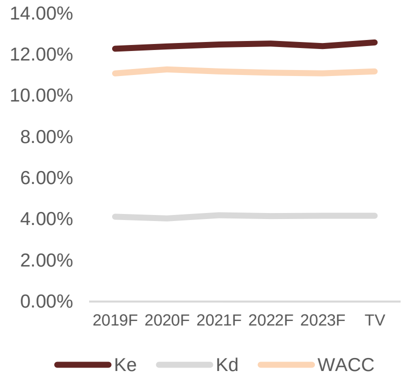


Table 12. WACC assumptions

Source: Author

WACC	2020F	Terminal
Cost of equity	12.56%	12.45%
Rf	3.34%	3.34%
MRP	8.19%	8.19%
Unlevered β	0.81	0.81
β	1.05	1.11
Cost of debt	4.06%	4.17%
Marginal tax rate	43.41%	43.41%
D/V	0.33	0.40
E/V	0.67	0.60

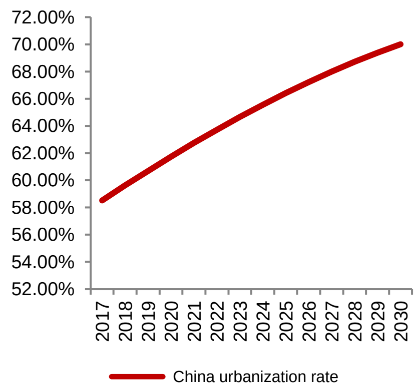
WACC assumption

In the DCF method, we used the way of discounting FCFF by WACC. The WACC in the report was obtained using the moving backwards method, which implicates reaching the WACC of different periods by the assumed terminal WACC. Since WACC is closely related to the company's D/V ratio, we can deduce that the actual WACC changes every year (Table 12). By assuming a target number of 0.15 to Vanke's terminal D/V ratio, we reach a terminal β of 1.13 and a terminal WACC of 11.05%. In this way, the terminal FCFF can be discounted to 2023F, and added to the 2023F FCFF to obtain the EV of 2023F. Then deducted the 2023F debt market value to get the corresponded Equity market value. So, the D/V and E/V ratios of 2023F are easy to calculate, the 2023F WACC is obtained under all the assumptions of cost of equity, cost of debt and tax rate (Figure 33). The steps above are repeated until discounted to the target year. Each year's debt market values were calculated from debt structure projection (See Appendix 10 for the detailed process).

Cost of equity was calculated using a multi-factor model with market risk premium, risk free rate and β of the company. By removing the influence of leverage in β in current year, we get the unlevered β. After applying the leverage ratio of each year to unlevered β, we get each year's β. To estimate the cost of debt, we use the weighted average interest rate on all the debt for each year according to the debt projection structure.

Figure 34. China urbanization rate

Source: LI Shantong, GAO Chunliang



Tax Rate – Land Appreciation Tax

The LAT is another Chinese Characteristic in real estate market. It is another principal tax imposed besides income tax for the property developers. Basically, the purpose of LAT is to restrict the abnormal development of real estate market, and the relevant tax base of LAT is very similar to the operational income. That is why in Vanke's annual reports the LAT was included in the income tax item in the income statements, which is also the fundamental reason why the marginal tax rate applied in our report is that high. Land appreciation tax is levied from 30% to 60% on gain on disposal of landed properties with reference to the percentage of appreciated value over the deductible amount.

The effective tax rate is deduced directly by Tax/EBT.

Terminal g assumption

Based on the prediction of China's urbanization rate, we can conclude that in 2030, China's urbanization rate reached 70% (see Appendix 17 for the detailed forecasting process). Referring to the urbanization process of other countries, after the urbanization rate exceeds 70%, the real estate industry will be affected and even negative growth will occur (Figure 34). This is because the most fundamental relationship between supply and demand has been broken and the demand in the real estate industry has been greatly reduced. Therefore, we can predict that in the long run, the growth of China's real estate industry will not maintain the status quo. Evidently, we cannot use stable growth model here to get the terminal growth rate, since the ROE of Vanke will drop from 20% at least after 2030. So, a terminal g of 1.5% is applied, which is also the long-term terminal value of China GDP growth rate forecasted by OECD.

For detail information check the Appendix 11.

Multiples Valuation

As a reference method, we also used the relative method to evaluate Vanke. We chose 11 companies as peer group, and the target price is RMB 45.70. Compared with current price of RMB 29.60, it can be concluded that Vanke's share price is undervalued compared to its peers.

In our relative valuation, the peer group companies were selected from the Bloomberg data of China Real Estate Owners and Developers Valuation Peers, in which we exclude some of them without uniform D/V ratio and company dimension. To get the target EV of Vanke, we choose the following EV multiples: EV/Sales, EV/Gross Profit, EV/EBIT.

With the EV/Sales ratio we get a target EV between 560B and 620B, with the EV/GP ratio a target EV between 600B and 690B, while with the EV/EBIT ratio, we reach a target EV between 530B and 680B. Finally, the range of 560B-620B was selected. By deducing net debt value of 86B and doing average computation, we reach an average equity value of 504B, which stands for the target price of RMB 45.70.

Table 13. Multiple valuation
Source: Author

ESTIMATED VALUE OF EQUITY (B)		
EV based on EV/Sales	560	620
EV based on EV/GP	600	690
EV based on EV/EBIT	530	680
Selected range	560	620
Net Debt	86	86
Equity Value	474	534
Average of the range	504	
Share Price	¥45.70	
Price on 2019-4-24	¥29.60	
Upside Potential	54.38%	

7. Financial Analysis

Revenue and profit

We can see that, unlike the previous steady increase, Vanke's revenue growth rate fell to 1.15% in the Waterloo style in 2017. Besides due to the result of further tightening of the real estate policy after the surge in the real estate market in 2016, the principal reason for that is the completion delay of some projects, which was also proved by the surge of 2018 revenue because of the double ascension of completion area and settlement average price. However, the net profit growth rate in 2017 was as high as 31.25%. According to the 2017 annual report, the operating cost of Vanke decreased by 5.85% in 2017, which is the reason for the high net profit growth rate and low revenue growth rate this year (Figure 35). Especially in 2018, Vanke has a corresponding rebound in terms of revenue and net profit, but this does not indicate a good prospect. Combined with the overall financial analysis below, Vanke's revenue and profit performance in 2018 is likely to be more than just operational development and "renovation of the property market", but include increased leverage, operating cost control and other business developments and many other complex factors. Therefore, combined with the domestic economic situation and related policies, as well as the trend of the real estate industry in the first quarter of 2019, this report predicts that in the next five years, Vanke's property development revenue growth will gradually slow down to 2023F nominal GDP growth. Correspondingly, profits and costs will also increase at a relatively steady rate of growth.

Figure 35. Vanke Rev. g & NI g& Cost of Rev.g
Source: Author

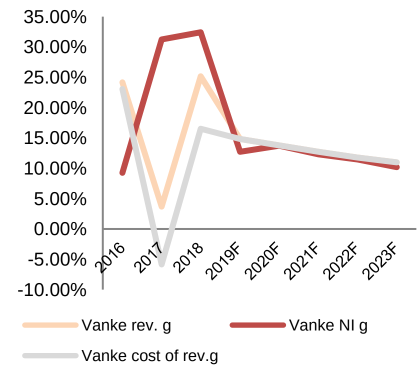
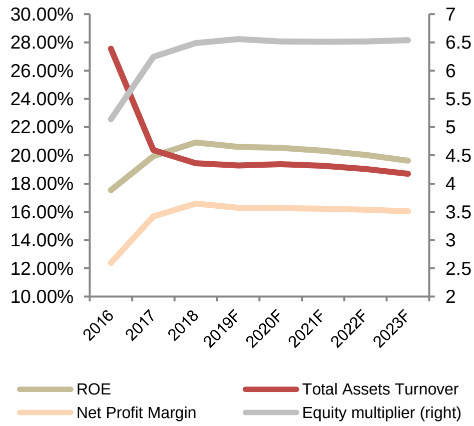


Figure 36. Dupont analysis
Source: Author



Dupont Analysis

From the overall ROE trend, it can be seen that since 2016, Vanke's ROE has maintained a steady increase. The ROE is divided into three parts: net profit margin, asset turnover and equity multiplier, we can see that between 2016 and 2017, Vanke's leverage and net profit margin have increased significantly, while operational efficiency has decreased. Although the equity multiplier has risen, the fundamental reason for that comes from the interest-free current liability of Trade payables. The good cost control also helps through net profit margin. However, the operational efficiency decrease cannot be ignored.

Inventory turnover

According to the "China Real Estate Market Prospects Survey Analysis Report" released by Qianinfo Consulting, in the first half of 2018, the average inventory turnover rate of TOP100 real estate enterprises was 0.12 which, for 2017, was 0.17. The average inventory turnover rate fell by 29.41%. The fact is that Vanke's inventory turnover rate continued to decline in 2017 and 2018 (Figure 37). The fundamental reason is that the real estate industry in 2016 deviated from the normal level of inflation, overdraft demand for the next two years. Based on the fact that Vanke's current inventory turnover rate is close to the lowest value of historical inventory turnover in the past decade, this report assumes that the inventory turnover rate will maintain steady development in the next five years.

Liquidity and solvency

According to the report, Vanke's liquidity will decline slowly in the next five years, which will cause Vanke's cash holdings to be reduced. However, generally, those liquidity ratios keep in healthy level. From Figure 38 we can see that in 2017, the current ratio decreased, the quick ratio and the cash ratio increased, which means that this inventory growth is weaker than other current assets growth. However, from Figure 37 we can know that in the same year inventory turnover has decreased, which corresponds to the revenue with only 1.15% growth rate in 2017. This strange situation can be explicated by the drop of new construction area growth rate.

Due to the high growth of Vanke's liabilities in the past two years, the debt growth rate will gradually decline in the next five years to ensure that Vanke has a healthy leverage ratio before urbanization reaches 70%. It also meets the trend of de-leveraging the entire real estate market. It is worth mentioning that the interest coverage ratio is increasing year by year, which is related to the restrained debt structure projection and the lower interest rate preset. This report is scheduled to maintain stable and basically unchanged Vanke's short-term debt/total debt ratio for the next five years (Figure 39).

Dividends payment

Vanke has maintained a tradition of distributing dividends for 20 consecutive years and has a very attractive dividend policy in the industry. We can see from the annual reports that it has maintained a relatively stable payout policy throughout many years. At the Vanke 2017 Annual General Meeting of Shareholders, Zhu Jisheng said that the company has reached a total of 45.5 billion yuan in dividends over the years. The accumulated dividends have exceeded the total equity financing of the company. So, holding Vanke's shares will have better earnings expectations in terms of stock dividends. Here we preset that the dividends payout ratio for the next five years will remain constant at 34.97% as in 2018, changing based on the annual forecast of NI (Figure 40).

Figure 37. Vanke inventory turnover

Source: Author

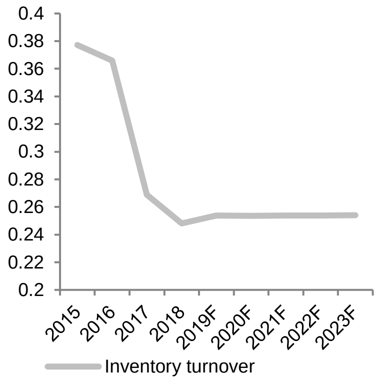


Figure 38. Vanke liquidity ratio

Source: Author

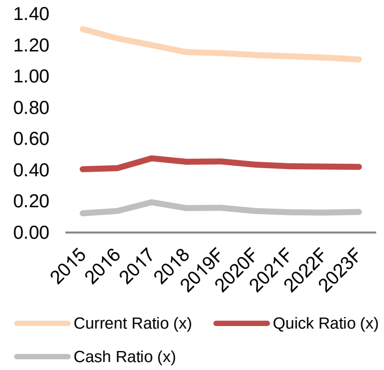


Figure 39. Vanke debt structure

Source: Author

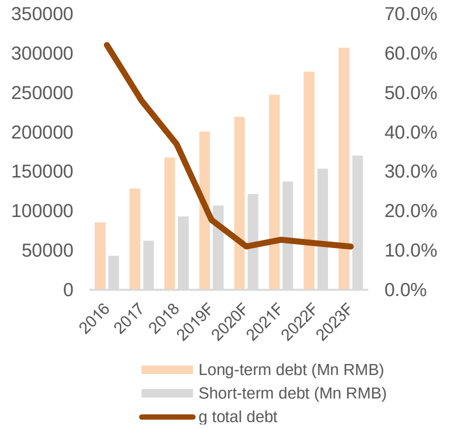
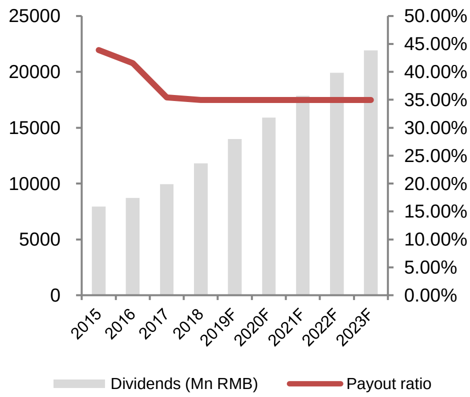


Figure 40. Vanke dividends and payout ratio

Source: Vanke annual reports



8. Investment Risks

Economic and Market Risks:

GDP Growth (EMR1)

As we mentioned before, the Chinese economy, or more in detail, the Chinese GDP growth is facing a down turn pressure. According to analyst, besides the world economic situation and trade conflicts, the economic pressure also comes from the consumption decline, whereas two of the important factors of consumption decline are the high house price and housing loan pressure. Conversely, the GDP growth pressure will for sure impact the real estate market. The industry in which the Company operates is closely related to the macro-economy. Starting from the current high social debt ratio situation, the GDP growth pressure is an essential risk factor.

Exchange Risk (EMR2)

For Vanke, the domestic liabilities and overseas liabilities accounted for 69.7% and 30.3% respectively. To cope with the Group's overall strategic advancement and development of various businesses, the Group raised foreign currency funds abroad through various channels. Although in our assumption Vanke will decrease the foreign debt level, there still exist relevant risk (Figure 42).

Real estate bubble (EMR3)

In 2016, the price of first-tier cities experienced a skyrocketing, and the average price-to-income ratio reached 22.6. The rational house price-to-income ratio between 2007 and 2014 was about 13.0, and the price-to-income ratio deviated to 73.8% (Figure 43). Although currently the surge tendency no longer presents itself, and under the government's long-term regulation, housing prices in first- and second-tier cities will be in a relatively stable range, in the short term, the first- and second-tier real estate bubbles still exist. The domestic social debt ratio is relatively high, and the economic development is facing downward pressure. It is necessary to be alert to the rapid bursting of real estate bubble caused by systemic financial risks.

Population reduction (EMR4)

The population growth rate keeps in decline in the recent years, even though the "One Child" policy was cancelled. The reason behind this circumstance is complex, but the pressure of high house price and high raising cost are two key factors. In the long run prediction, this situation will gravely influence the real estate market. In the short term, because Vanke concentrates itself mainly in the tier 1 and tier 2 cities, and thanks to the population inflow to those area, the impact imposed on Vanke may not be that hard.

Higher social debt ratio (EMR5)

From the debt level, the leverage ratio of China's real economy sector is about 250%, which is much higher than the average leverage ratio of less than 190% in emerging economies, but is close to the US level (Figure 44). It is worth noting that, according to statistics, since the subprime mortgage crisis, the most heavily leveraged social sector has been the non-financial private sector, including businesses and residents. The leverage ratio of non-financial corporate sectors has been significantly higher than the global level, and the upward trend is rapid, reaching 1.77 times the global level and 1.89 times the overall level of developed countries. The overall level of household leverage is not high, but slightly higher than the sample of developing countries, and the growth rate is too fast. As we already discussed before, although the risk of household leverage is worthy of

Figure 41. Vanke Risk Matrix
Source: The author

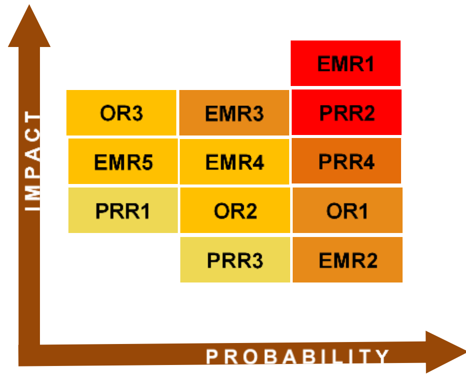


Figure 42. RMB/USD exchange rate
Source: Bloomberg

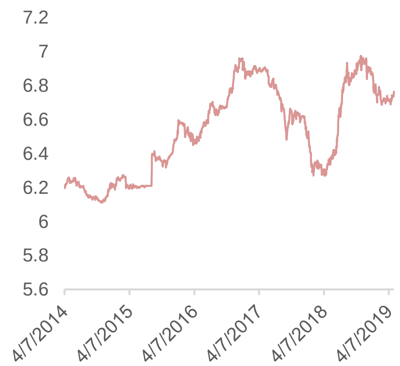


Figure 43. Major cities' house price-to-income ratio 2018
Sources: City Finance

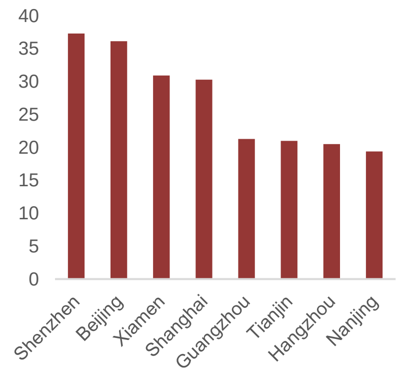
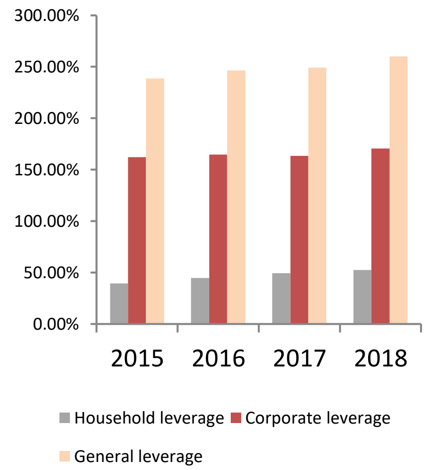


Figure 44. China social debt ratio
Source: NSB



attention, another problem stays in state-owned companies and local governments. Among them, the implicit debt of local governments that is not included in official statistics is the root cause of the high debt ratio (Figure 45). As you can see from Figure 45, the real debt to GDP ratio of the Chinese government in the past two years has exceeded the 60% debt risk reference value stipulated by the Maastricht Treaty. The high debt ratio of these sectors will increase systemic financial risks in the future.

Political and Regulatory Risks:

Land policy issuance lagging behind the market (PRR1)

State control of land is a double-edged sword. Although it can prevent market overheating and stabilize house price growth through regulation, it has great requirements for government efficiency, forward-looking and professionalism due to the time lag and limitations of human regulation.

The real estate tax legislation (PRR2)

Recently, the cancellation of the pool area, the national networking of the real estate information platform, the reduction of taxes on real estate transactions, the automatic renewal of property rights, etc.... all seem to be preparing for the issuance of real estate taxes. Once the real estate tax is introduced, it will bring a big blow to speculators in the real estate market, and at the same time bring the result of house prices falling. The good news is that It is expected to slowly and steadily advance.

Environmental protection policy tightens (PRR3)

In the recent years, Chinese government has Increased emphasis on environmental protection, which surely brought tremendous pressure to some heavily polluting industrial companies. Vanke, as a company that values environmentally friendly green development may not be restricted by those policies, but they will still increase so many kinds of costs, especially in construction area.

Limitation of real estate finance and purchase restriction (PRR4)

Recently, the central bank promoted a series of proposes. Generally, it is required to strengthen the prudent management of real estate finance. Wang Zhaoxing, vice chairman of the China Insurance Regulatory Commission, pointed out that it is necessary to continue to focus on real estate financial risks. Implement prudent risk management standards, prudently issue development loans and personal mortgage loans, and promote the steady and healthy development of real estate finance and real estate markets.

The purchase restriction in resident housing market is a long-term battle. As long as the real estate bubble is not normalized, it will continue to be implemented. The first- and second-tier cities operated by Vanke are the focus of purchase restrictions, and attention should be paid to policy risks.

Operational Risks

Debt ratio and liquidity risk (OR1)

Typically, the total debt to total asset ratio is used to reflect the level of debt of a listed company. However, according to Vanke's executives, the real estate industry has more account payable included in liabilities. There is no interest cost for account payable, so the net gearing ratio will be more appropriated.

As at the end of 2018, the Group's interest-bearing liabilities amounted to RMB261.21 billion in aggregate, representing 17.1% of total assets and Vanke's net gearing ratio (interest-bearing liabilities less cash and cash equivalents divided by net assets) was 30.9% (Figure 46). By financing source, bank borrowings, bonds payable and other borrowings accounted for 52.8%, 27.2% and 20.0% respectively. However, if we look at the data of 2017, the gearing ratio of Vanke

Figure 45. Local governments debt
Source: Pacific securities

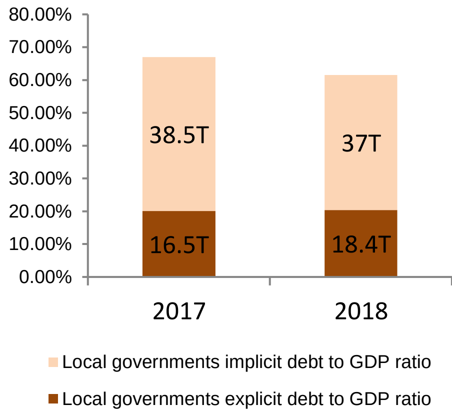


Figure 46. Vanke net gearing ratio
Source: Author

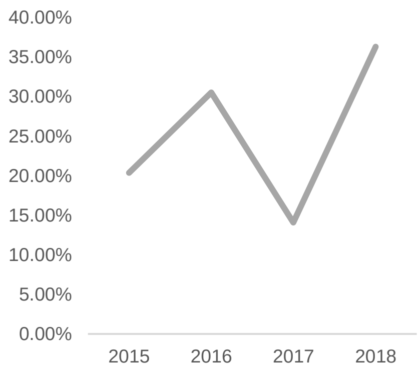
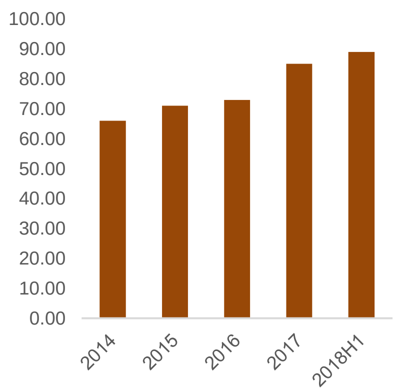
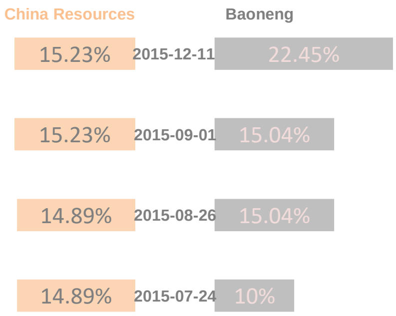


Figure 47. Vanke landbank (Mn Sq.m.)
Source: Vanke annual reports



was only 14.1%, which implicated 2 times increase in net debt. That means Vanke has issued more debts in the recent two years. The debts incremented will aggravate interest pressure. At the same time, according to our analysis in the report, if Vanke wants to keep in advantage in liquidity, it has to keep issuing debts in a significant level of volume. However, if it pays more attention to leverage control, Vanke will have to give up part of the liquidity.

Figure 48. Intensive stage of the battle
Resource: Vanke documents



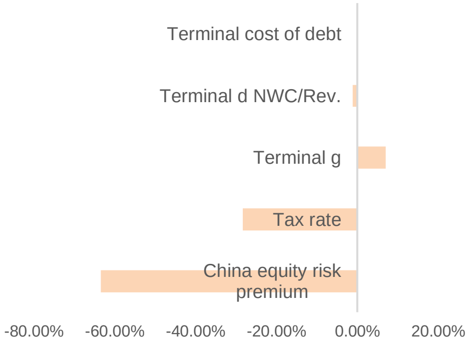
Lack of land inventory (OR2)

Since it has always followed the strategy of “Not hoarding land, fast turnover”, Vanke’s land survival ratio is almost the lowest compared with other housing companies (Figure 47). According to statistics, before 2014, Vanke's land survival ratio remained within 3, but in 2014 and 2015, Vanke's land survival ratio fell to around 2. As of the end of August 2016, Vanke's land survival ratio fell again to around 1.29. In other words, the land is only developed enough for the next 1.29 years. In the future, exist probability of land lack for Vanke.

Shareholding issue (OR3)

Looking at the Company itself, the shareholding battle began in July 2015 created unprecedented uncertainties to the Company’s operation and management in the short term (Figure 48). Certain shareholders had proposed the removal of all the directors and non-employee representative supervisors. The share price of the Company fluctuated substantially and it also resulted in distrust among certain customers, suppliers, partners, financial institutions and investors. See more details in Appendix 16.

Figure 49. Monte Carlo Sensitivity distribution
Source: The author



Risk to price target

In the report, four sensitivity analyses were performed to access the impact of several investment risk on DCF method’s final target price of Vanke. Those risks include Commodity housing market ASP, commodity housing market sales area growth, long-term borrowings rate, long-term Bonds rate, China risk free rate, China equity risk premium, and terminal growth rate. Combined with the sensitivity test in the Monte Carlo Simulation, the result directly indicated to the China equity risk premium and Income tax rate, which are the most sensitive factors in comparison with all the other risks (Figure 49). After that, the terminal g, the CHM ASP g, the CHM sales area g and China risk free rate are also sensitive to the target price. More detailly, the CHM ASP growth, the CHM sales area g and the terminal growth rate are positively correlated factors, while the income tax rate, China equity risk premium and China risk free rate are negatively correlated factors. See more details in the Appendix 14.

Table 14. Monte Carlo Simulation
Source: Author

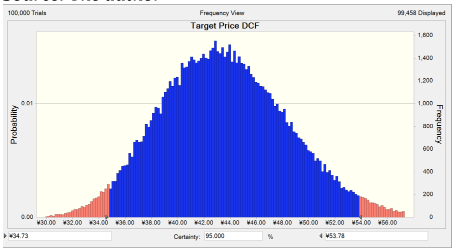
MC Statistics	
Number of trials	100,000
Base case	43.97
Mean	43.60
Standard deviation	4.89
10th percentile	37.48
90th percentile	50.04

Monte Carlo Simulation

For the same objective, we applied Monte Carlo Simulation Process to the DCF valuation using the Cristal Ball, in which covered 100,000 simulations. We assume several different distributions to the variables of Terminal cost of debt (0.1%), Terminal g (7%), d NWC/Rev. (1.1%), Tax rate (28.4%), China equity risk premium (63.4%), check the Appendix 15 for more details.

The result shows a mean price of RMB 43.60 and a standard deviation of RMB 4.89 (Table 14). With 95% probability the price target is expected to be between RMB 34.73 and RMB 53.78.

Figure 50. Monte Carlo distribution
Source: The author



Appendices

Appendix 1: Statement of Financial Position

Annual As Reported in Millions of RMB

BALANCE SHEET	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Intangible assets, net	836.5	892.8	1,096.3	1,015.4	1,026.5	1,032.7	1,039.7	1,047.5	1,056.2
PP&E	6,373.9	9,105.6	10,734.8	22,645.4	32,200.3	43,074.0	55,332.6	69,037.5	84,246.2
Investment properties	7,609.5	12,096.8	17,046.2	25,897.9	32,357.6	40,350.3	50,012.0	61,660.3	75,675.9
Interests in associates and joint ventures	33,503.4	61,702.0	81,224.3	129,527.7	152,112.6	172,926.0	192,673.9	212,414.6	233,904.8
Other financial assets	1,138.8	1,328.0	1,340.7	2,688.9	2,688.9	2,688.9	2,688.9	2,688.9	2,688.9
Other long-term assets	9,642.5	17,055.0	26,700.8	35,983.0	46,670.4	60,363.0	77,973.3	100,638.7	129,854.6
Deferred tax assets	5,166.5	7,198.5	9,651.0	15,749.2	18,085.4	20,581.5	23,202.8	25,940.4	28,786.7
Non-Current Assets	***64,271.2***	***109,378.8***	***147,794.1***	***233,507.5***	***285,141.7***	***341,016.5***	***402,923.1***	***473,428.0***	***556,213.5***
Inventories	367,507.2	466,225.3	597,487.3	754,310.1	866,201.1	985,754.6	1,111,299.6	1,242,418.3	1,378,744.5
Contracted assets	-	-	-	1,364.1	1,561.3	1,744.1	1,950.2	2,183.5	2,448.4
Accounts Receivables	118,576.6	159,542.7	238,404.9	331,838.8	380,733.3	431,229.5	485,139.2	542,578.4	603,710.8
Other current assets	7,956.6	8,670.5	721.9	12,600.8	14,470.0	16,467.1	18,564.3	20,754.7	23,032.0
Pledged and restricted deposits	1,432.8	7,542.1	9,795.0	12,749.3	***12,749.3***	***12,749.3***	***12,749.3***	***12,749.3***	***12,749.3***
Assets held for sale	-	-	6,910.2	6,624.6	6,797.5	6,981.1	7,176.5	7,379.6	7,599.5
Cash and cash equivalents	51,747.6	79,490.0	164,326.0	175,668.2	200,881.2	208,474.1	233,635.6	270,337.7	320,068.6
Current Assets	***547,220.793***	***721,470.635***	***1,017,645.288***	***1,295,155.915***	***1,483,393.665***	***1,663,399.743***	***1,870,514.812***	***2,098,401.480***	***2,348,353.226***
Total Assets	**611,492.0**	**830,849.4**	**1,165,439.4**	**1,528,663.4**	**1,768,535.4**	**2,004,416.2**	**2,273,438.0**	**2,571,829.5**	**2,904,566.7**
Bank loans and borrowings from financial institutions	33,828.6	56,406.1	96,029.0	120,929.1	138,867.1	158,033.6	178,160.7	199,181.3	221,036.8
Bonds payable	19,015.8	29,108.4	32,322.7	47,095.1	61,722.2	61,545.3	69,383.7	77,570.1	86,081.5
Deferred Income Taxes	754.8	679.3	357.8	623.0	909.8	1,035.3	1,167.2	1,304.9	1,448.1
Provisions	143.2	118.7	159.9	143.5	143.5	143.5	143.5	143.5	143.5
Other long-term liabilities	1,378.1	2,862.0	2,540.7	2,338.0	2,338.0	2,338.0	2,338.0	2,338.0	2,338.0
Non-Current Liabilities	***55,120.5***	***89,174.4***	***131,410.0***	***171,128.7***	***203,980.6***	***223,095.9***	***251,193.1***	***280,537.8***	***311,048.0***
Trade and other payable	380,825.8	519,643.3	760,383.1	486,726.1	558,925.0	636,068.0	717,077.2	801,682.9	889,648.7
Contract liabilities	-	-	-	504,711.4	577,645.4	645,312.8	721,558.3	807,862.4	905,889.2
Short-term borrowing	25,648.4	40,881.7	56,109.3	69,136.9	79,392.4	90,350.2	101,857.1	113,874.9	126,370.0
Income tax accrued	12,589.5	17,005.3	24,699.6	37,293.0	51,293.4	70,549.7	97,035.2	133,463.8	183,568.3
Short-term bond	998.1	2,468.2	6,163.4	24,046.5	27,613.4	31,424.6	35,426.9	39,606.8	43,952.7
Current Liabilities	***420,061.8***	***579,998.5***	***847,355.4***	***1,121,913.9***	***1,294,869.5***	***1,473,705.3***	***1,672,954.7***	***1,896,490.8***	***2,149,428.8***
Total Liabilities	**475,182.4**	**669,172.9**	**978,765.4**	**1,293,042.7**	**1,498,850.1**	**1,696,801.2**	**1,924,147.8**	**2,177,028.6**	**2,460,476.8**
Common Stock	11,051.6	11,039.2	11,039.2	11,039.2	11,039.2	11,039.2	11,039.2	11,039.2	11,039.2
Treasury stock	(160.2)	-	-	-	-	-	-	-	-
Reserves	89,292.1	102,405.6	121,636.2	144,725.0	166,943.9	192,216.9	220,600.9	252,230.5	287,087.1
Non-controlling interests	36,126.1	48,231.8	53,998.6	79,856.6	91,702.2	104,359.0	117,650.0	131,531.2	145,963.6
Total Equity	**136,309.6**	**161,676.6**	**186,673.9**	**235,620.7**	**269,685.3**	**307,615.0**	**349,290.1**	**394,800.9**	**444,089.9**
Total Equity + Total Liabilities	**611,492.0**	**830,849.4**	**1,165,439.4**	**1,528,663.4**	**1,768,535.4**	**2,004,416.2**	**2,273,438.0**	**2,571,829.5**	**2,904,566.7**

Appendix 2: Income Statement

Annual As Reported in Millions of RMB

INCOME STATEMENT	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Sales Value	261,470	364,770	529,880	606,950	684,131	768,861	861,525	962,471	1,072,004
Revenue	184,317.5	228,916.1	237,344.7	297,083.1	344,313.7	394,527.9	446,760.5	500,498.2	555,241.9
Property development	179,287.7	222,883.8	226,606.8	281,494.5	323,718.7	367,080.8	410,359.6	452,154.7	490,949.6
Property services	2,799.8	4,055.4	7,199.4	9,795.6	13,328.1	18,134.5	24,674.0	33,571.9	45,678.5
Rental Housing	0.0	0.0	1,372.6	3,066.6	3,835.2	4,993.0	6,289.4	7,927.1	9,998.3
Other business	2,230.0	1,976.9	2,165.9	2,726.3	3,431.7	4,319.7	5,437.5	6,844.5	8,615.5
Cost of revenue	138,625.6	170,602.3	160,621.2	187,131.0	216,881.3	248,511.0	281,412.0	315,261.1	349,743.8
Gross Margin	45,691.9	58,313.8	76,723.5	109,952.1	127,432.4	146,016.9	165,348.5	185,237.1	205,498.1
Other income	3,431.6	1,388.9	4,537.6	3,585.1	3,585.1	3,585.1	3,585.1	3,585.1	3,585.1
Distribution costs	4,138.3	5,160.7	6,262.0						
Selling and marketing expenses	0.0	0.0	0.0	7,868.1	8,868.6	9,967.0	11,168.2	12,476.8	13,896.7
General and administrative expenses	4,853.2	7,174.6	9,632.7	14,590.1	16,445.5	18,482.2	20,709.7	23,136.3	25,769.3
Other operational expenses	229.5	519.0	1,193.1	2,112.6	2,381.2	2,676.2	2,998.7	3,350.1	3,731.3
Operating Income (EBIT)	39,902.6	46,848.4	64,173.3	88,966.4	103,322.2	118,476.7	134,057.0	149,859.1	165,685.9
Financial result	1,779.0	2,310.3	4,060.7	8,181.4	10,783.8	12,548.2	14,545.7	16,304.2	18,350.6
Share of profits less losses of associates and joint ventures	2,393.1	4,930.7	4,569.2	6,279.9	7,278.3	8,339.8	9,443.9	10,579.8	11,737.0
EBT	40,516.7	49,468.8	64,681.7	87,064.9	99,816.7	114,268.3	128,955.2	144,134.7	159,072.3
Income Taxes	14,567.3	21,118.5	27,473.4	37,792.7	43,327.9	49,600.9	55,976.2	62,565.2	69,049.2
Net Income	25,949.4	28,350.3	37,208.4	49,272.3	56,488.8	64,667.3	72,979.0	81,569.5	90,023.1
Other information:									
D&A	715.8	1,148.6	1,929.0	2,921.9	4,820.2	5,423.5	6,249.8	7,151.7	8,139.1

Appendix 3: Cash Flow Statement

Annual As Reported in
Millions of RMB

CASH FLOW STATEMENT	2019F	2020F	2021F	2022F	2023F
Operating Activities	***48,063.0***	***47,334.9***	***59,769.0***	***73,854.2***	***89,876.0***
+EBIT	101,725.6	115,858.0	130,446.3	145,357.3	160,456.6
+D&A	4,796.2	5,360.9	6,156.4	7,029.4	7,989.4
-Income Tax	(42,608.9)	(48,462.0)	(54,427.6)	(60,651.1)	(66,839.0)
-DNWC	(15,849.9)	(25,422.0)	(22,406.1)	(17,881.3)	(11,731.0)
Investment Activities	***(44,473.1)***	***(45,174.6)***	***(45,907.8)***	***(46,674.8)***	***(47,461.2)***
-CAPEX	(6,771.4)	(7,706.0)	(8,687.5)	(9,712.5)	(10,778.2)
+Disposal	1,520.3	1,520.3	1,520.3	1,520.3	1,520.3
+-Other Inv.	(47,855.7)	(47,855.7)	(47,855.7)	(47,855.7)	(47,855.7)
+Interest received	3,979.1	4,086.5	4,200.9	4,319.8	4,448.5
+Dividend received	4,654.7	4,780.4	4,914.2	5,053.3	5,203.9
Financing Activities	***21,426.1***	***5,632.6***	***11,300.3***	***9,522.7***	***7,316.1***
-Interest paid	(10,776.8)	(12,420.4)	(14,310.6)	(15,975.7)	(17,954.7)
-Dividends	(13,984.6)	(15,905.7)	(17,863.6)	(19,906.2)	(21,937.2)
-DDebt	46,187.5	33,958.7	43,474.6	45,404.7	47,208.0
	0.0	0.0	0.0	0.0	0.0
Change in Cash	25,016.0	7,792.9	25,161.5	36,702.1	49,730.9
	0.0	0.0	0.0	0.0	0.0
Begining	175,668.2	200,684.2	208,477.0	233,638.5	270,340.7
End	200,684.2	208,477.0	233,638.5	270,340.7	320,071.6

Appendix 4: Key Financial Ratios

Key Financial Ratios	2018	2019F	2020F	2021F	2022F	2023F
Liquidity Ratios						
Current Ratio (x)	1.15	1.15	1.13	1.12	1.11	1.10
Quick Ratio (x)	0.45	0.45	0.43	0.41	0.40	0.39
Cash Ratio (x)	0.16	0.15	0.13	0.12	0.11	0.11
Efficiency Ratios						
Total Assets Turnover (x)	0.19	0.19	0.20	0.19	0.19	0.19
Accounts Receivables Turnover (x)	0.90	0.90	0.91	0.91	0.91	0.91
Collection Period (days)	407.70	404.87	402.82	401.81	401.48	401.91
Inventory Turnover (x)	0.24	0.24	0.24	0.24	0.23	0.23
Days in Inventory (days)	1494.62	1492.29	1513.29	1534.29	1555.29	1576.29
Payables Turnover (x)	0.22	0.22	0.22	0.22	0.22	0.22
Payables Period (days)	1659.86	1679.27	1678.08	1679.22	1680.64	1682.38
Operating Cycle (days)	1902.32	1897.15	1916.11	1936.10	1956.76	1978.20
Cash Cycle (days)	242.46	217.88	238.03	256.88	276.13	295.81
Assets Turnover	0.19	0.19	0.20	0.19	0.19	0.19
Profitability Ratios						
Gross Profit Margin (%)	37.01%	37.01%	37.01%	37.01%	37.01%	37.01%
EBITDA Margin (%)	30.93%	31.41%	31.40%	31.41%	31.37%	31.31%
EBIT Margin (%)	29.95%	30.01%	30.03%	30.01%	29.94%	29.84%
Net Profit Margin (%)	16.59%	16.41%	16.39%	16.34%	16.30%	16.21%
ROA (%)	3.22%	3.19%	3.21%	3.18%	3.14%	3.07%
ROCE (%)	21.87%	21.70%	22.06%	21.98%	21.80%	21.54%
ROE (%)	20.91%	20.85%	20.84%	20.64%	20.36%	19.95%
EPS (x)	4.46	5.12	5.86	6.61	7.39	8.15
SG&A/Sale (%)	7.56%	7.35%	7.21%	7.14%	7.12%	7.14%
Solvency Ratios						
Long- and short-term Debt Ratio (%)	0.17	0.18	0.17	0.17	0.17	0.17
Long-term Debt Ratio (%)	0.11	0.11	0.11	0.11	0.11	0.11
Debt to Equity Ratio (x)	5.49	5.53	5.50	5.49	5.49	5.49
Equity Multiplier (x)	6.49	6.53	6.50	6.49	6.49	6.49
Debt to EBITDA	2.84	2.87	2.80	2.80	2.80	2.81
Interest Coverage Ratio (x)	10.87	9.58	9.44	9.22	9.19	9.03
Value Creation and Cash Flow Ratios						
Economic Value Added (EVA)	17238.27	19020.05	23209.56	26745.78	30582.47	33878.35
Debt Coverage	10.87	9.58	9.44	9.22	9.19	9.03
Cash to Income	0.38	0.42	0.27	0.31	0.34	0.37
Earnings Quality: CFO/(NP+D&A+ΔNWC)	0.46	0.53	0.29	0.34	0.39	0.44

Appendix 5: Common-Size Statement of Financial Position

BALANCE SHEET	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Intangible assets, net	0.14%	0.11%	0.09%	0.07%	0.06%	0.05%	0.05%	0.04%	0.04%
PP&E	1.04%	1.10%	0.92%	1.48%	1.83%	2.15%	2.43%	2.69%	2.92%
Investment properties	1.24%	1.46%	1.46%	1.69%	1.83%	2.00%	2.18%	2.37%	2.59%
Interests in associates and joint ventures	5.48%	7.43%	6.97%	8.47%	8.62%	8.59%	8.40%	8.16%	7.94%
Other financial assets	0.19%	0.16%	0.12%	0.18%	0.15%	0.13%	0.12%	0.10%	0.09%
Other long-term assets	1.58%	2.05%	2.29%	2.35%	2.64%	2.99%	3.40%	3.87%	4.43%
Deferred tax assets	0.84%	0.87%	0.83%	1.03%	1.03%	1.04%	1.03%	1.02%	1.01%
Non-Current Assets	**10.51%**	**13.16%**	**12.68%**	**15.28%**	**16.15%**	**16.95%**	**17.60%**	**18.26%**	**19.02%**
Inventories	60.10%	56.11%	51.27%	49.34%	49.03%	49.97%	50.39%	50.53%	50.38%
Contracted assets				0.09%	0.09%	0.09%	0.08%	0.08%	0.08%
Accounts Receivables	19.39%	19.20%	20.46%	21.71%	21.60%	21.59%	21.43%	21.19%	20.88%
Other current assets	1.30%	1.04%	0.06%	0.82%	0.83%	0.83%	0.83%	0.82%	0.80%
Pledged and restricted deposits	0.23%	0.91%	0.84%	0.83%	0.72%	0.63%	0.56%	0.49%	0.44%
Assets held for sale			0.59%	0.43%	0.38%	0.35%	0.31%	0.28%	0.26%
Cash and cash equivalents	8.46%	9.57%	14.10%	11.49%	11.21%	9.60%	8.80%	8.35%	8.14%
Current Assets	**89.49%**	**86.84%**	**87.32%**	**84.72%**	**83.85%**	**83.05%**	**82.40%**	**81.74%**	**80.98%**
Total Assets	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Bank loans and borrowings from financial institutions	7.12%	8.43%	9.81%	9.35%	9.36%	9.41%	9.36%	9.27%	9.13%
Bonds payable	4.00%	4.35%	3.30%	3.64%	4.12%	3.66%	3.65%	3.61%	3.55%
Deferred Income Taxes	0.16%	0.10%	0.04%	0.05%	0.06%	0.06%	0.06%	0.06%	0.06%
Provisions	0.03%	0.02%	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Other long-term liabilities	0.29%	0.43%	0.26%	0.18%	0.16%	0.14%	0.12%	0.11%	0.09%
Non-Current Liabilities	**11.60%**	**13.33%**	**13.43%**	**13.23%**	**13.71%**	**13.28%**	**13.20%**	**13.05%**	**12.84%**
Trade and other payable	80.14%	77.65%	77.69%	37.64%	37.67%	37.87%	37.69%	37.31%	36.73%
Contract liabilities				39.03%	37.99%	37.46%	36.89%	36.42%	35.99%
Short-term borrowing	5.40%	6.11%	5.73%	5.35%	5.35%	5.38%	5.35%	5.30%	5.22%
Income tax accrued	2.65%	2.54%	2.52%	2.88%	3.43%	4.13%	5.00%	6.07%	7.41%
Short-term bond	0.21%	0.37%	0.63%	1.86%	1.86%	1.87%	1.86%	1.84%	1.81%
Current Liabilities	**88.40%**	**86.67%**	**86.57%**	**86.77%**	**86.29%**	**86.72%**	**86.80%**	**86.95%**	**87.16%**
Total Liabilities	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**
Common Stock	8.11%	6.83%	5.91%	4.69%	4.07%	3.56%	3.12%	2.76%	2.45%
Treasury stock	-0.12%								
Reserves	65.51%	63.34%	65.16%	61.42%	61.76%	62.26%	62.91%	63.66%	64.48%
Non-controlling interests	26.50%	29.83%	28.93%	33.89%	34.16%	34.18%	33.97%	33.58%	33.07%
Total Equity	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Appendix 6: Common-Size Income Statement

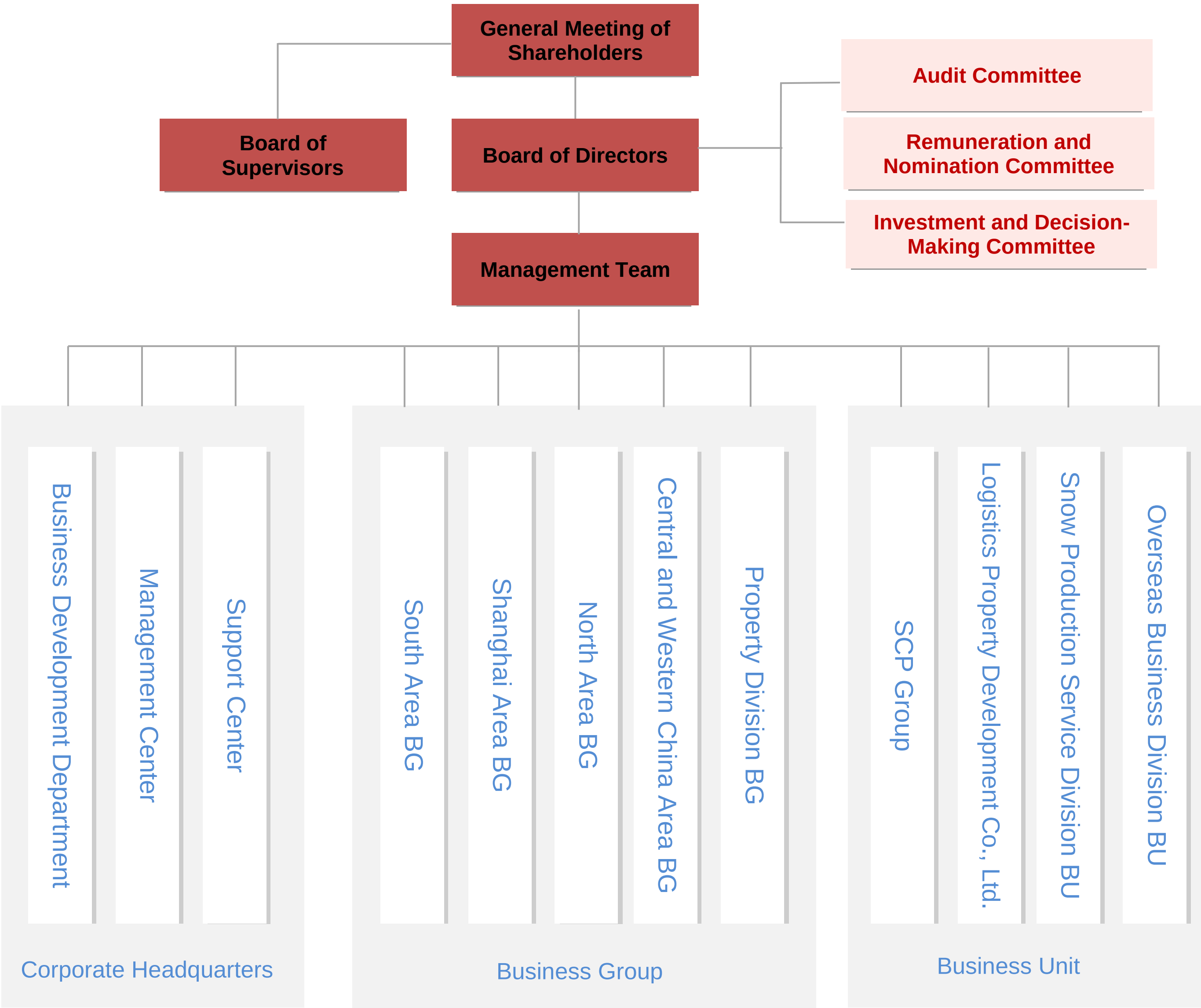
INCOME STATEMENT	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Property development	97.27%	97.36%	95.48%	94.75%	93.95%	92.91%	91.67%	90.11%	88.17%
Property services	1.52%	1.77%	3.03%	3.30%	3.91%	4.67%	5.64%	6.86%	8.41%
Rental Housing	0.00%	0.00%	0.58%	1.03%	1.13%	1.30%	1.45%	1.63%	1.83%
Other business	1.21%	0.86%	0.91%	0.92%	1.01%	1.11%	1.24%	1.40%	1.59%
Cost of revenue	75.21%	74.53%	67.67%	62.99%	62.99%	62.99%	62.99%	62.99%	62.99%
Gross Margin	24.79%	25.47%	32.33%	37.01%	37.01%	37.01%	37.01%	37.01%	37.01%
Other income	1.86%	0.61%	1.91%	1.21%	1.05%	0.92%	0.82%	0.73%	0.66%
Distribution costs	2.25%	2.25%	2.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Selling and marketing expenses	0.00%	0.00%	0.00%	2.65%	2.64%	2.59%	2.57%	2.57%	2.60%
General and administrative expenses	2.63%	3.13%	4.06%	4.91%	4.89%	4.80%	4.77%	4.77%	4.82%
Other operational expenses	0.12%	0.23%	0.50%	0.71%	0.71%	0.70%	0.69%	0.69%	0.70%
Operating Income(EBIT)	21.65%	20.47%	27.04%	29.95%	29.82%	29.84%	29.80%	29.71%	29.55%
Financial result	0.97%	1.01%	1.71%	2.75%	3.16%	3.20%	3.27%	3.26%	3.31%
Share of profits less losses of associates and joint ventures	1.30%	2.15%	1.93%	2.11%	2.11%	2.11%	2.11%	2.11%	2.11%
EBT	21.98%	21.61%	27.25%	29.31%	28.77%	28.76%	28.65%	28.55%	28.36%
Income Taxes	7.90%	9.23%	11.58%	12.72%	12.49%	12.48%	12.44%	12.39%	12.31%
Net Income	14.08%	12.38%	15.68%	16.59%	16.28%	16.27%	16.21%	16.16%	16.05%
Other informations:									
D&A	0.39%	0.50%	0.81%	0.98%	1.41%	1.38%	1.41%	1.44%	1.47%

Appendix 7: Forecasting Assumptions

	Notes	2018	2019F	2020F	2021F	2022F	2023F	Assumption
INCOME STATEMENT								
China Inflation rate		2.48%	2.61%	2.70%	2.80%	2.83%	2.98%	Collected from IFM.
China Real GDP	YoY	6.60%	6.20%	6.20%	6.00%	5.80%	5.60%	
d Commodity housing market sales area	YoY	1.36%	-0.84%	-0.84%	-0.84%	-0.84%	-0.84%	Assume commodity housing market sales areas decrease by 0.84% YoY.
d Commodity housing market ASP	YoY	10.69%	7.60%	7.60%	7.60%	7.60%	7.60%	According to Chinese Academy of Sciences Forecast Center's prediction of 7.6% increase in commodity housing market ASP in 2019F. Here assume to be constant over the next four years.
d Vanke market shares - real estate	YoY	4.08%	4.08%	4.08%	4.08%	4.08%	4.08%	Assume the market share of Vanke increase by the growth rate of 4.08% in 2018.
Vanke market shares - real estate	% CHM	4.05%	4.21%	4.38%	4.56%	4.75%	4.94%	
China Rental Housing Market	YoY	23.16%	20.11%	24.44%	19.84%	19.37%	18.92%	Assume rental housing market growth = (1+growth of floating population with rental demand) *(1+per capita disposable income growth) *(1+commodity housing market ASP growth)-1.
d Vanke market shares - rental housing	YoY		5.00%	5.00%	5.00%	5.00%	5.00%	Assume Vanke's rental housing market shares grows by 5% in 2019F.
Revenue:								
Property development	YoY	25.17%	13.86%	12.54%	11.22%	9.90%	8.58%	Relevant prediction (See details in rev. forecast sheet) result in growth rate of 13.86% YoY in 2019F, and uniformly reduced to nominal GDP growth rate till 2023F.
Property services	YoY	36.06%	36.06%	36.06%	36.06%	36.06%	36.06%	Assume property service grows by 36.06% YoY.
Rental Housing (Market Shares)	% RHM Rev	7.94%	8.34%	8.76%	9.19%	9.65%	10.14%	Assume Vanke rental housing revenue = Vanke RHM share * RHM revenue.
Other business	YoY	25.88%	25.88%	25.88%	25.88%	25.88%	25.88%	Assume other business grows by 25.88% YoY.
Cost of Revenue	% Rev	62.99%	62.99%	62.99%	62.99%	62.99%	62.99%	Assume to grow in line with revenue, with the proportion of historical data.
Gross Margin		43.31%	34.17%	34.17%	34.17%	34.17%	34.17%	Assume constant growth margin of 34.17%.
Other Income	=							Assume constant over the forecasting period.
Selling and marketing expenses	% Sales	1.30%	1.30%	1.30%	1.30%	1.30%	1.30%	Assume to grow in line with sales, with the proportion of historical data.
General and administrative expenses	% Sales	2.40%	2.40%	2.40%	2.40%	2.40%	2.40%	Assume to grow in line with sales, with the proportion of historical data.
Other operational expenses	% Sales	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	Assume to grow in line with sales, with the proportion of historical data.
Financial result								
Long-term borrowings rate	Annual Rate		5.00%	5.00%	5.00%	5.00%	5.00%	Assume constant Long-term loans annual rates 5%.
Short-term borrowings rate	Annual Rate		3.00%	3.00%	3.00%	3.00%	3.00%	Assume constant Short-term loans annual rates 3%.
Long-term Bonds rate	Annual Rate			3.50%	3.50%	3.50%	3.50%	Assume constant long-term bonds annual rates 3.5%.
Short-term Bonds rate	Annual Rate		2.50%	2.50%	2.50%	2.50%	2.50%	Assume constant short-term bonds annual rates 2.5%.
Share of profits less losses of associates and joint ventures	% Rev	2.11%	2.11%	2.11%	2.11%	2.11%	2.11%	Assume to grow in line with revenue, with the proportion of historical data.
Effective Tax Rate (WACC)		43.41%	43.41%	43.41%	43.41%	43.41%	43.41%	Assume constant effect tax rate of 43.41% based on historical data.
Adjusted Tax Rate (FCF)		42.48%	42.48%	42.48%	42.48%	42.48%	42.48%	Assume constant adjusted income tax rate of 42.48% based on historical data.
BALANCE SHEET								
Non-Current Assets								
Intangible assets								
Addition	% Sales		0.05%	0.05%	0.05%	0.05%	0.05%	Assume to grow in line with sales, with the proportion of historical data.
Amortization	% Addition		97.01%	97.01%	97.01%	97.01%	97.01%	Assume to grow in line with intangible assets addition, with the proportion of historical data.
PP&E								
Addition	% Rev	2.83%	2.83%	2.83%	2.83%	2.83%	2.83%	Assume to grow in line with revenue, with the proportion of historical data.
Depreciation	% PP&E Ad.	29.87%	29.87%	29.87%	29.87%	29.87%	29.87%	Assume to grow in line with PP&E addition, with the proportion of historical data.
Disposal	% PP&E Ad.	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	Assume to grow in line with PP&E addition, with the proportion of historical data.
Others	% Rev	0.86%	0.86%	0.86%	0.86%	0.86%	0.86%	Assume to grow in line with revenue, with the proportion of historical data.
Investment properties								
Addition	% RH Rev	115.42%	115.42%	115.42%	115.42%	115.42%	115.42%	Assume to grow in line with rental housing revenue, with the proportion of historical data.
Depreciation	% IP Ad.	14.76%	14.76%	14.76%	14.76%	14.76%	14.76%	Assume to grow in line with investment properties addition, with the proportion of historical data.
Others	% Rev	0.78%	0.78%	0.78%	0.78%	0.78%	0.78%	Assume to grow in line with revenue, with the proportion of historical data.
Interests in associates and joint ventures	YoY		17.44%	13.68%	11.42%	10.25%	10.12%	Assume to grow YoY with predicted ratio.
Other financial assets	=							Assume to be constant over the forecasting period.
Other long-term assets	YoY		29.70%	29.34%	29.17%	29.07%	29.03%	Assume to grow YoY with predicted ratio.
Prepayments for leasehold land			0.50%					
Addition	% Rev	5.97%	2.50%	2.50%	2.50%	2.50%	2.50%	Assume to grow in line with revenue, with the proportion of historical data.
Amortization	% PLL Ad.	2.09%	10.47%	10.47%	10.47%	10.47%	10.47%	Assume to grow in line with Prepayments for leasehold land addition, with the proportion of historical data.

Deferred tax assets	% Rev	5.30%	5.30%	5.30%	5.30%	5.30%	5.30%	Assume to grow in line with revenue, with the proportion of historical data.
Current Assets								
Inventory turnover		0.2481	0.2481	0.2481	0.2481	0.2481	0.2481	Assume to be constant over the forecasting period.
Inventory turnover days		1471	1471	1471	1471	1471	1471	Assume to be constant over the forecasting period.
Contracted assets	% Sales	0.22%	0.22%	0.22%	0.22%	0.22%	0.22%	Assume to grow in line with sales, with the proportion of historical data.
Accounts Receivables								
Receivable turnover		186.99	186.99	186.99	186.99	186.99	186.99	Assume to be constant over the forecasting period.
Prepayments	% Sales	14.16%	14.16%	14.16%	14.16%	14.16%	14.16%	Assumed to grow in line with sales, with the proportion of historical data.
Others	% Rev	82.24%	82.24%	82.24%	82.24%	82.24%	82.24%	Assumed to grow in line with revenue, with the proportion of historical data.
Other current assets	% Rev	4.24%	4.24%	4.24%	4.24%	4.24%	4.24%	Assumed to grow in line with revenue, with the proportion of historical data.
Pledged and restricted deposits	=							Assume constant over the forecasting period.
Assets held for sale	YoY		2.61%	2.70%	2.80%	2.83%	2.98%	Assume assets held for sale grows by inflation rate.
Total Assets								
Non-Current liabilities								
long term Debt								
Bank loans and borrowings	% Rev		40.71%	40.71%	40.71%	40.71%	40.71%	Assumed to grow in line with revenue, with the proportion of historical data.
Bond payable	% Rev		15.85%	15.85%	15.85%	15.85%	15.85%	Assumed to grow in line with revenue, with the proportion of historical data.
Deferred Income Taxes	% Rev		0.27%	0.27%	0.27%	0.27%	0.27%	Assumed to grow in line with revenue, with the proportion of historical data.
Provision	=							Assume constant over the forecasting period.
Other long-term liabilities	=							Assume constant over the forecasting period.
Current liabilities								
Trade and other payable								
Trade creditors and bills payable turnover		0.82	0.82	0.82	0.82	0.82	0.82	Assume to be constant over the forecasting period.
Trade creditors and bills payable turnover days		448	448	448	448	448	448	Assume to be constant over the forecasting period.
Others	% Rev	86.55%	86.55%	86.55%	86.55%	86.55%	86.55%	Assume to grow in line with revenue, with the proportion of historical data.
Contract liabilities	% Sales	83.16%	83.16%	83.16%	83.16%	83.16%	83.16%	Assume to grow in line with revenue, with the proportion of historical data.
Short term Debt								
Short-term borrowing	% Rev	23.27%	23.27%	23.27%	23.27%	23.27%	23.27%	Assume to grow in line with revenue, with the proportion of historical data.
Short-term bond	% Rev	8.09%	8.09%	8.09%	8.09%	8.09%	8.09%	Assume to grow in line with revenue, with the proportion of historical data.
Income tax accrued	YoY	50.99%	37.54%	37.54%	37.54%	37.54%	37.54%	Assume income tax accrued grows by 37.54% YoY (average income tax growth rate).
Total Liabilities								
Common Stock	=							Assume constant over the forecasting period.
Treasury stock	=							Assume constant over the forecasting period.
Reserves	YoY	18.98%	17.48%	17.48%	17.48%	17.48%	17.48%	Assume fixed growth rate of 17.48% YoY based on the historical data.
Non-controlling interests	% Rev	26.88%	26.88%	26.88%	26.88%	26.88%	26.88%	Assume to grow in line with revenue, with the proportion of historical data.
Total Equity								
CASH FLOW STATEMENT								
Investment Activities								
-CAPEX	% Rev.	1.98%	1.98%	1.98%	1.98%	1.98%	1.98%	Assume to grow in line with revenue, with the proportion of historical data.
Growth CAPEX								
Maintenance CAPEX	=Dep.							Assume to be same as depreciation.
+Disposal	=							Assume constant over the forecasting period.
+-Other Inv.	YoY	19.96%	2.61%	2.70%	2.80%	2.83%	2.98%	Assume other investment cash flow grows by inflation rate.
+ interest received	YoY		2.61%	2.70%	2.80%	2.83%	2.98%	Assume interest received cash flow grows by inflation rate.
+ dividend received	YoY		2.61%	2.70%	2.80%	2.83%	2.98%	Assume dividend received by average historical data.
Financing Activities								
-Dividends								Assume dividends=NI * Net profit attributable proportion * payout ratio
Shares outstanding		11039	11302	11302	11302	11302	11302	Assume no new issuing in 5 year
Dividend payout ratio		34.97%	34.97%	34.97%	34.97%	34.97%	34.97%	Assume constant dividend payout ratio of 34.97%
Net profit attributable proportion			71.98%	71.98%	71.98%	71.98%	71.98%	Assume constant net profit attributable proportion of 71.98%
YTM		4.29%	4.29%	4.29%	4.29%	4.29%	4.29%	Assume constant YTM of 4.29%, credit level AAA in China

Appendix 8: Business and Corporate Structure



Appendix 9: Vanke's Sales and Rental Housing Revenue Forecast

Since the sales of Vanke are directly linked to the operational performance without time lag, we applied market share equation to reach the forecasted sales values:

$$Vanke\ Residential\ Market\ of\ Housing\ \ revenue\ F = Vanke\ market\ share\ F * China\ Commodity\ housing\ market\ revenue\ F$$

$$China\ Commodity\ housing\ market\ revenue\ F = Commodity\ housing\ market\ sales\ area\ F * Commodity\ housing\ market\ ASP\ F$$

Since Vanke's operation development always keeps in a stable peace in the market and the forecasting information of commodity housing market sales area and commodity housing market ASP is easy to be found in the database, the next steps are simply applying the appropriate assumptions.

Vanke Sales Forecast	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
CHM sales area (Mn sq.m.)	1,124	1,380	1,694	1,717	1,703	1,688	1,674	1,660	1,646
CHM ASP (MN RMB per Mn sq.m.)	6,477	7,174	7,893	8,736	9,400	10,115	10,883	11,710	12,600
CHM sales value (Mn RMB)	7,280,000	9,900,000	13,370,000	15,000,000	16,004,424	17,076,106	18,219,549	19,439,559	20,741,263
Vanke Market shares - real estates	3.59%	3.68%	3.96%	**4.05%**	4.21%	4.38%	4.56%	4.75%	4.94%
Vanke Sales (Mn RMB)	261,470	364,770	529,880	606,950	674,031	748,525	831,253	923,124	1,025,148

As for rental housing, we calculate the corresponding revenue according to the similar method of sales:

$$Vanke\ rental\ housing\ market\ revenue\ F = Vanke\ rental\ housing\ market\ share\ F * China\ rental\ housing\ market\ revenue\ F$$

$$\begin{aligned} d\ Rental\ market\ revenue \\ &= (1 + d\ Floating\ population\ with\ rental\ demand) * (1 + d\ Per\ capita\ disposable\ income) \\ &* (1 + d\ Commodity\ housing\ market\ ASP) - 1 \end{aligned}$$

$$\begin{aligned} \text{Floating population with rental demand F} \\ &= Proportion\ of\ floating\ population\ renting\ private\ housing * Floating\ population\ size\ F \end{aligned}$$

d Per capita disposable income: assumed to be unchanged since 2018.

Vanke RH Rev. Forecast	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Floating population size（Mn）	247	245	252	258	265	282	289	295	300
Proportion of floating population renting private housing	67.30%								
Floating population with rental demand (Mn)	166	165	170	174	178	190	194	199	202
g Floating population with rental demand		-0.81%	2.86%	2.38%	2.71%	6.42%	2.48%	2.08%	1.69%
g Per capita disposable income	8.92%	8.44%	9.04%	8.68%	8.68%	8.68%	8.68%	8.68%	8.68%
g Commodity housing market ASP				10.69%	7.60%	7.60%	7.60%	7.60%	7.60%
g China Rental market				23.16%	20.11%	24.44%	19.84%	19.37%	18.92%
China Rental Housing Income (Mn RMB)	21,791	24,747	**31,356**	38,617	46,383	57,718	69,170	82,565	98,186
Vanke market shares - Rental housing	-	-	4.38%	**7.94%**	8.34%	8.76%	9.19%	9.65%	10.14%
Vanke rental housing revenue (Mn RMB)			1,373	3,067	3,868	5,053	6,359	7,970	9,951

For the Vanke g PD Rev. 2019F, we applied the following equation as assumption.

$$g\ PD\ Rev.F_{2019} = Area\ completed\ F_{2019} \times \left(\frac{Booked\ area_{2018}}{Area\ completed_{2018}} - tendency\ ratio\right) \times ASP_{2018}$$

Where $Tendency\ ratio = Average(d\ \frac{Booked\ area_{2015-2018}}{Area\ completed_{2012015-2018}})$

The growth rates of PD rev. after 2019F are assumed to decrease steadily to the nominal GDP growth rate of 2023F.

Vanke PD Rev. Forecast	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Vanke new construction area (Mn sq.m.)	21.27	31.36	36.52	49.93	36.09				
Vanke area completed (Mn sq.m.)	17.29	22.37	23.01	27.56	30.77				
Vanke contracted sales area (Mn sq.m.)	20.67	27.65	35.95	40.38					
Vanke sales value (Mn RMB)	261470	364770	529880	606950	674031	748525	831253	923124	1025148
Vanke ASP (RMB/sq.m.)	12649	13190	14739	15032					
Vanke booked area	17.05	20.53	19.81	21.91	22.50				
Vanke booked area/area completed	98.59%	91.78%	86.06%	79.51%	**73.14%**				
Vanke PD Rev.	184318	228916	237345	297083	338274	388237	437682	489323	543015
d Vanke PD Rev.		24.20%	3.68%	25.17%	13.86%	12.54%	11.22%	9.90%	8.58%

Appendix 10: Vanke DCF Analysis

Mn RMB

WACC	Current	2019F	2020F	2021F	2022F	2023F	TV
FCFF		40687.67	38874.66	50095.84	63045.50	77775.28	80237.36
Cost of debt	4.29%	4.13%	4.04%	4.19%	4.15%	4.17%	4.17%
Cost of equity	12.56%	12.28%	12.39%	12.49%	12.53%	12.40%	12.58%
unlevered β	1.03	1.03	1.03	1.03	1.03	1.03	1.03
β	1.13	1.09	1.10	1.12	1.12	1.11	1.13
China market risk premium	8.19%	8.19%	8.19%	8.19%	8.19%	8.19%	8.19%
China risk free rate	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%
Total MV debt	232711.84	278097.46	304576.33	348493.03	395703.99	431957.82	
Net debt MV	57043.68	77216.27	96102.27	114857.45	125366.30	111889.22	
EV	391582.88	763707.42	803866.89	850062.96	888681.27	917943.47	
Equity MV	334539.20	686491.14	707764.63	735205.51	763314.97	806054.25	
D/V	0.15	0.10	0.12	0.14	0.14	0.12	0.15
E/V	0.85	0.90	0.88	0.86	0.86	0.88	0.85
WACC	11.08%	11.27%	11.18%	11.12%	11.09%	11.18%	11.05%

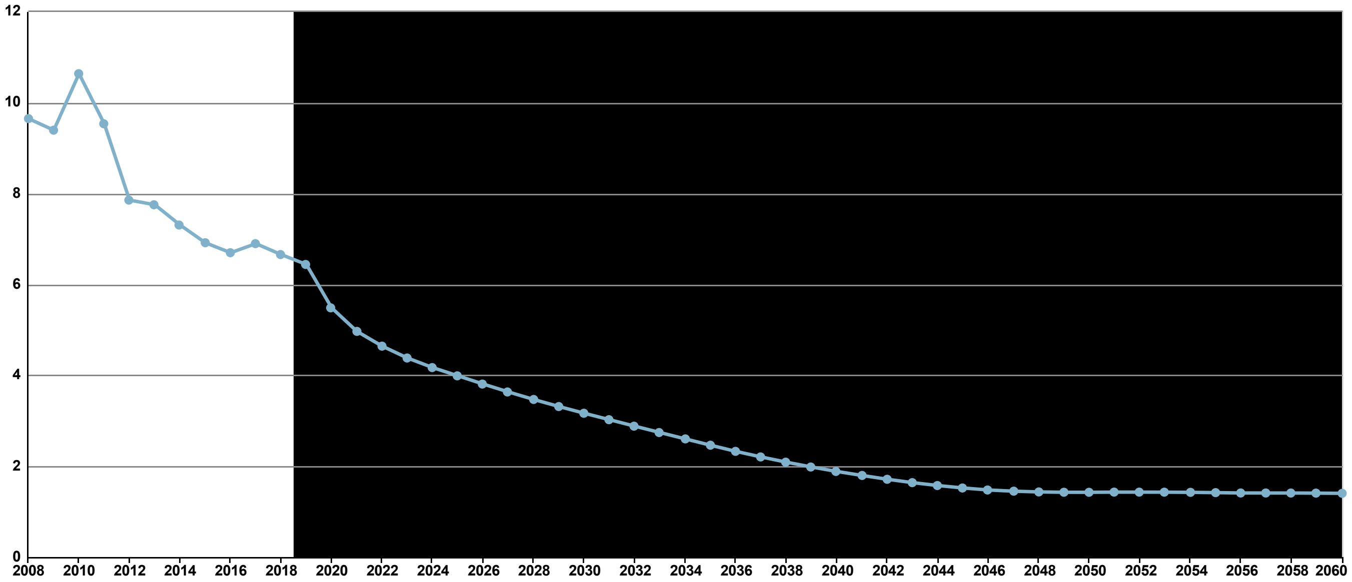
Coupon Rate	3.50%
YTM	4.29%
D/V target	15.00%
g	1.50%
Tax Rate	43.41%
shares outstanding/m	11302.00
Price on 2019-4-24	¥29.60

MN RMB¥	2019F	2020F	2021F	2022F	2023F	TV
Sales	694658.07	776032.74	867723.20	971509.82	1089393.67	
Revenue	341151.05	388236.88	437682.45	489323.21	543014.93	551160.1535
Net Income	55547.41	63182.40	70960.05	79074.01	87141.50	
Equity	269685.27	307615.01	349290.11	394800.86	444089.92	
growth rate		13.80%	12.74%	11.80%	10.97%	1.50%
EBITDA	106521.75	121218.92	136602.66	152386.67	168446.01	170972.70
EBIT	101725.56	115858.04	130446.26	145357.25	160456.63	160194.49
EBIT/Sales	29.82%	29.84%	29.80%	29.71%	29.55%	29.06%
CAPEX	6771.45	7706.05	8687.48	9712.49	10778.21	10778.21
D&A	4796.19	5360.88	6156.40	7029.42	7989.38	10778.21
∆NWC	15849.90	25422.04	22406.14	17881.33	11731.00	11731.00
					0.02	11906.96
EBIT*(1-Tc)	58512.83	66641.87	75033.06	83609.90	92295.10	92144.32
FCFF	40687.67	38874.66	50095.84	63045.50	77775.28	80237.36
WACC	11.27%	11.18%	11.12%	11.09%	11.18%	11.05%
Terminal value						840168.19
PV FCFF		803866.89	850062.96	888681.27	917943.47	

Price Target	MN RMB¥
# Shares Outstanding/m	11302.00
Terminal g	1.50%
Net debt MV	¥96,102.27
Equity Value	¥707,764.63
Minority interest proportion	29.79%
Target Price	¥43.97
Price on 2019-4-24	¥29.60
Upside Potential	48.54%

Appendix 11: Terminal Assumption

To get the precise number of terminal g ratio, we take the long-term terminal value of China GDP growth rate forecasted by OECD as reference.



The other assumptions of terminal values are follows:

Terminal CAPEX and D&A: Assume in the terminal column CAPEX and D&A normalized each other.

Terminal ∆NWC: Assume keep in the same level as in 2023F.

Appendix 12: Vanke Three Stage DDM Analysis

MN RMB¥	2018	2019F	2020F	2021F	2022F	2023F	Terminal
Dividend	11811.89264	13983.61152	15905.65827	17863.61927	19906.24316	21937.16954	23829.10747
Cost of equity	0.12555075	0.122790634	0.12389893	0.124871156	0.125252316	0.124042951	0.125834036
Equity value			485970.7197	528762.629	574890.2938	623825.9103	

ROE	20.91%
Retention rate	74.83%
Div. growth rate	8.62%
Target price	¥43.00
Upside potential	45.27%

Years	Dividends	EPS	Payout ratio
2008	0.05	0.37	13.51%
2009	0.07	0.48	14.58%
2010	0.1	0.66	15.15%
2011	0.13	0.88	14.77%
2012	0.18	1.14	15.79%
2013	0.41	1.37	29.93%
2014	0.5	1.43	34.97%
2015	0.72	1.64	43.90%
2016	0.79	1.9	41.58%
2017	0.9	2.54	35.43%
2018	1.07	3.06	**34.97%**

Appendix 13: Vanke Multiple Valuation Analysis

MARKET DATA OF COMPARABLE COMPANIES	Share Price	Shares Outstanding (B)	Equity Market Value (B)	Net Debt (B)= Debt-Cash	EV (B)
China Vanke Co Ltd		11.04		85.54	
China Evergrande Group	21.41	13.12	280.93	387.64	668.57
China Overseas Land & Investment	24.84	8.17	202.83	27.92	230.75
Country Garden Holdings Co Ltd	10.79	16.70	180.21	70.85	251.06
China Resources Land Ltd	29.42	5.39	158.52	51.92	210.44
Sunac China Holdings Ltd	35.29	3.00	105.86	301.51	407.37
Longfor Group Holdings Ltd	24.24	5.16	124.95	71.77	196.72
Shimao Property Holdings Ltd	20.34	3.55	72.19	102.07	174.26
Guangzhou R&F Properties Co Lt	14.39	0.74	10.59	182.72	193.31
China Jinmao Holdings Group Lt	4.52	9.16	41.43	148.35	189.78
Agile Group Holdings Ltd	10.42	3.60	37.45	102.06	139.51
Sino-Ocean Group Holding Ltd	3.07	4.67	14.32	82.88	97.20
Shui On Land Ltd	1.65	5.15	8.52	84.82	93.34
Greentown China Holdings Ltd	6.31	1.66	10.45	114.56	125.01
Poly Property Group Co Ltd	2.86	2.98	8.54	77.35	85.89

ACCOUNTING DATA OF COMPARABLE FIRMS	Sales (B)			Gross Profit (B)			EBIT (B)		
	N-1	N	N+1	N-1	N	N+1	N-1	N	N+1
China Evergrande Group	311.02	490.21	574.38	112.26	175.59	201.56	80.8	132.59	152.73
China Overseas Land & Investment	163.97	200.25	243.88	54.7	68.84	82.14	58.87	61.97	73.1
Country Garden Holdings Co Ltd	226.9	351.09	478.46	58.79	90.18	117.18	43.6	65.62	84
China Resources Land Ltd	102.77	123.31	153.13	41.37	50.69	57.74	40.05	44.65	49.87
Longfor Group Holdings Ltd	72.08	101.33	132.46	24.44	32.13	39.97	24.23	25.69	31.16
Shimao Property Holdings Ltd	70.43	87.31	111.71	21.43	27.66	34.47	17.68	22.03	27.9
Guangzhou R&F Properties Co Lt	59.28	81.14	106.78	20.96	28.77	35.87	29.84	20.91	25.39
Agile Group Holdings Ltd	51.61	61.31	76.97	20.69	25.33	28.68	16.31	19.88	22.13
Sino-Ocean Group Holding Ltd	45.84	51.64	59.89	11.24	12.52	14.18	10.29	10.92	12.61
Greentown China Holdings Ltd	41.95	49.13	54.13	8.08	10.1	11.61	3.71	6.73	8.38
Poly Property Group Co Ltd	31.7	29.07	37.56	6.54	8.14	11.27	4.87	5.92	7

MULTIPLES OF COMPARABLE FIRMS	EV/Sales			EV/GP			EV/EBIT		
	N-1	N	N+1	N-1	N	N+1	N-1	N	N+1
China Evergrande Group	2.15	1.36	1.16	5.96	3.81	3.32	8.27	5.04	4.38
China Overseas Land & Investment	1.41	1.15	0.95	4.22	3.35	2.81	3.92	3.72	3.16
Country Garden Holdings Co Ltd	1.11	0.72	0.52	4.27	2.78	2.14	5.76	3.83	2.99
China Resources Land Ltd	2.05	1.71	1.37	5.09	4.15	3.64	5.25	4.71	4.22
Longfor Group Holdings Ltd	2.73	1.94	1.49	8.05	6.12	4.92	8.12	7.66	6.31
Shimao Property Holdings Ltd	2.47	2.00	1.56	8.13	6.30	5.06	9.86	7.91	6.25
Guangzhou R&F Properties Co Lt	3.26	2.38	1.81	9.22	6.72	5.39	6.48	9.24	7.61
Agile Group Holdings Ltd	2.70	2.28	1.81	6.74	5.51	4.86	8.55	7.02	6.30
Sino-Ocean Group Holding Ltd	2.12	1.88	1.62	8.65	7.76	6.85	9.45	8.90	7.71
Greentown China Holdings Ltd	2.98	2.54	2.31	15.47	12.38	10.77	33.70	18.58	14.92
Poly Property Group Co Ltd	2.71	2.95	2.29	13.13	10.55	7.62	17.64	14.51	12.27

ACCOUNTING DATA OF CHINA VANKE CO LTD	Sales (B)			Gross Profit (B)			EBIT (B)		
	N-1	N	N+1	N-1	N	N+1	N-1	N	N+1
China Vanke Co Ltd	237.34	297.08	403.6	76.72	109.95	122.69	64.17	88.97	94.45
Estimated EV (B) of China Vanke Co Ltd based on:									
China Evergrande Group	510.19	405.18	469.79	456.91	418.65	406.96	530.99	448.60	413.45
China Overseas Land & Investment	334.00	342.33	381.87	323.64	368.56	344.67	251.53	331.27	298.15
Country Garden Holdings Co Ltd	262.62	212.44	211.78	327.63	306.11	262.87	369.53	340.39	282.30
China Resources Land Ltd	485.99	507.00	554.65	390.26	456.47	447.16	337.19	419.31	398.56
Longfor Group Holdings Ltd	647.75	576.76	599.40	617.53	673.20	603.85	521.01	681.26	596.29
Shimao Property Holdings Ltd	587.24	592.95	629.60	623.87	692.72	620.26	632.51	703.75	589.93
Guangzhou R&F Properties Co Lt	773.96	707.78	730.66	707.58	738.79	661.20	415.72	822.48	719.11
Agile Group Holdings Ltd	641.58	676.02	731.55	517.32	605.59	596.82	548.92	624.34	595.43
Sino-Ocean Group Holding Ltd	503.27	559.20	655.05	663.47	853.64	841.03	606.19	791.92	728.06
Greentown China Holdings Ltd	707.29	755.94	932.12	1187.01	1360.94	1321.09	2162.37	1652.60	1409.01
Poly Property Group Co Ltd	643.04	877.72	922.89	1007.52	1160.12	935.00	1131.73	1290.71	1158.85
Max	773.96	877.72	932.12	1187.01	1360.94	1321.09	2162.37	1652.60	1409.01
Min	262.62	212.44	211.78	323.64	306.11	262.87	251.53	331.27	282.30
Average	554.27	564.85	619.94	620.25	694.07	640.08	682.52	736.97	653.56
Median	587.24	576.76	629.60	617.53	673.20	603.85	530.99	681.26	595.43
% Range between Average and median	-5.62%	-2.06%	-1.53%	0.44%	3.10%	6.00%	28.54%	8.18%	9.76%

ESTIMATED VALUE OF EQUITY (B)		
EV of Vanke based on EV/Sales	560	620
EV of Vanke based on EV/GP	600	690
EV of Vanke based on EV/EBIT	530	680
Selected range	560	620
Net Debt	86	86
Equity Value	474	534
Average of the range	504.46	
Share Price	¥45.70	
Price on 2019-4-24	¥29.60	
Upside Potential	54.38%	

Appendix 14: Vanke DCF Method Robustness Test

Robustness Test 1

Commodity housing market ASP	CHM Sales area growth							
¥43.97	10.52%	7.68%	4.84%	2.00%	-0.84%	-3.68%	-6.52%	-9.36%
-18.40%	35.03	33.79	32.56	31.32	30.08	28.84	27.60	26.36
-15.80%	36.58	35.30	34.02	32.74	31.47	30.19	28.91	27.63
-13.20%	38.13	36.81	35.49	34.17	32.85	31.54	30.22	28.90
-10.60%	39.67	38.32	36.96	35.60	34.24	32.89	31.53	30.17
-8.00%	41.22	39.82	38.43	37.03	35.63	34.24	32.84	31.44
-5.40%	42.77	41.33	39.90	38.46	37.02	35.59	34.15	32.71
-2.80%	44.32	42.84	41.36	39.89	38.41	36.93	35.46	33.98
-0.20%	45.87	44.35	42.83	41.32	39.80	38.28	36.77	35.25
2.40%	47.41	45.86	44.30	42.75	41.19	39.63	38.08	36.52
5.00%	48.96	47.37	45.77	44.17	42.58	40.98	39.39	37.79
7.60%	50.51	48.87	47.24	45.60	43.97	42.33	40.70	39.06
10.20%	52.06	50.38	48.71	47.03	45.36	43.68	42.01	40.34
12.80%	53.61	51.89	50.18	48.46	46.75	45.03	43.32	41.61
15.40%	55.16	53.40	51.65	49.89	48.14	46.38	44.63	42.88
18.00%	56.70	54.91	53.12	51.32	49.53	47.73	45.94	44.15
20.60%	58.25	56.42	54.59	52.75	50.92	49.09	47.25	45.42
23.20%	59.80	57.93	56.05	54.18	52.31	50.44	48.56	46.69
25.80%	61.35	59.44	57.52	55.61	53.70	51.79	49.87	47.96
28.40%	62.90	60.95	58.99	57.04	55.09	53.14	51.19	49.23
31.00%	64.45	62.46	60.46	58.47	56.48	54.49	52.50	50.51
33.60%	66.00	63.97	61.93	59.90	57.87	55.84	53.81	51.78

Robustness Test 2

Long-term borrowings rate	Long-term Bonds rate							
¥43.97	2.70%	2.90%	3.10%	3.30%	3.50%	3.70%	3.90%	4.10%
3.20%	44.45	44.44	44.43	44.42	44.41	44.41	44.40	44.39
3.40%	44.40	44.39	44.38	44.37	44.37	44.36	44.35	44.34
3.60%	44.35	44.34	44.33	44.32	44.32	44.31	44.30	44.29
3.80%	44.30	44.29	44.28	44.28	44.27	44.26	44.25	44.24
4.00%	44.25	44.24	44.23	44.23	44.22	44.21	44.20	44.19
4.20%	44.20	44.19	44.19	44.18	44.17	44.16	44.15	44.14
4.40%	44.15	44.14	44.14	44.13	44.12	44.11	44.10	44.09
4.60%	44.10	44.10	44.09	44.08	44.07	44.06	44.05	44.04
4.80%	44.05	44.05	44.04	44.03	44.02	44.01	44.00	43.99
5.00%	44.00	44.00	43.99	43.98	43.97	43.96	43.95	43.94
5.20%	43.96	43.95	43.94	43.93	43.92	43.91	43.90	43.89
5.40%	43.91	43.90	43.89	43.88	43.87	43.86	43.85	43.84
5.60%	43.86	43.85	43.84	43.83	43.82	43.81	43.80	43.79
5.80%	43.81	43.80	43.79	43.78	43.77	43.76	43.75	43.74
6.00%	43.76	43.75	43.74	43.73	43.72	43.71	43.70	43.69
6.20%	43.71	43.70	43.69	43.68	43.67	43.66	43.65	43.64
6.40%	43.66	43.65	43.64	43.63	43.62	43.61	43.60	43.59
6.60%	43.61	43.60	43.59	43.58	43.57	43.56	43.55	43.54
6.80%	43.56	43.55	43.54	43.53	43.52	43.51	43.50	43.49
7.00%	43.51	43.50	43.49	43.48	43.47	43.46	43.45	43.44

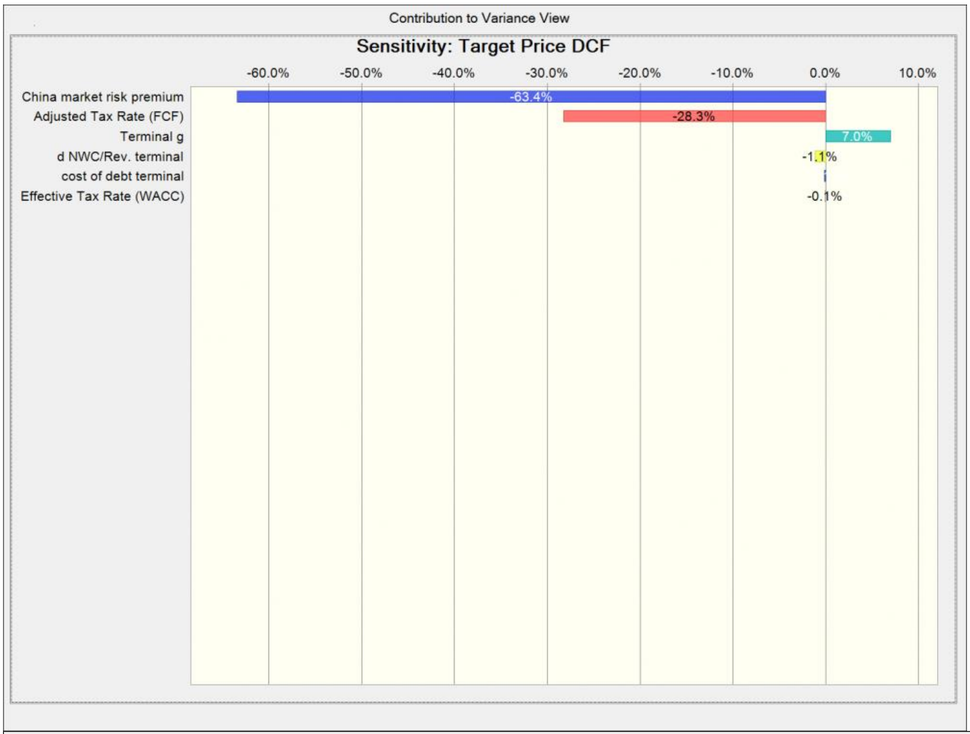
Robustness Test 3

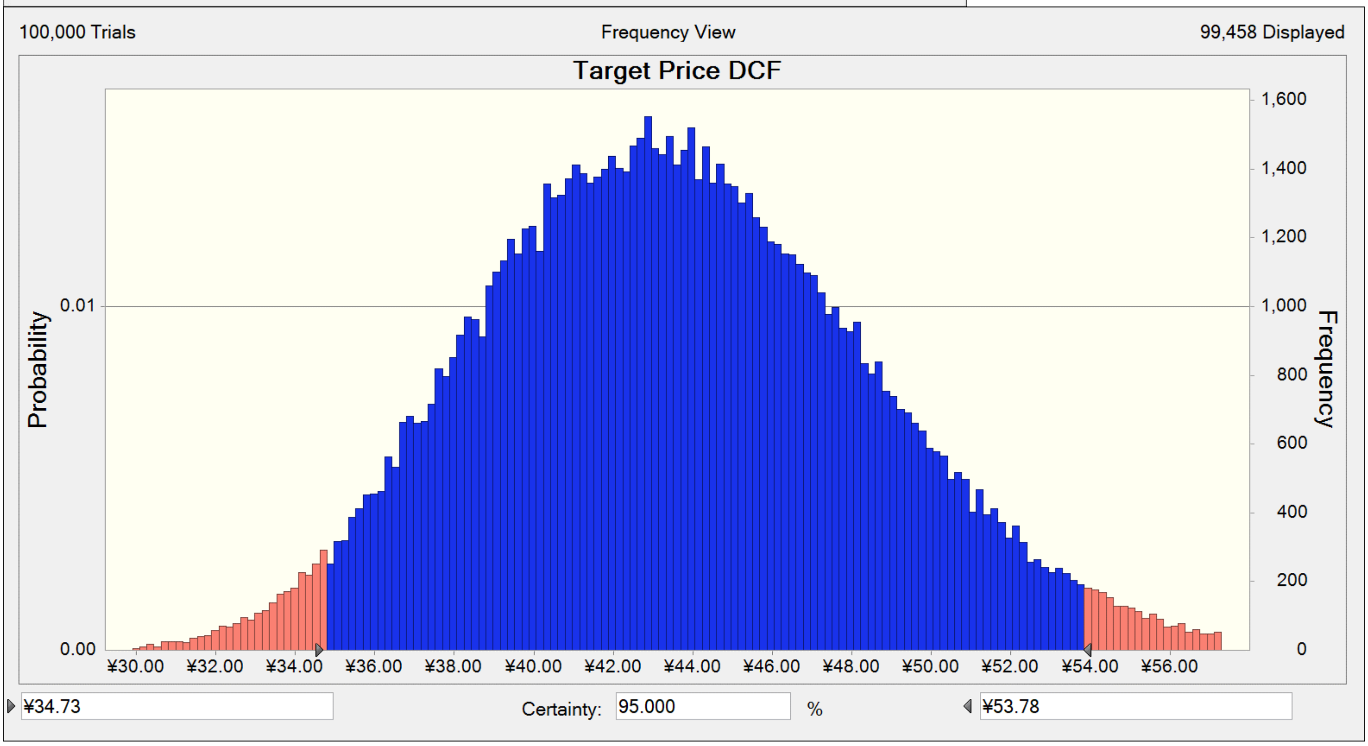
Rf	MRP									
$ 43.97	6.99%	7.29%	7.59%	7.89%	8.19%	8.49%	8.79%	9.09%	9.40%	9.70%
0.94%	68.89	65.64	62.67	59.94	57.42	55.09	52.93	50.92	49.04	47.29
1.18%	66.55	63.50	60.70	58.13	55.74	53.54	51.48	49.57	47.78	46.11
1.42%	64.35	61.49	58.85	56.41	54.16	52.06	50.11	48.29	46.59	44.99
1.66%	62.29	59.59	57.10	54.79	52.65	50.66	48.80	47.07	45.44	43.92
1.90%	60.34	57.80	55.44	53.25	51.22	49.33	47.56	45.90	44.35	42.89
2.14%	58.51	56.10	53.87	51.80	49.86	48.06	46.37	44.79	43.30	41.91
2.38%	56.78	54.50	52.38	50.41	48.57	46.85	45.24	43.73	42.30	40.96
2.62%	55.14	52.98	50.97	49.09	47.34	45.70	44.16	42.71	41.35	40.06
2.86%	53.59	51.53	49.62	47.84	46.16	44.60	43.12	41.74	40.43	39.19
3.10%	52.11	50.16	48.34	46.64	45.04	43.54	42.13	40.80	39.55	38.36
3.34%	50.71	48.86	47.12	45.49	43.97	42.53	41.18	39.91	38.70	37.56
3.58%	49.38	47.61	45.96	44.40	42.94	41.57	40.27	39.05	37.89	36.79
3.82%	48.11	46.43	44.84	43.36	41.96	40.64	39.40	38.22	37.10	36.05
4.06%	46.90	45.29	43.78	42.36	41.02	39.75	38.56	37.42	36.35	35.33
4.30%	45.75	44.21	42.76	41.40	40.11	38.90	37.75	36.66	35.63	34.64
4.54%	44.65	43.18	41.79	40.48	39.25	38.08	36.97	35.92	34.93	33.98
4.78%	43.60	42.19	40.86	39.60	38.42	37.29	36.23	35.22	34.25	33.34
5.02%	42.59	41.24	39.96	38.76	37.61	36.53	35.51	34.53	33.60	32.72
5.26%	41.62	40.33	39.10	37.94	36.85	35.80	34.81	33.87	32.98	32.12
5.50%	40.70	39.45	38.28	37.16	36.10	35.10	34.15	33.24	32.37	31.54
5.74%	39.81	38.61	37.48	36.41	35.39	34.42	33.50	32.62	31.79	30.99

Robustness Test 4

g	terminal WACC										
$ 43.97	7.05%	8.05%	9.05%	10.05%	11.05%	12.05%	13.05%	14.05%	15.05%	16.05%	17.05%
-2.10%	44.37	40.59	37.48	34.89	32.69	30.80	29.16	27.73	26.46	25.33	24.32
-1.70%	46.28	42.14	38.78	35.98	33.63	31.62	29.88	28.36	27.02	25.84	24.78
-1.30%	48.36	43.83	40.17	37.15	34.63	32.48	30.63	29.03	27.62	26.37	25.26
-0.90%	50.66	45.66	41.67	38.41	35.70	33.40	31.43	29.73	28.24	26.92	25.76
-0.50%	53.20	47.67	43.30	39.76	36.84	34.38	32.28	30.47	28.89	27.51	26.28
-0.10%	56.02	49.88	45.08	41.22	38.06	35.41	33.17	31.25	29.58	28.12	26.83
0.30%	59.18	52.31	47.01	42.80	39.37	36.53	34.13	32.08	30.31	28.76	27.40
0.70%	62.73	55.01	49.13	44.51	40.78	37.71	35.14	32.96	31.07	29.44	28.00
1.10%	66.77	58.01	51.46	46.38	42.31	38.99	36.22	33.89	31.88	30.15	28.63
1.50%	71.38	61.39	54.04	48.42	43.97	40.36	37.38	34.88	32.74	30.90	29.29
1.90%	76.72	65.20	56.91	50.66	45.77	41.84	38.62	35.93	33.65	31.69	29.99
2.30%	82.95	69.55	60.12	53.13	47.73	43.45	39.96	37.06	34.62	32.53	30.73
2.70%	90.32	74.55	63.74	55.87	49.89	45.19	41.39	38.27	35.65	33.42	31.51
3.10%	99.20	80.35	67.84	58.93	52.26	47.08	42.94	39.56	36.75	34.37	32.33
3.50%	110.07	87.17	72.53	62.36	54.88	49.15	44.63	40.96	37.92	35.37	33.20
3.90%	123.70	95.31	77.95	66.23	57.80	51.43	46.45	42.46	39.18	36.44	34.12
4.30%	141.30	105.19	84.28	70.65	61.06	53.94	48.45	44.09	40.53	37.59	35.10
4.70%	164.89	117.42	91.78	75.72	64.73	56.72	50.64	45.85	41.99	38.81	36.15
5.10%	198.16	132.97	100.79	81.62	68.89	59.83	53.04	47.78	43.57	40.13	37.26
5.50%	248.61	153.40	111.84	88.55	73.66	63.31	55.71	49.88	45.27	41.54	38.45

Appendix 15: Vanke DCF Monte Carlo Simulation





Appendix 16: Vanke and Baoneng Shareholding Battle

2015
- Before Baoneng entered Vanke, China Resources was the first shareholder of Vanke, holding 14.89%.

2015/7/10-2015/8/26
- Foresea Life Insurance continued to placard, and Baoneng held a shareholding of 15.04%, becoming the largest shareholder.

2015/9/1
- China Resources increased its shareholding ratio to 15.29%, returning to the position of major shareholder

2015/10/8
- Vanke suspended in the stock market.

2015/12/4-2015/12/24
- Baoergy increased its holdings to 20.01%, becoming the largest shareholder and continuing to increase its holdings to 24.26%.

2016/4
- Vanke announced the restructing partner, Shenzhen Metro

2016/6/17
- China Resources and Baoneng Joint Statement Against Restructurin g

2016/6/26
- Baoneng asked to remove all directors and supervisors of Vanke.

2016/7
- Vanke Union sued Bao for harming shareholders ' interests。

2016/7/21
- Shenzhen Stock Exchange issued a supervision letter to Vanke and Ju Shenghua

2017/6/9
- Evergrande transferred 14.07% of Vanke shares to Shenzhen Metro. Shenzhen Metro became the first major shareholder with 29.38%.

Appendix 17: China’s Urbanization Rate

Urban population growth decline volume per year	0.08%
Depreciation rate	2.00%
Average living area per capita sqm	34.93
Residential Market of Housing sales area g	2.50%

Years	Total population	Urban population	Total pop. g	Urban pop. G	Urbanization rate	Total old urban housing area (2017-	Depreciation	Urban houing demand	Residential Market of Housing sales area	Accumulated Residential Market of Housing sales	Total. Urban housing area F	Real urban housing add-in demand
2017	139008	81347	0.60%	2.58%	58.52%	190.01	3.58	284.15	14.48	14.48	190.01	190.01
2018	139842.048	83377.99055	0.60%	2.50%	59.62%	186.43	3.80	291.24	14.84	14.84	201.27	89.97
2019	140681.1003	85390.23497	0.60%	2.41%	60.70%	182.63	3.73	298.27	15.21	30.06	212.68	85.58
2020	141525.1869	87379.91284	0.60%	2.33%	61.74%	178.90	3.65	305.22	15.59	45.65	224.55	80.67
2021	142374.338	89343.16472	0.60%	2.25%	62.75%	175.25	3.58	312.08	15.98	61.63	236.88	75.20
2022	143228.584	91276.10409	0.60%	2.16%	63.73%	171.67	3.50	318.83	16.38	78.01	249.69	69.14
2023	144087.9555	93174.82961	0.60%	2.08%	64.67%	168.17	3.43	325.46	16.79	94.81	262.97	62.49
2024	144952.4833	95035.43778	0.60%	2.00%	65.56%	164.73	3.36	331.96	17.21	112.02	276.75	55.21
2025	145822.1982	96854.03592	0.60%	1.91%	66.42%	161.37	3.29	338.31	17.64	129.66	291.03	47.28
2026	146697.1314	98626.75533	0.60%	1.83%	67.23%	158.07	3.23	344.50	18.08	147.74	305.82	38.68
2027	147577.3142	100349.7648	0.60%	1.75%	68.00%	154.85	3.16	350.52	18.54	166.28	321.13	29.39
2028	148462.778	102019.2838	0.60%	1.66%	68.72%	151.69	3.10	356.35	19.00	185.28	336.96	19.39
2029	149353.5547	103631.5965	0.60%	1.58%	69.39%	148.59	3.03	361.99	19.47	204.75	353.34	8.64
2030	150249.676	105183.0652	0.60%	1.50%	70.01%	145.55	2.97	367.40	19.96	224.71	370.27	(2.86)
2031	151151.1741	106670.1434	0.60%	1.41%	70.57%	142.58	2.91	372.60	20.46	245.17	387.76	(15.16)
2032	152058.0811	108089.3896	0.60%	1.33%	71.08%	139.67	2.85	377.56	20.97	266.15	405.82	(28.26)
2033	152970.4296	109437.4805	0.60%	1.25%	71.54%	136.82	2.79	382.27	21.50	287.64	424.46	(42.20)
2034	153888.2522	110711.2233	0.60%	1.16%	71.94%	134.03	2.74	386.71	22.03	309.67	443.70	(56.99)
2035	154811.5817	111907.5688	0.60%	1.08%	72.29%	131.29	2.68	390.89	22.58	332.26	463.55	(72.66)

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Abbreviations

Basis Points (bps)
Billion (B)
Capital Asset Pricing Model (CAPM)
Capital Expenditure (CAPEX)
Cash Flow (CF)
Chief Executive Officer (CEO)
Chief Financial Officer (CFO)
Commodity Housing Market (CHM)
Compound Annual Rate Growth (CAGR)
Depreciation &Amortization (D&A)
Discount Dividend Method (DDM)
Discounted Cash Flow (DCF)
Dividend （Div.）
Earnings Before Interest & Taxes (EBIT)
Earnings Before Interest, Taxes, Depreciation & Amortization (EBITDA)
Earnings per share (EPS)
Enterprise Value (EV)
Forecast (F)
Gross Domestic Product (GDP)
Gross Floor Area (GFA)
Gross Profit (GP)
Growth rate (g)
Land Appreciation Tax (LAT)
Million (Mn)
Net Profit (NP)
Percentage Points (pp)
Property Development (PD)
Property, plant and equipment (PP&E)
Renminbi (RMB)
Return on Assets (ROA)
Return on capital employed (ROCE)
Return on Equity (ROE)
Revenue (Rev.)
RH (Rental Market)
Selling, General and Administrative Expenses (SG&A)
Square meter (Sq.m.)
Terminal Value (TV)

The Organization for Economic Co-operation and Development
(OECD)
Trillion (Tn)
United States (US)
US Dollar (USD)
Weighted average cost of capital (WACC)
Working Capital (WC)
Year (Y)
Year over Year (YoY)
Yield to Maturity (YTM)

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Level of Risk	SELL	REDUCE	HOLD/NEUTRAL	BUY	STRONG BUY
High Risk	0%≤	>0% & ≤10%	>10% & ≤20%	>20% & ≤45%	>45%
Medium Risk	-5%≤	>-5% & ≤5%	>5% & ≤15%	>15% & ≤30%	>30%
Low Risk	-10%≤	>-10% & ≤0%	>0% & ≤10%	>10% & ≤20%	>20%