Advances in Social Science, Education and Humanities Research, volume 246
3rd International Conference on Politics, Economics and Law (ICPEL 2018)

Comparative Analysis on the Profitability of Listed Companies

—A Case Study of Vanke Group

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Abstract—**A statistical classification is conducted on financial data of Vanke from 2011 to 2015, which is then compared with that of Poly real estate in the same period. By analyzing return on equity, equity multiplier, total assets turnover ratio and sales net interest margin and by comparing them with that of Poly real estate, the differences are found out. It is concluded that based on statistical and comparative analysis, Vanke is in disadvantageous position in terms of the rate of return on equity, which requires to be improved and has the same equity multiplier with Poly, which needs to improve its ability in using financial leverage. In addition, it should further improve its ability in asset management in the aspect of total assets turnover ratio and sales net interest margin.**

Keywords—profitability, real estate, Du Pont analysis

China Vanke Co., Ltd. was founded in 1984. In 1988, it entered into real estate industry. After over three decades' development, it has become a leading domestic real estate company. At present, its main business includes real estate development and property services[1]. This paper starts out from profitability to conduct related analysis in the hopes of provide useful suggestions.

I. Analysis of profitability by using Du Pont system of analysis

A. Rate of return on equity

Fig. 1. Tendency chart of the rate of return on equity of Vanke (data sources: Netease Finance)

It is shown from Fig. 1 that the rate of return on equity of Vanke both increased and decreased from 2011 to 2015 with little fluctuation whereas it saw a relative high increase in 2012 and 2013 with 19.67% and 19.66% respectively. And in these two years, there was no great fluctuation in sales net interest margin, total assets turnover ratio and equity multiplier, which caused the similar rate of return on equity. Thus, in 2012 and 2013, the use of capital is relative high[2].

In 2014, the rate of return on equity decreased to 17.86%. The company's strategy transition Vanke is promoting provides space for the future development of the company, which may be hard to show in short time though. "Shrinkflation of land market and ever-increasing taxes in cities squeeze Vanke's room of profit. What's more, Vanke is in settlement with the increasing proportion of decorated houses and it includes part of ready houses with low profit into the settlement of current period, which cause the decrease of rate of profit. In 2014, the growth of macro-economy was slow and the areas and growth of real estate sales declined significantly."[2]

"Since the second half of 2014, policies such as "930"new policy, "330" new policy and policy of cutting interest rate and reducing reserves were introduced one after another. Meanwhile, two-children policy proposed by central government in recent years and destocking stated firstly by president Xi have driven real estate market to show sign of improvement since 2015. Therefore, in 2015, the rate of return on equity of Vanke increased to18.09% by comparing with that in 2015."[3]

B. Sales net interest margin

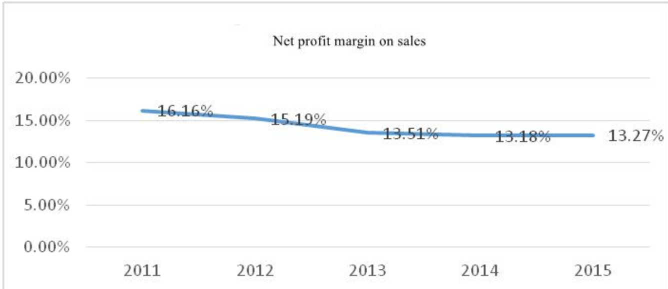

Fig. 2. Tendency chart of sales net interest margin of Vanke (data sources: Netease finance)

From Fig. 2, we can know that the ales net interest margin of Vanke reached 16.6% in 2011, a record high figure. Then the sales net interest margin had a decreasing trend. The decrease of its sales net interest margin indicates that the growth rate of sales revenue is faster than that of the net interest margin. And land cost is the major factor to influence its net interest margin and also the cost of main business in real

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estate enterprises. This is because that various costs such as marketing promotion, public administration and finance charge (i.e. selling expense, financial expense and administration expense) will increase while expanding their sales revenue. Sometimes the rapid growth of these costs does not match the increase rate of profit of enterprises. Sometime the rapid growth of these costs could slow down the growth rate of net interest margin, or even erode operating profit. Therefore, enterprises should endeavor to improve the efficiency of operation management and reduce land cost, thus achieving the goal of promoting sales revenue by economizing cost.

The reasons of the change of sales net interest margin can be further expounded by the proportions of administration expense, selling expense, operation cost, financial expense, etc. in operation revenue[4].

C. *Analysis of proportions of each cost and expense in operation revenue.*

TABLE I. PERCENTAGE OF EACH COST AND EXPENSE IN OPERATION REVENUE (DATA SOURCES: NETEASE FINANCE)

Item/Year	2011	2012	2013	2014	2015
Operation revenue	100.00%	100.00%	100.00%	100.00%	100.00%
Operation cost	60.22%	63.44%	68.53%	70.06%	70.65%
Business tariff and annex	10.84%	10.59%	8.53%	8.99%	9.19%
Selling expense	3.56%	2.96%	2.85%	3.09%	2.12%
Administration expense	3.59%	2.70%	2.22%	2.67%	2.43%
Financial expense	0.71%	0.74%	0.66%	0.44%	0.24%

The comparison in Table 1 shows that the reason why sales net interest margin decreased from 2011 to 2015 is that the operation cost increased with each passing year. The proportion of operation cost in operation revenue increased by 10.43% from 60.22% up to 70.65%. But except for operation cost, it should not ignore the influence of business tariff and annex and selling expense, financial expense and administration expense on sales net interest margin. The average proportion of business tariff and annex in operation revenue from 2011 to 2015 was 9.6% with relatively stable change. It is worth noting that selling expense decreased by 1.44% from 3.56% in 2011 to 2.12% in 2015, which indicates that Vanke economizes its expenses in market promotion and marketing, adopts proper measures and achieves remarkable management in selling expense. The administration expense decreased by 1.16% from 3.59% in 2011 to 2.43% in 2015, which shows that Vanke has a high efficiency in organizing and managing the business activities of real estate development and saves its administration cost. Financial expense decreased from 0.71% in 2011 to 0.24% in 2015, which indicates that Vanke reduces its expenses and economizes its costs while raising money during the past 5 years.

D. *Total assets turnover ratio*

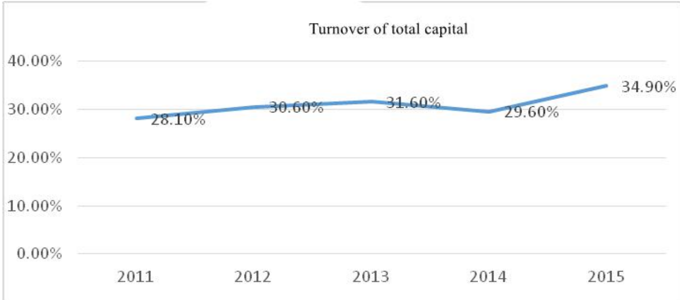

Fig. 3. Total assets turnover ratio (data sources: Netease finance)

From Fig. 3, the total assets turnover ratio of Vanke maintains an upward trend on the whole from 2011 to 2015. In 2015, the total assets turnover ratio reached 34.9%, a record high. Therefore, the ever-improving ability of selling of Vanke enjoyed a fast speed of total assets turnover. What is worthy of our attention is that the total assets turnover ratio decreased by 2% in 2014, compared with that in 2013. However, in 2015, it increased significantly to 34.8%, which is mainly caused by market environment and national macro-regulation. "In 2014, the overall demand for property in China slowed and the market was in a period of adjustment. But since the second half of 2014, the successively-introduced policies such as continuous loosening of purchase restriction and loan restriction, interest rate reduction and reserve requirement reduction, down payment reduction and new policy of 330 made the market show signs of recovery."[4]

It can start out from the components of total assets to analyze the reasons of the increase of the total assets turnover ratio. "The total assets consist of current assets and non-current assets, among which it should pay attention to liquidity of current assets. And inventory is an important part of current assets for real estate enterprises. In general, the total assets turnover ratio includes inventory turnover ratio and receivables turnover ratio. Due to longer period of the development of real estate projects, high value of products and poor ability in cashability, the inventory turnover ratio in real estate industry is low. Receivables turnover ratio is the money that enterprises should retrieve but has not, which is uncertain whether they can take back or not. Therefore, the receivables turnover ratio can reflect the ability of enterprises to convert receivables into cash.[3]"[5]

E. Inventory turnover ratio

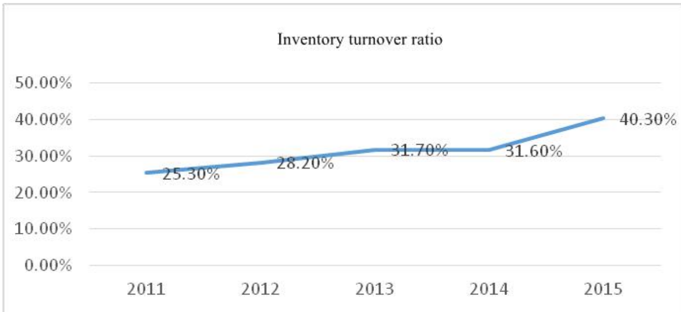

Fig. 4. Inventory turnover ratio (data sources: Netease finance)

By comparing Fig. 3 and Fig. 4, it shows that the change trend of inventory turnover and total assets turnover is consistent on the whole.

F. Receivables turnover ratio

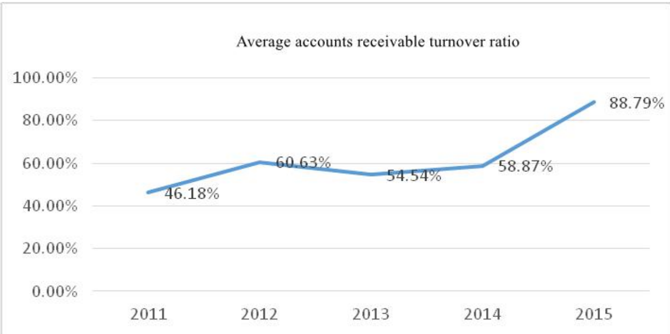

Fig. 5. Receivables turnover ratio (data sources: Netease finance)

From Fig. 5, we can know that receivables turnover ratio of Vanke had an upward trend from 2011 to 2015, which is consistent with total assets turnover ratio. It is worth mentioning that receivables turnover ratio reached 88.79% in 2015 with significant increase of 29.92% comparing with that in 2014, it is concluded that Vanke significantly increased its capital usage efficiency in 2015 and dramatically reduced the time it took from getting receivables to converting it into cash.

G. Equity multiplier

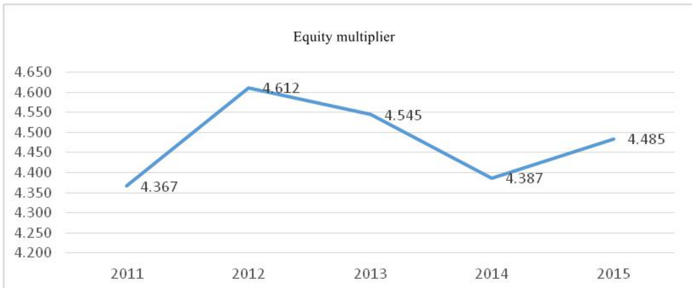

Fig. 6. Equity multiplier (data sources: Netease finance)

It is shown from Fig. 6 that equity multiplier maintained an downward trend from 2012 to 2014 with about 4.51, indicating that Vanke decreased its liabilities level in these three years and rarely used its financial leverage. But in 2015, equity multiplier increased again, which may be caused by the influence of the overall macro-environment of 2015 when Vanke expanded its selling scale and increased its number of external financing.

II. Comparative Analysis of Financial Ratios Between Vanke and Poly

In real estate industry, Vanke has always been in leading position with its leading sales scale, operation capacity and brand influence. However, in recent years, Poly real estate has been developing very rapidly and shows a tendency to surpass Vanke. Therefore, by comparing the financial data between Poly and Vanke, this paper analyzes the differences of the change of financial index in these two companies, tries to predict the future development of these two companies and proposes reasonable suggestions to improve their profitability.

TABLE II. RELATED INDEXES OF POLY REAL ESTATE FROM 2011 TO 2015 (DATA SOURCES: NETEASE FINANCE)

Item/Year	2011	2012	2013	2014	2015
The rate of return on equity	18.52%	19.86%	20.76%	19.87%	17.26%
Sales net interest margin	15.66	14.48%	12.85%	13.05%	13.63%
Total assets turnover ratio	27%	31%	33%	32%	32%
Equity multiplier	4.3801	4.4243	4.8956	4.7581	3.9573

TABLE III. RELATED INDEXES OF VANKE FROM 2011 TO 2015 (DATA SOURCES: NETEASE FINANCE)

Item/Year	2011	2012	2013	2014	2015
The rate of return on equity	18.17%	19.86%	20.76%	19.87%	17.26%
Sales net interest margin	15.66%	14.48%	12.85%	13.05%	13.63%
Total assets turnover ratio	27%	31%	33%	32%	32%
Equity multiplier	4.3801	4.4243	4.8956	4.7581	3.9573

The correlation date of the rate of return on equity, sales net interest margin, total assets turnover ratio and equity multiplier of both Poly and Vanke are shown in table 2 and table 3.

A. Comparison of the rate of return on equity

Fig. 7. The comparison of the rate of return on equity between Poly and Vanke

From the comparison in Fig. 7, we can know that the rate of return on equity of Vanke from 2011 to 2014 was lower than that of Poly except in 2015 when its rate of return on equity reached 18.09%, exceeding Poly with 0.83%. From the above figures, we can see that the rate of return on equity of Poly showed an upward trend from 2011 to 2013, which indicates that it intensifies the development and improves marketing efficiency, thus driving the increase of return on equity. Since 2014, the houses were selling at a slow pace due to the influence of macro-economy. Meanwhile, the rate of return on equity decreased slightly because of ever-increasing land reserve. On the whole, Poly enjoys a stable profitability and performs better than Vanke in terms of rate of return on equity.

B. *Comparison of sales net interest margin*

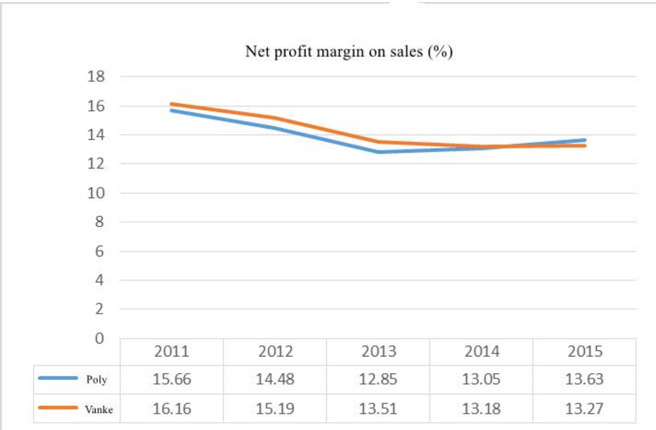

Fig. 8. The comparison of the sales net interest margin between Poly and Vanke (data sources: Netease finance)

These two companies showed a downward trend in the sales net interest margin from 2011 to 2013 and Poly's sales rate was lower than Vanke. Then the sales net interest margin of Poly increased slightly whereas Vanke began to increase its sales net interest margin in 2015. At that time, the sales net interest margin of Poly was 0.36%, higher than Vanke. Since 2011, the sales net interest margin of Poly decreased from 15% and Vanke began to decrease from the year of 2012, which indicates that the profiteering era of real estate industry has ended and industry profitability has returned to a relatively reasonable and stable level.

The sales net interest margin of Vanke has been decreasing during these five years, which has close relation with rapid growth of costs caused by the increase of the price of raw materials and labor cost, a series of regulation measures on real estate at central and local level and the gradual transition of the whole industry from sellers' market to buyers' market. Therefore, the profitability of the companies is decreasing in their main business. Through the comparison of the last five years, both Poly and Vanke experienced the increase and decrease of the sales net interest margin, which shows that these two companies have equal profitability in main business.

C. *The comparison of the percentage of each cost and expense in operation revenue*

In order to further analyze the reasons of the change of sales net interest margin, the paper provides comparison chart of the proportion of operation expense and selling expense, financial expense and administration expense in operation revenue for more detailed analysis.

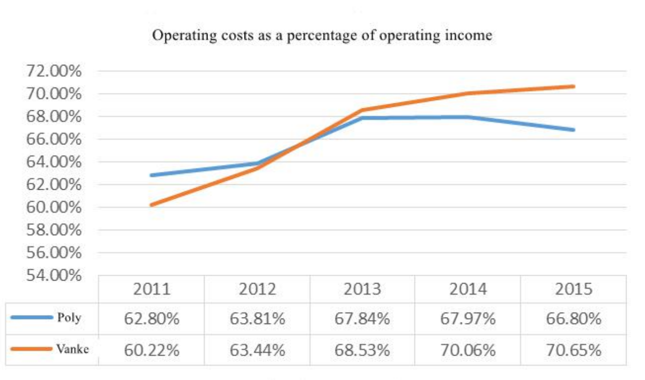

Fig. 9. The comparison chart of the proportion of operation expense in operation revenue in Poly and Vanke (data sources: Netease Finance)

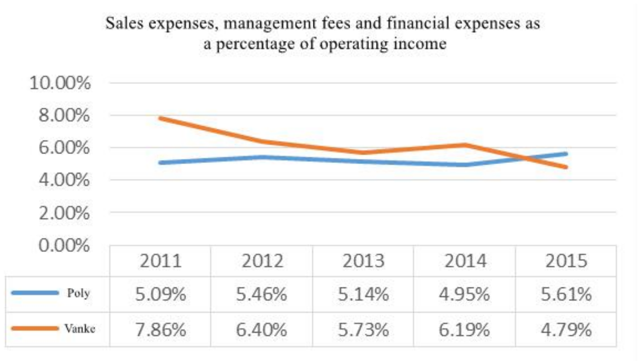

Fig. 10. The comparison chart of the proportion of selling expense, financial expense and administration expense in operation revenue in Poly and Vanke (data sources: Netease finance)

From Fig. 9, we can know that these two companies have the same operation expanse. However, since 2013, the proportions of operation revenue in these two companies were different with the gap reaching 3.85% in 2015. In view of the Vanke's strategy of "getting the land at low price without being landlord" and Poly's strong advantage in shareholders' background, they are equal in getting the land."[6]

It is shown from Fig. 10 that Poly has stronger ability than Vanke in expense control. Although the expense control of Vanke is higher than that of Poly on the whole, it shows downward trend with each passing year. In 2015, the total expense of Vanke was 0.82%, lower than that of Poly, which indicates that Vanke has made great efforts in the control of selling expense, financial expense and administration expense and achieved progress. However, Poly maintained an upward trend in selling expense, financial expense and administration expense, which is probably caused by the expansion of sales scale.

D. The comparison of total assets turnover ratio

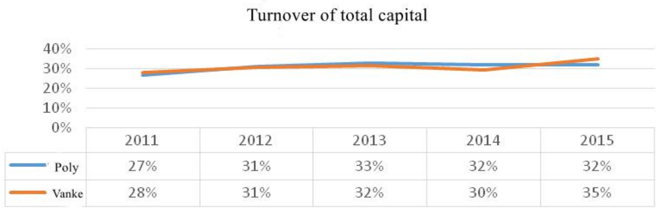

Fig. 11. The comparison chart of total assets turnover ratio between Poly and Vanke (data sources: Netease Fiancée)

From the above figure, we can know that the total assets turnover ratio in Poly and Vanke is not much different with both presenting upward trend. In 2013 and 2014, the total assets turnover ratio of Poly was higher than that of Vanker, but in 2015 Vanker's total assets turnover ratio was higher than that of Poly with over 3%. At the turning point of 2014 for real estate industry, Vanke and Poly remained stable development. The upward trend of total assets turnover ratio in both of the company shows the strong ability in operation and management of these two leading and benchmarking real estate companies.

E. The comparison of inventory turnover ratio

Fig. 12. The comparison chart of inventory turnover ratio between Poly and Vanke (data sources: Netease Finance)

In order to further study the reasons of the change of total assets turnover ratio in these two companies, this paper profoundly analyzes receivables turnover ratio and inventory turnover ratio of the two companies.

It is shown from Fig. 12 that Vanke and Poly experienced the same changing trend in inventory turnover ratio and total assets turnover ratio, which indicates that inventory assets, has huge impact on the asset of real estate companies. What is worth noting is that although the two companies had the similar trend in inventory turnover ratio and assets turnover ratio, Poly's inventory turnover ratio was higher than that of Vanke during these five years, which shows that Vanke has stronger ability in assets management and is more efficient in assets movement. And in 2014, inventory turnover ratio in both of the company decreased, but in 2015 it increased in varying degree, which shows that both of the companies strengthen their management when facing market change.

Compared with the two companies, the change trend of inventory turnover ratio is the same as that of total assets turnover ratio, which means that the companies can make the most of total assets to operate while planning properly for the long-term and short-term assets, thus realizing the substantial enhancement of operational efficiency.

F. The comparison of receivables turnover ratio

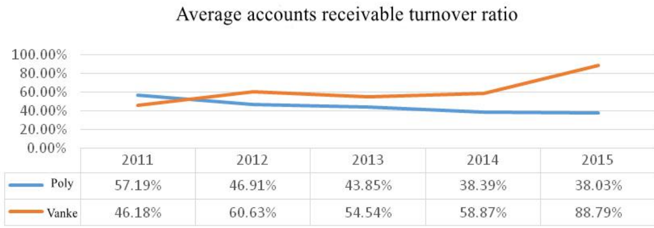

Fig. 13. The comparison chart of receivables turnover ratio between Poly and Vanke (data sources: Netease Finance)

The high proportion of receivables turnover ratio represents the stronger mobility of receivables turnover ratio and faster turnover speed. From the above figure, we can see that receivables turnover ratio decreased with each passing year in Poly but Vanke had opposite situation except in 2011. The receivables turnover ratio of Poly was lower than that of Vanke. In 2015, the gap between them reached the highest level with 50.76%.

The author believes that the business cycle index in real estate industry has a direct bearing on the change of receivables turnover ratio. The speed of receivables turnover will become faster with the loosened business cycle and funds. Since 2015, the intensively-introduced policies such as "two children policy", "330" new policy and policy of cutting interest rate and reducing reserves inspired the real estate industry. Due to its high sensitivity on the overall market, Vanke witnessed a significantly rise in receivables turnover ratio with the increase of 29.92%, compared with that in 2014. However, Poly saw its decrease in receivables turnover ratio, which requires it to improve its management.

G. The comparison of equity multiplier

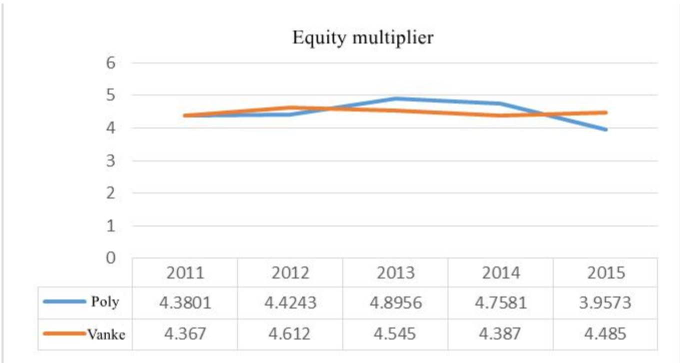

Fig. 14. The comparison chart of equity multiplier between Poly and Vanke (data sources: Netease Finance)

From Fig. 14, we can know that equity multiplier of Poly and Vanke is not much different with stable level. Since 2013, both of the companies have intensified the usage of financial leverage in a modest manner. A relatively high equity multiplier will bring more profit for the companies. In recent years, the operational condition for real estate industry is positive. In 2015, equity multiplier of Poly decreased to 3.9573, which indicates that Poly enhanced its liabilities level and the proportion of capital invested by the owner of the company in the total assets of the company reduced.

III. The Conclusion and Enlightenment from the Comparison

The rate of return on equity is used to measure the profitability of a company. The rates of return on equity of Vanke and Poly were very close during 2011 to 2015. But Vanke, as a benchmarking company in real estate industry, was in a disadvantageous position during 2011 to 2015, and then it is required to further improve so as to make progress.

Poly and Vanke had the same equity multiplier. In 2013, the two companies intensified the usage of financial leverage. With the ever intense competition in real estate industry and ever-increasing scale of real estate companies in the future, the key to promote the rate of return on equity of a company is whether it can optimize financial leverage.

The total assets turnover ratio and sales net interest margin can reflect the operational situation of a company and impact the rate of return on equity. The above analysis shows that sales net interest margin both in Vanke and Poly presented a downward trend, which is caused by government's multiple rounds of regulations. The increase of land price and the cost of raw materials make the two companies reduce their profits of projects. As for the control of selling expense, financial expense and administration expense, Poly performed better than Vanke which still has much room for improvement. According to the principles of Du Pont analysis, equity multiplier of the companies remains stable from the perspective of operation. "But in today's real estate industry with transparent profitability, real estate companies should attach much importance to the increase of total turnover ratio in order to improve the rate of return on equity."[7] Due to longer period of the development of real estate projects, there are many factors to influence total turnover ratio, such as inventory turnover ratio, receivables turnover ratio, etc. We can know from above analysis that the inventory turnover ratio in both of the two companies presented an upward trend during 2011 to 2015 and Vanke's inventory turnover ratio was higher than that of Poly, which shows that under the regulation of macro policy, there is no unsound inventory like before. With respect to receivables turnover ratio, it increased in Vanke with each passing year whereas Poly presented a downward trend, which means that Poly's ability in converting receivables into cash is decreasing and it suffers from the obstacle of sales outstanding.

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