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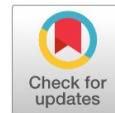


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INVESTIGATING FACTORS INFLUENCING PROFIT ENHANCEMENT IN REAL ESTATE COMPANIES IN HO CHI MINH CITY, VIETNAM

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Abstract. Profits are the deepest concern of Chief Executive Officers, especially in real estate companies. In the real estate industry, many factors influence profit enhancement. This article explores the factors that affect the profits of residential real estate companies in Ho Chi Minh City, Vietnam. Several types of research in developed and developing countries, especially in construction and real estate related literature, have been reviewed, and 23 items associated with profit enhancement have been discovered. They are divided into five key items: urban population, buyers capacity, housing supply, housing economics, and housing finance. These key items give basic understanding to the real estate companies to plan for their profit improvement. The items will be confirmed with confirmatory factor analysis in further study.

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INTRODUCTION

It is the truth that the world faces the problem of population boom. In spite of the birth restrictive policies and the low growth rate in several countries, the increasing trend worldwide is around 1.14% per year (World Population, 2014). The explanation for this matter can be the development in economics and the health care system improvement. With the better living conditions, human lives are extended, and the death rate of new-born reduces.

The increase in population leads the governments to face with many problems, such as the burden on food supply, housing supply, educational system, health care system, transportation system, crime rate, and pollution. Among those, the three basic needs of human being, including food, clothing, and housing, should be satisfied. The forecasted housing demand in Ho Chi Minh City increases year by year, as shown in Table 1 (adapted from Un-habitat, 2014). Within 30 years, the change in housing need is approximately 21.3%. However, the supply units in recent years are rather small, as shown in Table 2, (Savills Vietnam, 2015).

The gap between demand and supply brings a huge opportunity to real estate investors. However, these investors in Ho Chi Minh City face the difficulties in maximizing their profits and eliminating the losses in a very dynamic market as there are many factors that may affect the profits. It is necessary that developers know the factors that affect the profit so that they can properly plan policies to deal with the dynamic business

environment. This paper aims at examining key factors af-

fecting the profits of the residential real estate companies in Ho Chi Minh City, Vietnam so that real estate investors can effectively plan for their improvement. Under a number of literature reviews, 23 items influencing profits have been extracted within five main factors: 1) urban population, 2) buyers' capacity, 3) housing supply, 4) housing economics, and 5) housing finance.

TABLE 1
Housing Demand Estimation in Ho Chi Minh City (Adapted from Un-habitat, 2014)

Year	2009	2019	2029	2039	2049
No. of houses	27,500	32,480	37,730	38,430	39,400
% increase	-	18,11	16,16	1,86	2,52

TABLE 2
Housing Supply in Ho Chi Minh City (Savills Vietnam, 2015)

Year	2009	2010	2011	2012	2013
No. of houses	10,676	19,247	12,930	3,411	6,114
%increase	-	80,28	-32,82	-73,62	79,24

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LITERATURE REVIEW

There are a number of studies on the profits of real estate and related industries in developed and developing countries. Au and Hendrickson (1986) for example, studied the influence of financing mechanisms, operating conditions and, inflation on the profits of construction projects in USA. Gimpelevich (2011) applied Monte Carlo method to assess the project risk, and offered a metric that helped practitioners to make decisions concerning funding projects in USA.

In developing countries, real estate profit is also important, and needed to be carefully monitored. Liu and Wang (2008) for example, maximized construction profit by dealing with resource-constrained and project cash flow in Taiwan. The study also considered the constraints of credit limit, resource limit, and contract date in the model optimization. Huang and Wang (2005) forecasted a real estate development in Shenzhen, China. The result showed that the profits of developers were affected by CPI, GDP, savings, population, total amount of housing development, total constructing area, total completed area, taxes and fees, and loans.

There are also a number of researchers, both in Asian and Western countries focusing on improving profit in real estate industry. Elazouni and Abido (2014) maximized profit in construction projects in Saudi Arabia utilizing a multi-objective optimization method to trade-off between finance, resource leveling, and profit. Hung, Albert and Eddie (2002) compared the issue between contractors and property developers in Hong Kong. It was found that the profit divided between the two sectors is based on the developers' capital pressure and the contractors labor pressure. Fan, Huszar, and Zhang (2013) confirmed that real estate price had a relationship with the expected financial profit in Singapore. In a normal market environment, this relationship is positive. In strong market co-movement, whereas the price strictly descends with the expected return. Kohn and Bryant (2011) investigated the factors affecting the housing bubble in USA by applying structural equation modeling approach. There were seven dependent variables that are: 1) housing inventory, 2) vacancy rates, 3) median asking rents, 4) population, 5) consumer price index, 6) personal income, and 7) mortgage rate.

Park, Kim, Lee, Han, and Hwang (2013) applied system dynamics approach to model the real estate market in Korea to help

the policy makers to make development planning decisions. It was concluded that key measures of real estate market were urban population, housing supply, tax, land cost, and houses to household ratio. Hwang, Park, Lee, Lee, and Kim (2013), in the same way developed the dynamic model of Korean housing market. There are two sub models: housing price model and private housing supply model. These two models, with their own factors, contributed to the housing supply strategies in Korea.

Barlas, Ozgun, and Ozbas (2007) developed a causal loops diagram to simulate real estate market in Istanbul, Turkey. It was found that the profit depends upon, for instance supply-demand ratio, houses under construction, empty house, price, and cost.

RESEARCH METHODOLOGY

This paper emphasizes on reviewing key items affecting profit enhancement of real estate companies. The major methodology used in this paper is reviewing literature, especially in real estate and related industry literatures both in developed and developing countries. This includes, for example, financial issue in construction, projects' cash flow and housing planning. A number of key items extracted from these studies are listed and explained in next part.

Items Associated with Profit Enhancement in Real Estate Companies in Ho Chi Minh City Based on a number of literature reviews, 23 items influencing profit enhancement in real estate companies in Ho Chi Minh City, Vietnam have been listed, as shown in Table 3. Details are as follows:

Number of Members in Family

The reduction of "number of members in family" will lead to the demand on housing. Or, if population enlarges, the constant of number of members in family will also lead to the demand on housing.

Annual Change of Number of Household

The change of "number of household" will directly affect the housing demand and real estate companies' profits.

Home Ownership Rate

It is not true to say that everyone owns the house they are living in. Therefore, the low "home ownership rate" will also lead to the housing demand.

Housing Income

Everyone has a demand on owning a house; however, only persons who have suitable income or budget to buy a house should be taken into consideration. The higher income leads to the higher buying capacity.

TABLE 3
List of Profits Associated Items

No.	Items	References
1	Urban population	Case and Mayer (1996), Malpezzi and Mayo (1997), Pyhrr et al. (1999), Quigley (1999), Huang and Wang (2005), Vanichvatana (2007), Deng et al. (2009), Ho et al. (2010), Gimpelevich (2011), Park et al. (2013), Kohn and Bryant (2014).
2	Number of members in family	Malpezzi and Mayo (1997), Pyhrr et al. (1999), Abelson et al. (2005), Ho et al. (2010).
3	Annual change of number of household	Case and Mayer (1996), Ortalo-Magne and Rady (2004), Ho et al. (2010).
4	Home ownership rate	Pyhrr et al. (1999), Ortalo-Magne and Rady (2004), Davidoff (2006), Ho et al. (2010), Park et al. (2010).
5	Household income	Case and Mayer (1996), Malpezzi and Mayo (1997), Quigley (1999), Ortalo-Magne and Rady (2004), Abelson et al. (2005), Davidoff (2006), Chen et al. (2007), Kohn and Bryant (2014).
6	Housing supply	Malpezzi and Mayo (1997), Pyhrr et al. (1999), Quigley (1999), Huang and Wang (2005), Khumpaisal et al. (2010), Park et al. (2010), Park et al. (2013).
7	Housing stock	Kenny (1999), Pyhrr et al. (1999), Adams and Fuss (2010), Guthrie (2010), Park et al. (2010), Eskinasi (2012).
8	Housing pre-sale	Chang and Ward (1993), Lai et al. (2004), Huang and Wang (2005), Ho et al. (2010).
9	Housing transaction	Pyhrr et al. (1999), Ortalo-Magne and Rady (2004), Davidoff (2006), Deng et al. (2009), Park et al. (2010), Suppakitjarak and Krishnamra (2015).
10	Gross Domestic Product (GDP) per capita	Huang and Wang (2005), Vanichvatana (2007), Adams and Fuss (2010), Gimpelevich (2011), Golob et al. (2012), Funke and Paetz (2013).
11	Saving ratio	Malpezzi and Mayo (1997), Huang and Wang (2005), Ho et al. (2010), Funke and Paetz (2013), Suppakitjarak and Krishnamra (2015).
12	Consumer price index (CPI)	Malpezzi and Mayo (1997), Pyhrr et al. (1999), Abelson et al. (2005), Huang and Wang (2005), Edelstein and Tsang (2007), Golob et al. (2012), Funke and Paetz (2013), Kohn and Bryant (2014).
13	Construction cost	Edelstein and Tsang (2007), Deng et al. (2009), Adams and Fuss (2010), Ho et al. (2010), Gimpelevich (2011), Eskinasi (2012), Hwang et al. (2013-2).
14	House price	Malpezzi and Mayo (1997), Quigley (1999), Ortalo-Magne and Rady (2004), Abelson et al. (2005), Davidoff (2006), Barlas et al. (2007), Chen et al. (2007), Yap and Wandeler (2008), Deng et al. (2009), Adams and Fuss (2010), Guthrie (2010), Khumpaisal et al. (2010), Park et al. (2010), Eskinasi (2012), Fan et al. (2013), Hwang et al. (2013-1), Hwang et al. (2013-2).
15	Deposit interest rate	Barlas et al. (2007), Adams and Fuss (2010), Khumpaisal et al. (2010), Golob et al. (2012).
16	Housing loan interest rate	Malpezzi and Mayo (1997), Vanichvatana (2007), Edelstein and Tsang (2007), Gimpelevich (2011), Golob et al. (2012), Hwang et al. (2013-1), Hwang et al. (2013-2), Kohn and Bryant (2014).
17	Construction loan interest rate	Hung et al. (2002), Barlas et al. (2007), Edelstein and Tsang (2007), Deng et al. (2009), Morri and Cristanziani (2009), Park et al. (2010), Eskinasi (2012), Golob et al. (2012), Hwang et al. (2013-2).
18	Taxes and fees	Huang and Wang (2005), Vanichvatana (2007), Ouyyanont (2008).
19	Land cost and consultant costs	Kenny (1999), Guthrie (2010), Eskinasi (2012).
20	Expected profits of developers	Barlas et al. (2007), Ouyyanont (2008), Guthrie (2010), Khumpaisal et al. (2010), Park et al. (2010), Hwang et al. (2013-2), Fan et al. (2013), Huszar, and Zhang (2013), Elazouni and Abido (2014).
21	Debt-equity ratio	Pyhrr et al. (1999), Hung et al. (2002), Ouyyanont (2008), Morri and Cristanziani (2009).
22	Construction schedule	Edelstein and Tsang (2007), Liu and Wang (2008), Coulson and McMillen (2008), Khumpaisal et al. (2010), Eskinasi (2012), Elazouni and Abido (2014).
23	Buyers' payment schedule	Kau et al. (1993), Chang and Ward (1993), Lai et al. (2004), Liu and Wang (2008).

Housing Supply

Based on the law of supply and demand, if supply is higher than demand, there is an excess. And if supply is lower than demand, there is a scarce supply. The former can make profit to reduce; whereas, the latter can make profit to increase.

Housing Stock

This item refers to the houses that are completely built but still be available for transaction. If the stock reduces - that means more houses to be sold out, the profit will increase. On the contrary, the profit will decrease if the stock rises up.

Housing Pre-Sale “Housing pre-sale” refers to the houses that have not been built completely but have been already sold by the evidence of a contract and a down-payment. The more houses pre-sold, the more profit it gives.

Housing Transaction

“Housing transaction” is the quantity of houses that investors have already sold out and money taken from customers. This item should be the one that affects strongly the profits of developers.

GDP Per Capita

This reflects the health of economy and the demand in general. The increase in GDP per Capita can be a signal of an opportunity to make profit.

Saving Ratio

To buy a house, people tend to save money for a long time. The higher saving ratio is, the higher buying capacity is.

Consumer Price Index

The change in price may make households spend more money for the same goods and services they have used. Consequently, their saving ratio may be affected and the ability to buy a house may reduce.

Construction Cost

“Construction cost” is the price of a construction project. In general, developers should minimize this factor to maximize their profits.

House Price

“House price” is the price of real estate. It should cover all costs, fees, and profit. In general, with the fixed costs and fees, if the price is high, the profit is high and vice versa.

Deposit Interest Rate

“Deposit interest rate” is the ratio of sum of money that a person receives when he/she deposits amount of money into a bank to save that amount. If this rate is low, people tend to buy a house as a channel of investment and real estate investors can get more profit.

Housing Loan Interest Rate

This term refers to the ratio of sum of money that a person has to pay back to banks when he/she borrows from the banks an amount of money for buying a house for that amount. In the case that this rate is high, people do not want to borrow money

for buying a house.

Construction Loan Interest Rate

“Construction loan interest rate” is the ratio of sum of money that a company has to pay back to banks when they lend this company an amount of money to develop housing projects for that amount. This type of interest rate affects the profit of the real estate companies transparently.

Taxes and Fees

“Taxes and fees” should not be considered only in real estate companies but the others also when we talk about profits. This item plays an important role in the structure of house price; and it also contributes to a remarkable effect on profit.

Land Cost and Consultant Costs

This item includes land cost and consultant costs. These costs will affect the price of the houses and the profit of real estate investors.

Expected Profits of Developers

Generally, the developers determine house price based on all the costs, fees and a rate of return. The last value can be called expected profits.

Debt-equity Ratio

Debt is something that a company is bound to pay to another person or entity. Equity is the value of a company after any debts have been subtracted. The company will pay more to bank if this factor is high and their profit will decrease. Whereas, they will get more profit if this value is low.

Construction Schedule

Real estate companies usually borrow money from the bank for development because of the huge investment capital. There-

fore, they have to pay financial cost based on the interest rate, amount of money borrowed, and the borrowing duration. Any changes in construction schedule will affect the payment and profits.

Buyers' Payment Schedule

Buyers can buy a house by paying a sum of money in advance and paying the remaining amount in a determined period in the form of installments. Although developers receive extra money based on the interest rate they lose their opportunity cost and this will affect their profit.

Proposed Key Factors Influencing Profit Enhancement In Real

Estate Companies In Ho Chi Minh City, Vietnam.

There are a lot of items that affect the profit of real estate companies. However, it is useful for further studies to group the items that have similar effects in one group. This will also help us to focus on the main factors.

Pyhrr et al. (1999), for example, divided real estate cycles into seven groups: 1) economic and business (national levels) group, 2) economic and business (submarket levels) group, 3) social-cultural-behavior group, 4) physical market group, 5) financial market group, 6) project-portfolio group, and 7) international real estate group. Ho et al. (2010), whereas concluded that Taiwan real estate market can be modeled with five main factors: 1) urban population, 2) housing demand, 3) housing supply, 4) housing economics, and 5) housing finance. Besides, Park et al. (2010) simulated Korean housing market with four factors: 1) housing demand, 2) housing price, 3) housing supply, and 4) government policies. However, Hwang et al. (2013) focused on three factors: 1) housing demand, 2) housing supply, and 3) housing price to simulate Korean real estate market. In Iran, Amini et al. (2013) proposed a real estate market model with three main sectors: 1) basic supply-demand model, 2) consumer affordability model, 3) speculative demand model. Based on a number of literature reviews, this study allocated these 23 items into five key factors: 1) urban population, 2) buyers' capacity, 3) housing supply, 4) housing economics, and 5) housing finance as mentioned below.

Urban Population

This group consists of urban population, number of members in family, and annual change of number of household. These items are obviously concerned with the group of urban population (Ho et al., 2010).

Buyers' Capacity

This group includes two items: home ownership rate and household income. These two items are in the same group (Ho et al., 2010).

Housing Supply

The items housing supply, housing stock, housing pre-sale, and housing transaction are the variables that relate to housing supply (Ho et al., 2010). According to Eskinasi (2012), construction schedule may affect the housing supply in a specific time. Therefore, there are total five items in third group.

Housing Economics

Ho et al., (2010) confirmed that GDP per capita, CPI, taxes and fees, construction cost, and saving ratio should be variables in the housing economics group. Moreover, Aura and Davidoff (2008), Peng and Wheaton (1994), and Kenny (1999) concerned that the changes of land cost will affect house price and eco-

nomics. Expected profits of developers also relate to house price (Hwang et al., 2013-2). Adams and Fuss (2010) confirmed that deposit interest rate is a part of housing econometric model. The fourth group is the largest group with nine items.

Housing Finance

Ho et al. (2010) listed housing loan interest rate and construction loan interest rate in the fifth group. Then, Morri and Cristanziani (2009) confirmed that debt-equity ratio is a determinant of the choice of capital structure of real estate companies. And Lai et al. (2004) considered that the payment strategy is a part of property companies' cash flow analysis. The five key factors and their items have been just pre-assumed and extracted from the literature reviews. These will be confirmed by confirmatory factor analysis. However, this will not be confirmed in this paper. It is assumed that these five key factors reflect the profit enhancement in Asian countries, as well as in Ho Chi Minh City, Vietnam.

CONCLUSION

Profits are the most essential thing that real estate companies have to take into consideration in any decision making procedure. It is useful for CEOs of real estate companies to have a good knowledge of the factors that affect profit enhancement. There are a lot of studies on this issue. Under a number of literature reviews, 23 items influencing profit enhancement have been explored. Then 23 items will be used to develop the questionnaire survey to collect data for further study.

Besides, it is necessary to group the items that have same effect on profit in general and to examine their relationship in continuing studies. Therefore, these 23 items are grouped into five main factors named:

- 1) urban population,
- 2) buyers' capacity,
- 3) housing supply,
- 4) housing economics, and
- 5) housing finance.

The pre-assumed five groups that are also extracted from a number of literatures will be confirmed with confirmatory factor analysis method, using questionnaire survey data in Ho Chi Minh City, to explain their effects on profits and their relationships.

CONTINUING STUDY

After extracting the items and key factors from the literature review, the confirmatory factor analysis will be applied to confirm which items affect profit enhancement in real estate companies in Ho Chi Minh City, Vietnam. Moreover, the relationship of items and key factors will be examined during analysis process.

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— This article does not have any appendix. —