

## Housing Bubbles Assessment in Klang Valley, 2005-2010

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### ABSTRACT

During the period 2005-2010, Klang Valley had experienced a dramatic run-up in housing prices. However, once the housing price deviates too much from its fundamental value, it may give rise to problems and even subprime crisis. This paper will discuss whether there exist housing bubbles in selected Klang Valley areas based on different district by incorporating the examination of macro-economic indicators with micro measures, using a comprehensive set of indicators to test the bubbles. The general finding of this paper strongly suggested that the existence of bubbles in Klang Valley Residential property market getting bigger and stronger.

Keyword: Housing bubble, subprime crisis, macroeconomic indicators.

### INTRODUCTION

The residential property market price in Malaysia is expected to be moderate in 2011. According to the Deputy Finance Minister, Datuk Donald Lim Siang Chai, the property price is expected to rise 10 percent to 20 percent in the year 2011. Last year the property sales consist of 36 percent of total loans, largely distributed by banks with accumulated value worth RM240billion, exceeding 15 percent in the first half of 2010. Residential property captured 60.2 percent of total volume and 47.1 percent (or 226,874 units) in value transaction worth RM50.65 billion. Both volume and value in the year 2010 rise 7.2 percent and 21 percent respectively as compared in year 2009. (Zaquan, 2011)

The National Property Information Centre (NAPIC) recently found that the residential property in all house price index rise RM8.9 billion to RM14.7 billion in 2010, with Klang Valley, Selangor, and Sarawak have recorded the highest house prices. The average price of housing rose to RM199, 636 from RM184, 574 in 2009, dominated by property priced below RM150, 000 (57.1 percent of total residential transactions) with the large of property 17.3 percent covered by residential properties priced between RM100, 000 and RM150, 000.

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The property bubble in Malaysia is formed when there is excessive bank-lending and low borrowing cost leading to investment as well as plenty of speculation. Property prices will increase until they reach unsustainable levels relative to incomes and other economic elements. Banks will be short on capital, while cases of non-performing loans start to show up. When banks start cutting back credit, it will in turn affect the economy, as the move will affect the price of property as well. Although there is no property bubble in Malaysia, there are still some worries faced by investors and few observers due to loose lending standard, low interest rate, lack of viable investment alternative and flexible mortgage opening bank to a greater risk of increasing non-performing (Malaysia Property News, 2010).

The discussion on housing bubbles in this paper based on two type of residents property, the Double Storey Type and Condominium Type in five selected districts in Klang Valley - District of Ampang, Batu, Kuala Lumpur, Petaling and Setapak, for the year 2005-2010. Using the Rational Expectation Model and Fama-French Three Factor Model, this paper strongly suggested that the existence of speculators in Klang Valley Residential property market getting wider (in all districts) and stronger (throughout the years) while the housing bubbles is being closely monitor by the Central Bank of Malaysia.

## PREVIOUS STUDIES

Wheaton and Di Pasquale (1996) and Ball et al. (1998) found that price changes in the Residential property market acts as a signal to buyers and sellers, a dynamic behaviour of the Residential property market, where development and redevelopment of properties due to land conversion shown by rents or price increase.

Number of studies on property bubbles and its significant factors were based on the rational expectation theory (Muth, 1961; Flood and Hodrick, 1990; Kim and Suh, 1993; Chan et al., 2001; Xiao and Tan, 2007; Mikhed and Zemcik, 2009). According to Case and Shiller (2003), the term "bubble", is widely used but seldom specifically defined, refers to a situation in which widespread expectations of future price increases cause prices to be temporarily high. Within bubble markets, most speculators purchased less expensive homes, based on the idea that first time homebuyers would provide most of the demand for "flipped" properties. As the bubble was reaching its peak (Greenspan, 2005b) "obvious bubbles" in some local housing markets created and has an "extraordinary boom" in the housing market being over (Bruno 2006).

The rational expectation model was built on the theory of asset pricing by incorporating the present value model. The rational expectation model has been widely used in identifying bubbles in previous studies. The theory stated that the property expectations as identical as the estimation of the future price that is based on all available information in the market. It is assumed that outcomes that are being forecast do not differ systematically from the market equilibrium results. The theory of rational expectations says that the actual price will only deviated from the expectation, *if and only if*, there is an information shock caused by information unforeseeable at the time expectations are formed. In short, when the actual value of a variable is deviated to the expected value predicted (Flood and Hodrick, 1990; Kim and Suh, 1993; Chan, 2001; Xiao and Tan, 2007; Mikhed and Zemcik, 2009). According to the theory of rational expectation, a bubble must grow fast enough to earn the expected return, that is investor have to sell an asset for more in the future than all the information about its intrinsic value, there exist "unexploited profit opportunities". The knowledge of buying and selling property to make a profit will drive the price toward equilibrium.

From property bubble point of view, Mills and Hamilton (1994), Malpezzi and Maclennan(2001), and Goodman and Thibodeau (2008) have identified income, rent, and interest rate as important factors in assessing speculative bubble than the ratios of housing price to income (P-I ratio) and housing price to rent (P-R ratio), two basic indicators in measuring housing affordability and housing prices<sup>1</sup>. The relationship is highly unbalanced towards house prices which signal that at a certain point. As a matter of fact, if prices are perceived as too high it will become cheaper to rent the same house instead of buying it. On the other hand, the rent represents the actual, or simply potential, return on investment for house owners; if it drops below a certain level the equilibrium may be restored only through a parallel drop in the asset's value, i.e. in the house price. Case and Shiller(2003) and Sheller (2007). Stiglitz' discussed the concept of housing bubble that occurred and stated that

***"If the reason that the price is high today is only because investors believe that the selling price will be high tomorrow when "fundamental" factors do not seem to justify such a price-then a bubble exists"***

(Stiglitz' 1990, p. 13)

Guttentag and Herring (1986) found that banks also play a key role in the formation and collapse of real estate bubbles. Other includes studies by Blanchard and Watson (1982) and Allen and Gale (2000) that built a model of credit loans in discussing the interaction among investors, financial institutions and the central bank. In most cases, such behaviour of financial institutions would make a bubble more serious, since the price of assets can be pushed to higher levels by increased access to loans. Gerlach and Peng (2005) and Brissimis and Vlassopoulos (2008) suggested that there exist a multidirectional relation between housing prices and mortgage lending only in the short run. However, it is certain that there is a close bond between housing bubbles and credit expansion.

In Malaysia, the Malaysia House Price Index (VPSD 1993) was initiated in 1993 and officially launched in 1997. The objective is to establish a national price index that able to monitor the movement of house prices in Malaysia and assist the policymakers in formulating national economic policy with respect to housing and property development. This index represents the overall housing markets and disaggregated according to region and house type with individual indices for key markets

<sup>1</sup> A low value of the P-I ratio refer to situation of a low share of housing consumption of the consumers' budget, which will improve the housing affordability of consumers, while the excessive value of P-I ratio will make worse the affordability of households.

and house type (Dzurkarnain et al. 1996; Wan Zahari and Nasir, 2002). As for bubble in Residential property market, its existence only when there is an excessive bank-lending and low-borrowing cost (Jeni, 2010). The unsustainable property price increment and shortage of capital by the banking institutions were reasons for positive non-performing loans. This lead for cut back on the loan amount approved, in turn will affect the economy growth and the price of other property as well (Malaysia Property News, 2010).

In order to prevent asset bubbles in Malaysia, a continuous monitoring by the Central Bank of Malaysia (CBM) on the property price trends and the introduction of appropriate measurements, such as the introduction of “*My First Home Scheme*” on 8 March 2011 will curb the real estate speculation activities and to support, stabilize and sustain the future of Malaysia’s Residential property market (Azhar, 2011).

## RESIDENTIAL PROPERTY MARKET IN MALAYSIA

Residential property market in Malaysia has experienced significant price expansion over the past fifteen years with prices, in several states, expanded at a higher rate. During the period of rapid economic growth, house price continue to hike and making it unaffordable especially during the years prior of Asian Financial Crisis 1997 and late 1998 (Abraham & Hendershott, 1996). The housing industry has been a very important sector in the Malaysian economic growth but with lack of a comprehensive national policy on housing, the door for speculation on price market has been wide open. House prices consistently fluctuate in unity with internal factors and external factors<sup>2</sup>. During the year 1999, the double storey houses cost between RM155, 000 to RM180, 000 but now the price can reach almost RM 750,000 or more (Endan,1999).

Figure 1, 2 and 3 above provide general overview on the volatility of Unit Sales, Selling Prices and Rental Prices on average (in per cent) according to Double Storey Type and Condominium Type in Klang Valley. Figure 1 shows that Unit Sales and Rental Prices for Condominium Type are higher than Double Story Type although the Selling Price is nearly the same during 2005 to 2010. Figure 2 and Figure 3 described the decreasing trends of Unit Sales and mixed trend for Rental Price for both Type, while the Selling Price for Double Story Type recorded higher than the Condominium Type during the same period. The mixed trends of Unit Sales, Rental Price and Selling Price for Double-Storey Type and Condominium Type were widely contributed by the US financial crisis, the expectation of the housing price and the existence of speculative behaviour, although the existence of property-location specific bubble in Klang Valley is still under control (Hou, 2007). As stated by the General Manager of RAM Rating Services Bhd, Mr Denise Thean,

***“If the location is good, there will be demand there. If the demand is not good, there will not be a demand for the particular project”.***

(Khuo, 2011)

As for trends from Districts perspective, it is widely accepted that rent amounts are a fundamental factor in determining the value of housing. If housing prices rise too far out of line with rents, a combination of declines in home values and increases in rent amounts will ultimately occur and enable these two averages to correct back toward each other.

The Double-Storey Type Selling Price changed from 2005 to 2010 with the Kuala Lumpur District recorded as the higher housing price among other district, recorded the increment by 46 per cent during 2005 to 2010 while Ampang District shows almost stagnant changes during the period. In 2005, the average housing price is RM 336, 938 increased to RM 392, 500 in 2007 to RM666, 000 in 2010 (Figure 4a). The higher annual Rental Price recorded by Ampang District (Figure 4b) was the highest among other district, from RM 1,150 in 2005 to RM 3,300 in 2010 while the lowest annual rental price is at Batu District which the percentage changes in 2005 to 2010 are 15 per cent. As for the Condominium Type, the Selling Price changed from 2005 to 2010 with Batu District recorded as the higher housing price among other district, From RM 420, 434 in 2005 to RM 712, 785 in 2010. The Setapak District recorded for the lowest average price from RM 177, 125 in 2005 to RM 315, 000 in 2010. The annual rental of condominium in Batu District recorded for the most expensive among others during 2005 to 2010 between RM 3000 to RM4200, but Kuala Lumpur District recorded for RM 5,870 in 2010. The district represents the lowest rental is Setapak and followed by the Petaling.

<sup>2</sup> Internal factors such as marketing objectives, marketing mix strategy and cost while external factors include market and demand, consumer perceptions of price and value, competitors’ costs prices and offers, economic conditions which are nonlinear such as recession, inflation and interest rates, the government policies and social concerns (Endan,1999).

## METHOD

Data obtained from Valuation and Property Service Department (JPPH), Bank Negara and Department of Statistic (Appendix 3) from the year 2005 to 2010. This study used two samples which are Malaysia housing Selling Price and the Rental Price for Double-Storey Terrace Type and Condominium Type. Five selected districts were Ampang District, Batu District, Kuala Lumpur District, Petaling Jaya District and Setapak District. The main focus is to identify whether there is existing of housing at selected districts because of the most demanded residential property.

The relationship among variables could be represented as stated by the rational expectation theory, or also known as the Fama- French Three Factors, by the following function:

$$B_t = P_t - [P_{t-1} (1 - r) - D_{t-1}]$$

where:

$B_t$	=	Housing Bubble
$P_t$	=	Intrinsic Housing Price
$P_{t-1}$	=	Previous Housing Price
$r$	=	Lending Rate
$D_t$	=	Rent Paid to the Property Owner

Rearranging the current price of a housing unit can be expressed as the present value of the expected price and expected rent the next period.

$$P_t = \lambda E(D_{t+1}) + \lambda E(P_{t+1})$$

where “ $\lambda$ ” means the discount factor,  $\frac{1}{1+r}$ ,  $E(R_t) \frac{1}{1+r}$  and “ $r$ ” means risk adjusted constant rate ( $0 < r < 1$ ). Substitute the expression for  $P_{t+1}$  into the original then Equation (2) can be replaced with:

$$P_t = \lambda E[D_{t+1} + \lambda E(D_{t+2} + P_{t+2})]$$

Equation (2) can be solved by recursively substituting the expression for  $P_{t+i}$  into the original equation with an infinite number of time (i). The solution is given in Equation (3):

$$P_t = \sum_{i=1}^{\infty} \lambda^i E(D_{t+1+i}) + \lim_{i \rightarrow \infty} \lambda^i E(P_{t+1+i})$$

Then, if I assume that the expected price infinitely far in the future is equal to zero, the actual  $P_t$  will equal to the fundamental price ( $P_t^*$ ), which can be defined as:

$$P_t^* = \sum_{i=1}^{\infty} \lambda^i E(D_{t+1+i})$$

If the actual price is not in line with  $P_t^*$ , a deviation from the fundamental price will occur. In this case, it is possible to investigate the magnitude of the deviation, i.e. a bubble. Following Flood and Hodrick (1990) and Chan et al. (2001), the bubble is defined as:

$$B_t = \lim_{i \rightarrow \infty} \lambda^i E(P_{t+1+i}) + \varepsilon_t$$

Where  $B_t$ , referred to as a rational bubble in most literature, represents the deviation of the actual price from its fundamental value  $P_t^*$ , which can also be regarded as the rational expectation price without a bubble. “ $\varepsilon_t$ ” denotes the error term:

$$B_t = P_t - P_t^*$$

Considering the lack of a long time series data about the return of a property, it appears inappropriate to employ directly to compute the rational expectation prices. Following Wheaton (1999), however, this study replaces with the following formula to compute the rational expectation price of housing:

$$P_t^* = P_{t-1}(1+r) - D_{t-1}$$

Where  $P_t$  means the housing price with perfect foresight, i.e. rational housing price, “r” is the equilibrium return to capital, i.e. discount rate. Then it can be translated into the following form:

$$B_t = P_t - [P_{t-1}(1+r) - D_{t-1}]$$

Clearly, the deviation of market prices from the rational expectation price could shed light on the existence of a bubble. The larger the deviation, the more likely it is that there exists a bubble.

## RESULTS

The data was being calculated and regressed using the E-Views software to fulfil the objectives of this study, to access the scenario of housing bubble in area Klang Valley by districts in the year 2005 until 2010. Using the Theory of Rational Expectation and Fama-French Three Factor econometric model, the existing of bubble in the residential property market were calculated using the current housing price, rental price and lending rate to find the expectation of residential price for both Types.

### *Performance of Unit Selling, Price Selling, and Rental Price By Types and District in Klang Valley*

The performance of average percentage change in Unit Selling of the Double Story Type by districts showed a mix trend from the year 2005-2010. The increased trends 2005/2006 due to high demand while decreasing trends 2006-2009 caused by the global crisis in the United States and subprime crisis of housing bubbles. However, in the year 2009/10 the unit selling rises again to positive values. These trends also reflected for Selling Price with the lowest change is 0.1 percent in the year 2006/07 and the highest change is 43 percent in the year 2007/08. However the Selling Price still high for the year 2005-2010. As for Rental Price trends, mix trend recorded where during 2005/06 the changes were constant, but in the year 2006/07 shows the highest change especially at district Ampang with 94.6 per cent. In the year 2009/10 the percentage change in rental price started to increase back to the positive change. (See Appendix 4, Figure 6a, 6b and 6c).

As for Condominium Type, mixed trend also recorded for average percentage change in Unit Selling. The maximum changed was in the year 2006/07 with Setapak District recorded for the highest changes with 588.6 per cent. However, in the year 2006 to 2009 the Unit Selling declined with to 66.6 per cent in the year 2008/09. In the year 2009/10 the Unit Selling increased to positive value due to the government 10MP which encouraged new home buyer to buy a house especially for the youngster. For Selling Price trend for the year 2005-2010, the lowest changed was 0.1 per cent in the year 2006/07 at Kuala Lumpur District while the highest changed recorded at 35.8 per cent in the year 2005/06 at Ampang District. For the year 2008/09, although the Unit Selling recorded for negative changes (-66.6 per cent), the Selling Price recorded for a high price. The trend for average percentage change in rental price has an equal change for each year, within 10 per cent to 20 per cent, except for the year 2009/10 where Kuala Lumpur District recorded for the highest changes as compare to other district with 65.4 per cent. (See Appendix 4, Figure 7a, 7b and 7c).

### *Speculative Activities of Unit Selling, Price Selling, and Rental Price By Types and District in Klang Valley*

Based on Rational Expectation Model and the Fama-French Three Factors model, this study found that speculation activities and bubble event does exist in the property market in each district in Klang Valley for both Type of residential properties. From all districts of Double-Storey Type, the Petaling District shows the most active of bubble activities compare to another district, which will lead for future speculation activities. As a conclusion of double storey type, the trend intrinsic price and market

price show that parallel in most district buying for their owned shelters but not for the speculation purposes. But in district Petaling bubble does exist (Appendix 5 – Figure 8a to Figure 8e).

Figure 9a to 9e shows the bubble and speculative activities of Condominium Type. Based on all district in Condominium Type, the district Kuala Lumpur is the most active bubble compared to others district. However, in the year 2005 to 2007 the trend of bubble in district Ampang, Petaling and Setapak is flat trend but in the year 2008 onward, the trend is increasing. This might because of this district has developed and more condominium units have been built. Therefore, when the district has developed the more speculation activities existed (See Appendix 6).

From regression perspective, the bubble events represented as follow:

$$PRICE_t = \beta_0 + \beta_1 [Pe]_t + \varepsilon_t$$

where PRICE<sub>t</sub> : Price of double- storey house in the period t, Pe: The expected price of double storey house in period t and  $\varepsilon_t$  is a stochastic error term.

From the data collected, the bubble event for Double Storey Type and Condominium Type stated as follow:

a) For Double Storey Type

$$PRICE_t = 19560.56 + 0.998280 [Pe] + \varepsilon_t$$

(27671.92) (0.069871)

[R-squared: 0.872059; Adjusted R-squared : 0.867490; F-statistics: 190.8514; Durbin-Watson stat: 2.164776]

From the multiple regression model, the result shows that there is a positive relationship between housing price for double- storey house and the expected price. It indicates that when price increase by RM1, the expected price of double- storey house will also increase by RM0.9807.

b) For Condominium Type

$$PRICE_t = 90044.93 + 0.912138 [Pe] + \varepsilon_t$$

(29349.80) (0.069924)

[R-squared: 0.922572; Adjusted R-squared : 0.919876; F-statistics: 333.6240; Durbin-Watson stat: 2.577179]

From the multiple regression model, the result shows that there is a positive relationship between housing price for condominium and the expected price. It indicates that when price increase by RM1, the expected price of condominium will also increase by RM0.9745.

#### *Reason Behind the Existing Scenarios in Klang Valley Residential Property*

a) *Strong Demand:* Central Bank Malaysia (CBM) introduced loan-to-value (LTV) ratio of 70 per cent at the maximum level for the third and subsequent house financing facilities to curb speculation on property prices. Strong underlying demand from first-second home owners and upgrades continued to support property sales, even at new benchmark prices. This added the recent launches that saw strong take ups such as Sentul East condos where more than 90 per cent of the units being booked at RM600 per square feet with 75 per cent were sold at RM2mil to RM3.3mil per unit (Sarif, 2011).

b) *Greater Kuala Lumpur:* The mass rapid transit (MRT) project boost the value of residential property even the MRT completion may still be a while away, in 2016-2020, the price moved ahead as developers scramble for projects near potential stations (given the typical 5-year lead time to negotiate, plan, obtain approvals, sell and construct). Developers such as SP Setia have started pricing in potential of MRT interchanges in their launches the KL Eco-City (this commands for 30 per cent premium). Furthermore, owners of large land bank near potential MRT interchanges having an upper hand given the scarcity of prime land in KL, and there should be no shortage of suitors to minimize operation risk (Sarif, 2011).

c) *House as an Investment for Future Cash Flow*: A long-term investment suggested that over half of all landlords are wisely choosing to view their buy to rent investment as for the long-term future. In fact, the average landlord plans to hold onto their property for about 15 years, making money out of it as the time ticks by. Others view residential property as a guaranteed future home. They buy the property and rent it out in the alternating time period and then have the opportunity to use the property as their own home in the future (Elizabeth, 2011; Seith, 2011; Harris, 2011)

d) *Additional Income for Urban Buyers - the Role of Commodities Price*: Rising global commodity prices will benefit local industries and companies whose businesses deal with commodities such as crude palm oil (CPO) and crude oil. The rising of commodity prices has risen up the income of rural people. The rise of income from family in rural area provide urban children (youngsters) to have additional income or as capital (down payment) for buying house in the city (Kok, 2011).

## CONCLUSION

As a conclusion, this study is focuses on bubble that occred which affect from price and the expected price of housing in Klang Valley. Bubbles does exit in property market and its has positive significant relationship with intrinsic price and market price. This research used the expected price of double-storey and condominium houses as the variable. To know the exiting of bubble in Klang Valley, this study is using Rational Expectation Theory and multiple regressions for period 5 years, from 2005 until 2010 and run using statistical software e-views 7.0 The result is expected price has positive relationship with the housing price. After the variable has been analyze using the theory, the result shows that there is existing of housing bubble in each district in Klang Valley. The result shows that the expected price has a positive relationship with market price, main factor for increasing sales and rental price in property market.

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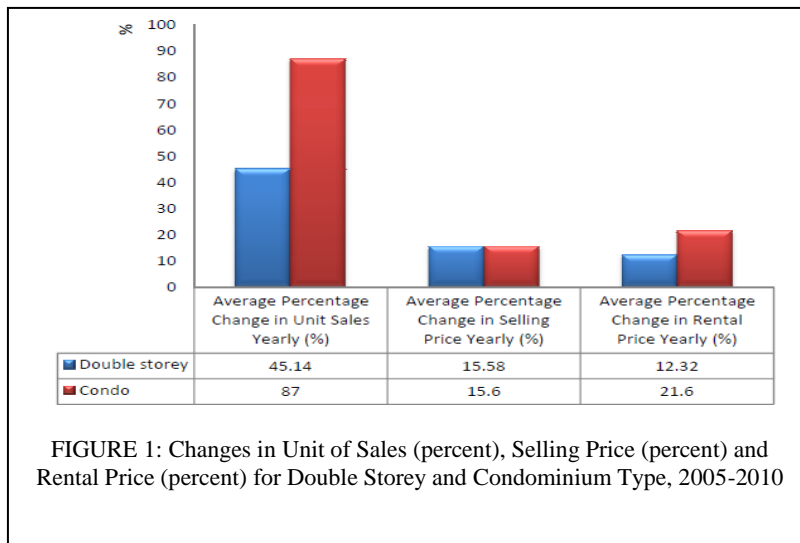
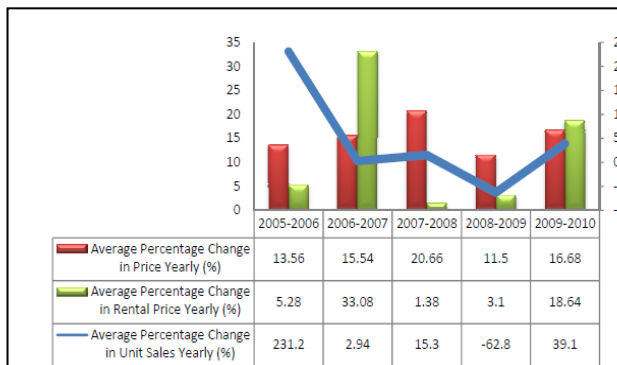
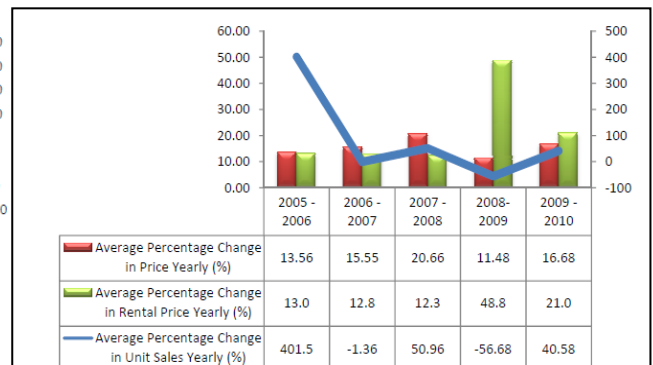


FIGURE 1: Changes in Unit of Sales (percent), Selling Price (percent) and Rental Price (percent) for Double Storey and Condominium Type, 2005-2010



Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 2: Volatility of Changes in Unit Sales, Selling Price and Rental Price for Double Storey Type in Klang Valley, 2005-2010.



Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 3: Volatility of Changes in Unit Sales, Selling Price and Rental Price for Condominium Type in Klang Valley, 2005-2010.



Appendix 1

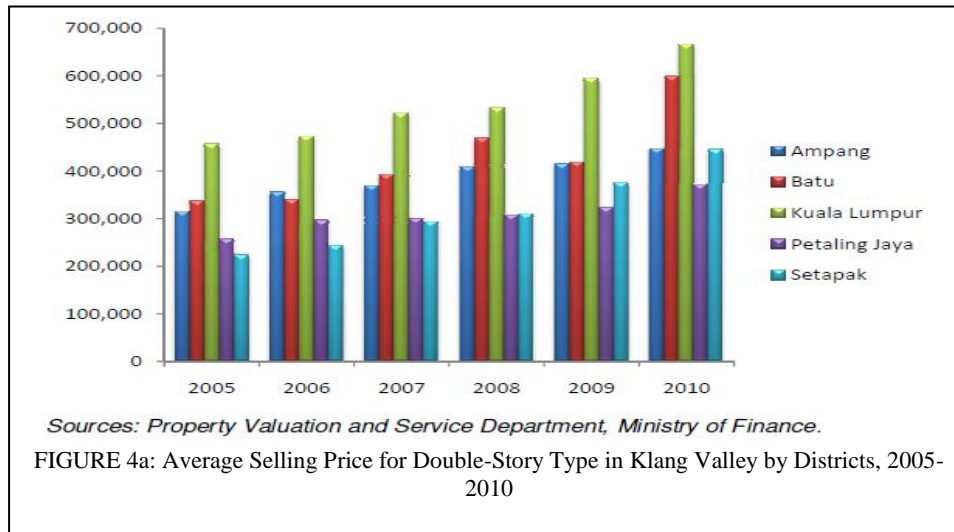


FIGURE 4a: Average Selling Price for Double-Storey Type in Klang Valley by Districts, 2005-2010

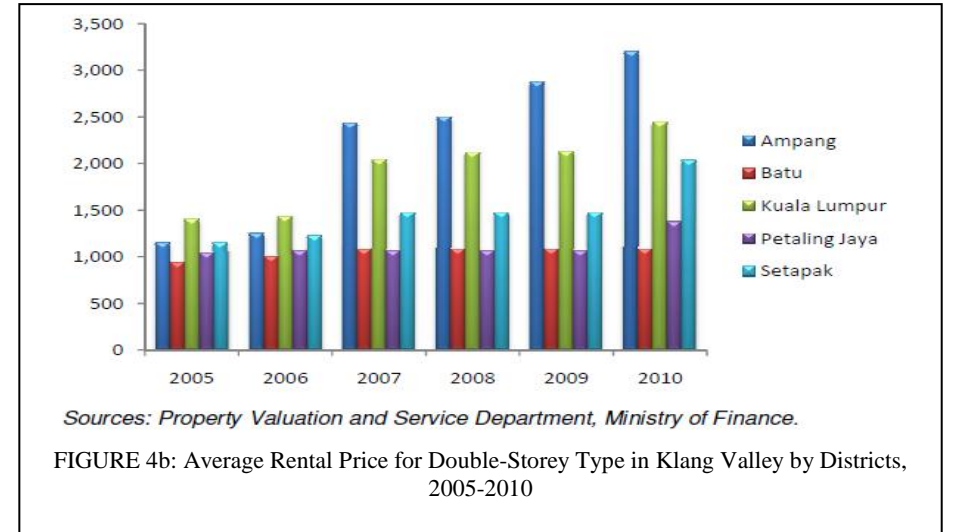


FIGURE 4b: Average Rental Price for Double-Storey Type in Klang Valley by Districts, 2005-2010

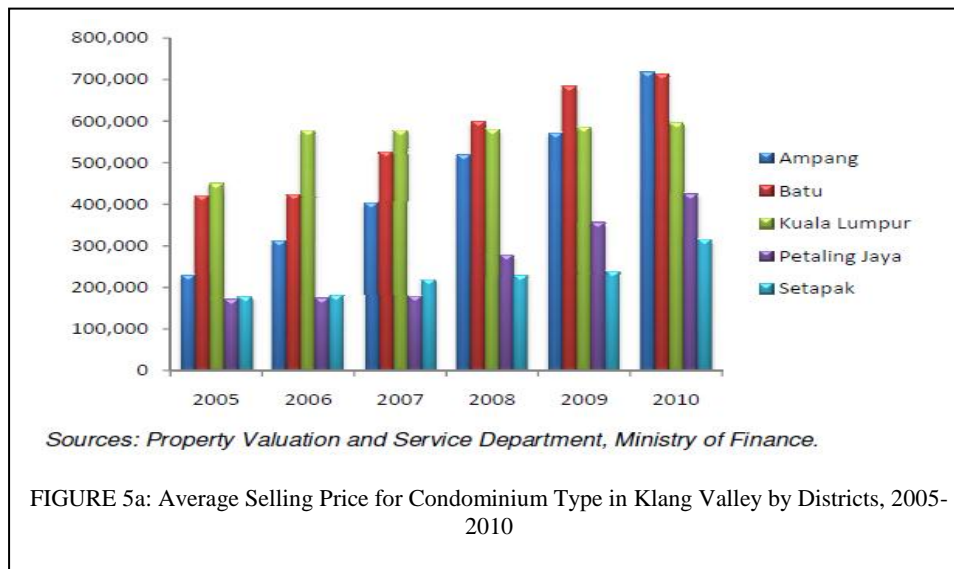


FIGURE 5a: Average Selling Price for Condominium Type in Klang Valley by Districts, 2005-2010

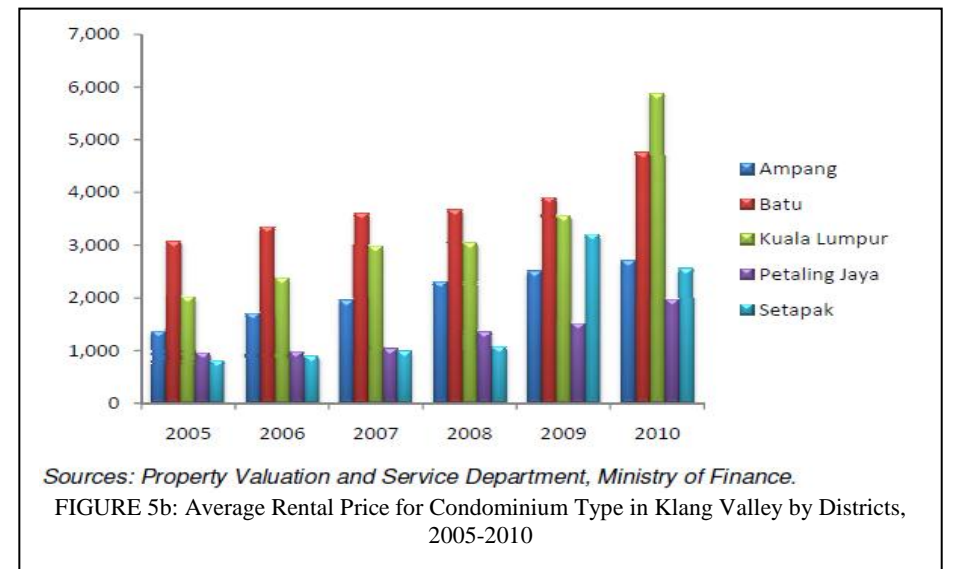


FIGURE 5b: Average Rental Price for Condominium Type in Klang Valley by Districts, 2005-2010

## APPENDIX 2

**Listed of the previous researcher using Rational Expectation Model**

Year	Reasecher	Their theory
1993	Stiglitz	Claims if the reason the price is high today is only because investors believe that the selling price will be high tomorrow and fundamental factors do not justify such a price, then a bubble exists.
1993	Kim and Shu,	The bubble generated under these circumstances is referred to as a growing rational bubble based on rational expectations.
1997	Muellbauer and Murphy	Analyses identify that the factors starting a bubble process include changes in the theoretical foundations that explain asset demand.
1999	Ryddel	Provides an alternative perspective maintaining that the market price for existing homes can be decomposed into three components: one based on economic and demographic variables known as the conventional component; the feedback component which is concerned about relationships with previous appreciation and introduces an error correction mechanism to explain changes in house price; and the expected component driven by the prices observed in the previous period.
2001	Ortalo-Magne´ and Rady	Who found a strong correlation between prices and transactions supporting the idea that rational expectation in price formation could be based on transactions observed in the market
2003	Case and Shiller	Define a housing market bubble as excessive expectations of the general public about future price rises making prices become temporarily high.
2006	Black et al.	Identify three main characterisations of bubbles namely momentum driven by price, explosive where prices deviate from fundamentals due to factors considered to be extraneous to asset value, and intrinsic behaviour which the authors suggest is driven by the non-linear relationships between prices and the fundamentals of asset value.
2007	Mikhed and Zemcik	Examining the discrepancy between house prices and their fundamentals argue if prices are non-stationary but rents are not then a bubble exists.

## APPENDIX 3

**Average Price and Rental For Double-Storey Type**

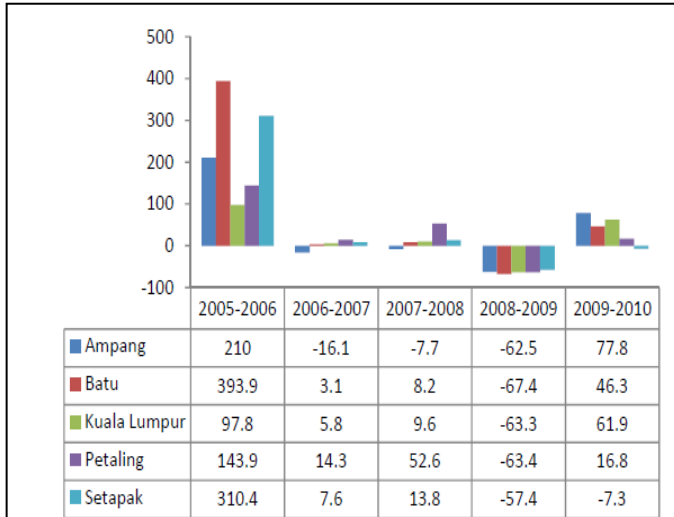
Area (District)	Average Price Yearly (RM)					
	2005	2006	2007	2008	2009	2010
Ampang	315,000	355,500	369,000	409,000	415,000	447,000
Batu	336,938	339,970	392,500	469,577	418,750	599,000
Kuala Lumpur	456,647	473,033	521,643	532,979	594,857	666,000
Petaling Jaya	256,857	296,303	300,300	307,389	323,257	371,500
Setapak	223,000	243,250	293,900	310,000	375,375	445,000
	Average Rental Price Yearly (RM)					
Ampang	1,150	1,250	2,433	2,500	2,875	3,200
Batu	938	1,003	1,080	1,083	1,083	1,084
Kuala Lumpur	1,405	1,431	2,042	2,120	2,130	2,448
Petaling Jaya	1,040	1,065	1,065	1,065	1,065	1,375
Setapak	1,150	1,225	1,475	1,475	1,475	2,033

**Average Price and Rental For Condominium Type**

Area (District)	Average Price Yearly (RM)					
	2005	2006	2007	2008	2009	2010
Ampang	229,167	311,250	402,500	518,700	570,667	717,333
Batu	420,434	422,900	526,038	599,111	683,321	712,785
Kuala Lumpur	449,875	576,409	577,208	578,964	585,070	595,126
Petaling Jaya	171,097	173,431	178,239	277,579	355,587	424,313
Setapak	177,125	180,500	218,670	228,500	238,000	315,000
	Average Rental Price Yearly (RM)					
Ampang	1,360	1,700	1,950	2,300	2,500	2,700
Batu	3,065	3,342	3,600	3,667	3,900	4,750
Kuala Lumpur	2,015	2,370	2,975	3,036	3,550	5,870
Petaling Jaya	954	975	1,030	1,350	1,512	1,966
Setapak	800	890	984	1,067	3,200	2,550

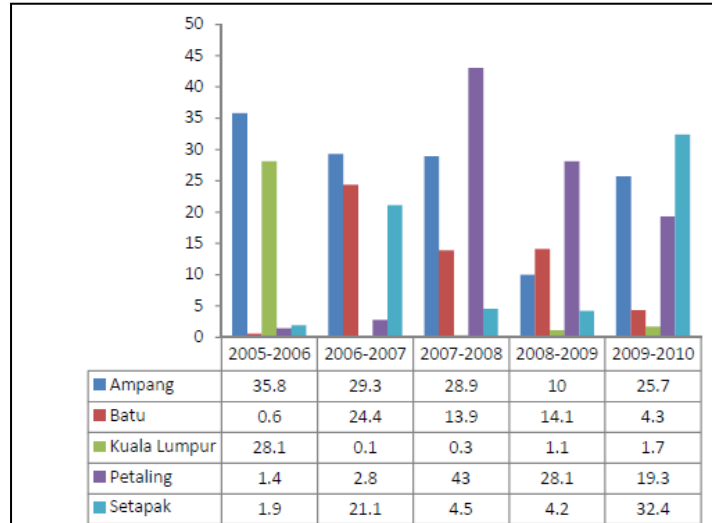
*Sources: Property Valuation and Service Department*

APPENDIX 4



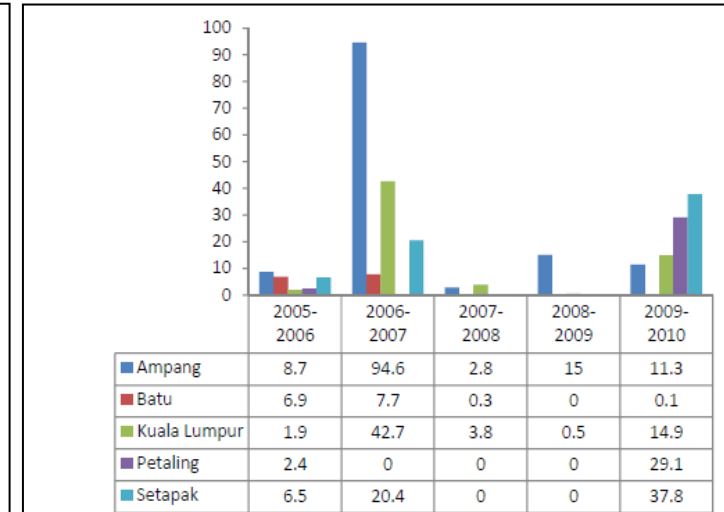
Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 6a: Performance of Average Percentage Change in Unit Selling for Double Storey Type by District from 2005-2010.



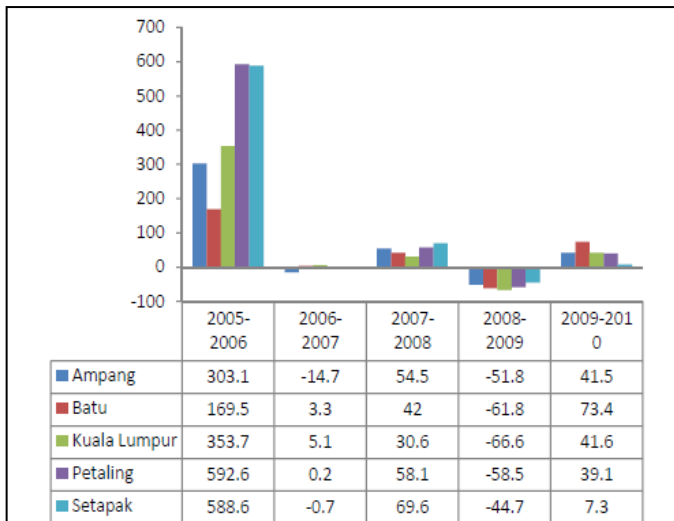
Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 6b: Performance of Average Percentage Change in Selling Price for Double Storey Type by District from 2005-2010.



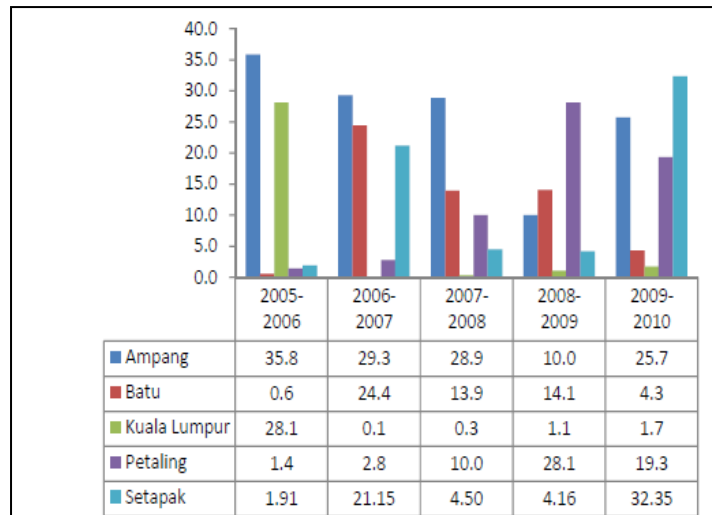
Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 6c: Performance of Average Percentage Change in Rental Price for Double Storey Type by District from 2005-2010.



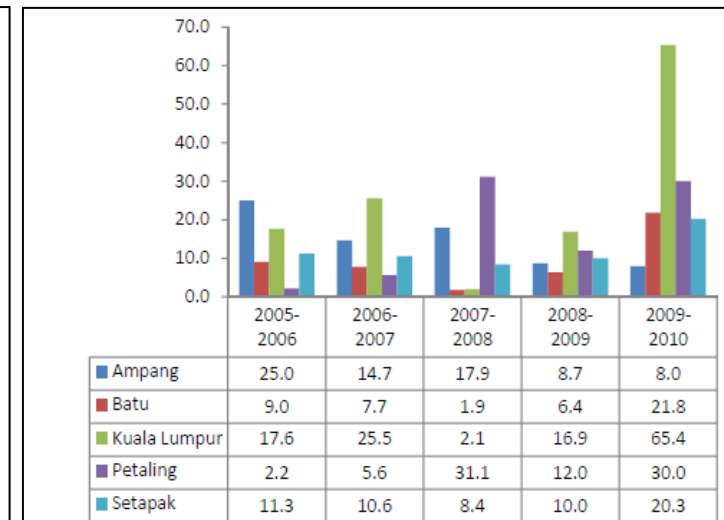
Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 7a: Performance of Average Percentage Change in Unit Selling for Condominium Type by District from 2005-2010.



Source: Valuation Property and Service Department, Ministry of Finance.

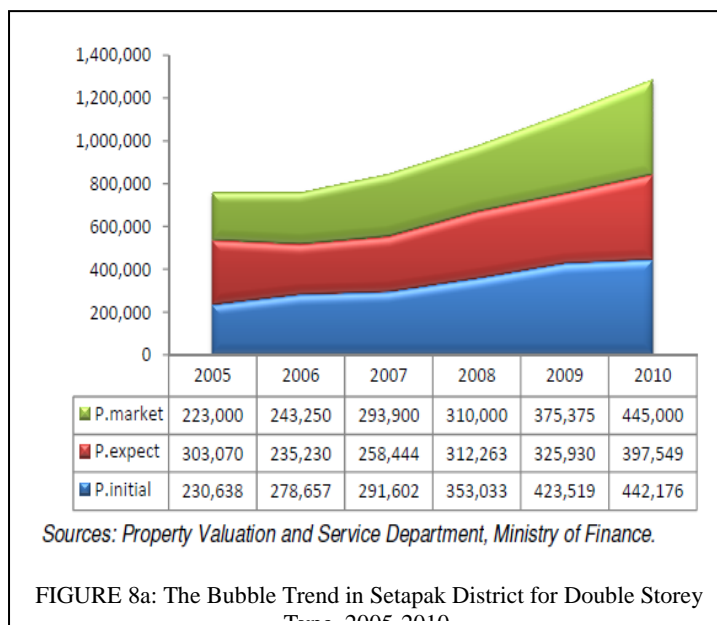
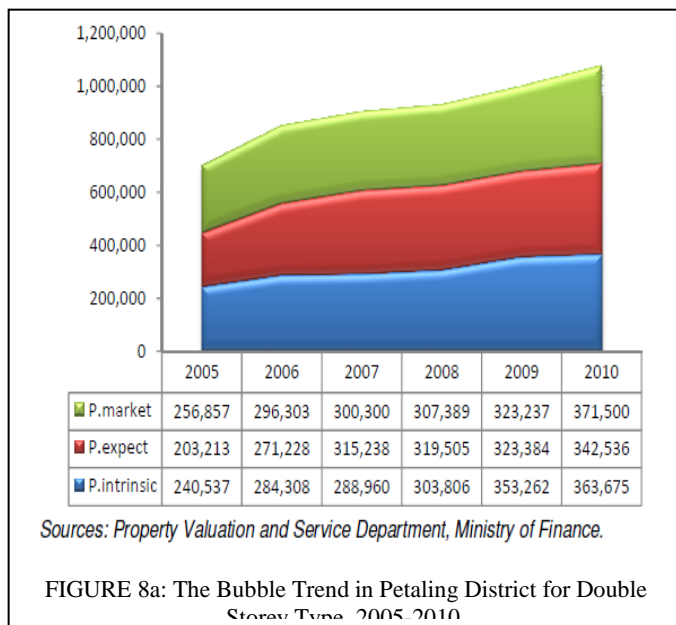
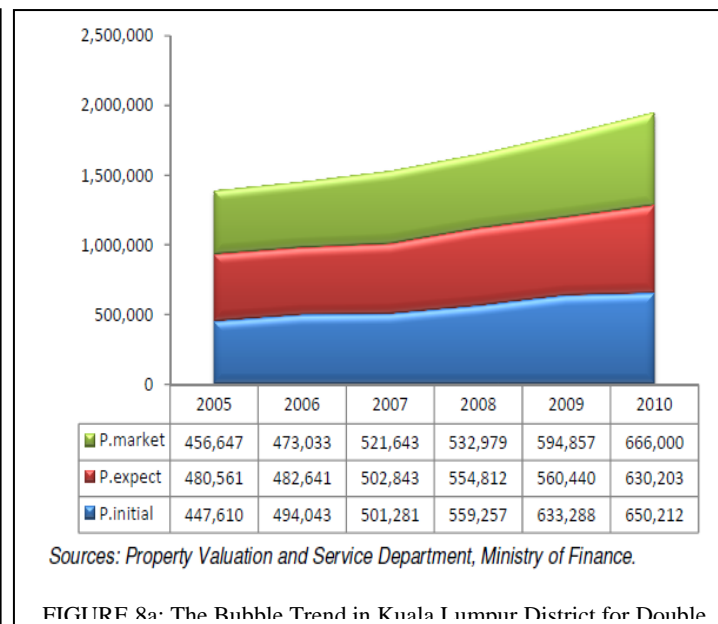
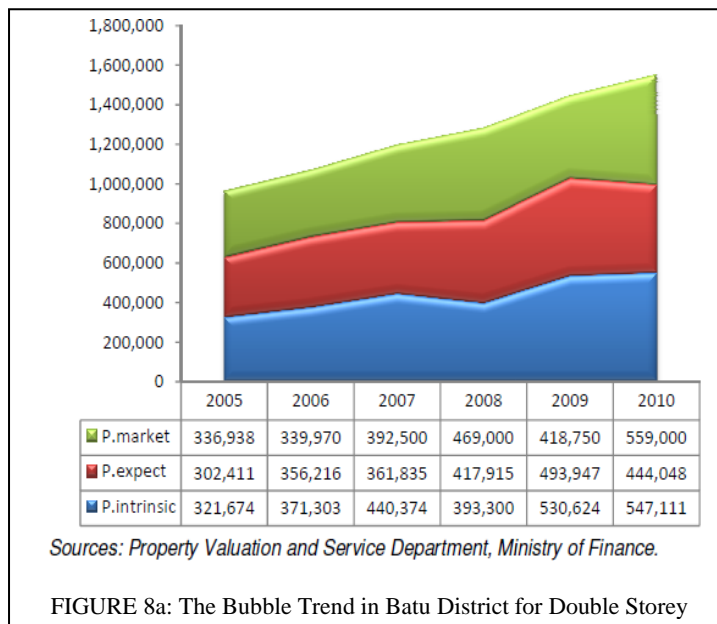
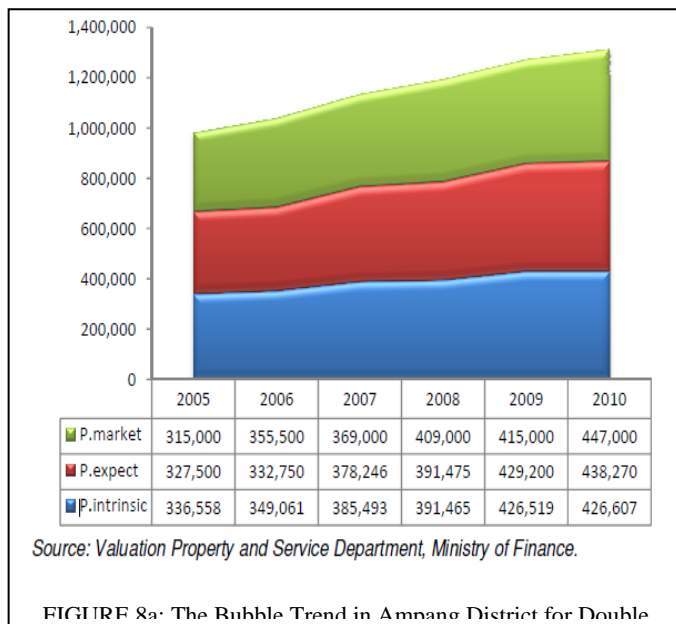
FIGURE 7b: Performance of Average Percentage Change in Selling Price for Condominium Type by District from 2005-2010.



Source: Valuation Property and Service Department, Ministry of Finance.

FIGURE 7c: Performance of Average Percentage Change in Rental Price for Condominium Type by District from 2005-2010.

APPENDIX 5



APPENDIX 6

