The Existence and Implications of Thin Real Estate Market

M. Junainah, M. A. Hishamuddin, and I. Suriatini

***Abstract*—This paper focuses on thin market issues in real estate appraisal. Thin market refers to low availability of comparables data from the market. The purpose of this paper is to identify the determinants and the implications of thin market towards real estate appraisal. Transaction volume is one of the most important criteria in explaining the determinants of thin market. In addition, thin market is also related to macro factors that affect residential real estate values such as demography, population, income level and economic base. This study is focused on double storey terrace houses submarket. Questionnaires were distributed to the respective local authorities to validate the issue of thin market in Tangkak, State of Johor Malaysia. The results indicate the existence of thin market in the study area. The findings show that the price bias is the most important implication in this submarket. Thus, thin market potentially leads to pricing problem in the residential market.**

***Index Terms*—Assessment Accuracy, Real Estate, Thin Market.**

I. Introduction

The term ‘thin market’ is widely discussed in financial literature, referring to illiquid shares and low share transaction volumes. Other than financial literature, thin market issues are also widely discussed in agriculture market studies. There are few potential implications of thin markets including price bias, market manipulation, instability of price, data cannot cooperate quickly, difficulty in gathering required information and inconsistent assessment ([1], [2], [3], [9], [12], [13] and [14]).

In real estate market, the availability of transaction data is a vital aspect in the valuation process under the comparison approach. Hence, a thin market may have dire consequences on the accuracy of real estate values. A thin real estate market refers to the lack of comparable properties when undertaking an appraisal. Despite, the potential implications of thin market on real estate, very few studies exist in this area. In existing real estate literature, the characteristics of thin property market are multidimensional heterogeneity, cannot be purchased by combining other properties to obtain the ideal unit and multidimensional heterogeneity of desire [2]. Consequently, this paper focuses on identifying the determinants and the implications of thin market in real estate appraisal.

II. Thin Market

According to [8] and [13] thin market refers to the situation where the number of transaction is low. While, [7] states that a thin market exists when there are only a few buyers and a few sellers in the market at the same times. However, [1] argues that thin market does not only refers to low transaction volume but the behavior of the market itself can explain the concept of thin market. [1] states that not all the market should have higher transaction to show that the market is thick. Sometimes, certain market has low transaction but it not considered as thin.

III. The Determinants Of Thin Real Estate Market

A few factors considered in identifying the determinants of thin market. These factors explain how the market becomes thin and are related to macro factors that affect residential property value.

Based on Fig.1, the determinants of thin market are low transaction volume, market factors and types of property. Market factors are further classified into demography, population, income level and economic based factors.

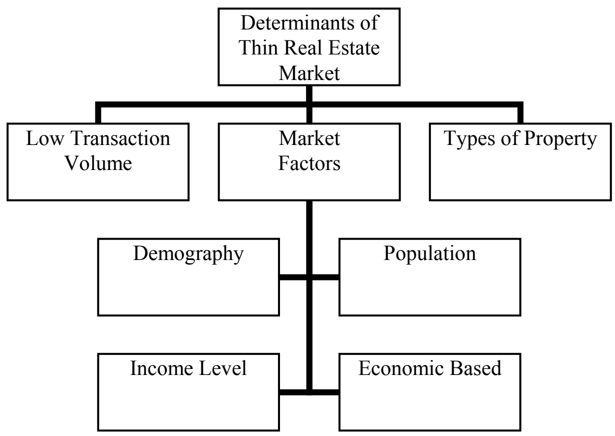

Fig. 1. The determinants of thin real estate market

A. Low Transaction Volume

Most literature on thin market comes from different fields such as agriculture and financial where they defined thin market as possessing transaction volume.

However, low transaction volume not only refers to the number of transactions involved at that time but also the marginal transactions which mean that the representative transaction of the market [1].

According to [13] thin market refers to a market with large numbers of concurrent buyers and sellers but there are few sellers that involved in that market. This is aligned with [6] who stated that thin market is a market with little trading volume and liquidity. Although these statements come from two different fields of agriculture and food industry, they concur on the same meaning of thin market. This suggests that low transaction volume can be used to identify thin market in residential property.

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The authors are with the Centre of Real Estate Studied (CRES) Faculty of Geoinformation & Real EstateUniversiti Teknologi Malaysia 81310 Skudai, Johor Malaysia .(mjunainah@gmail.com)

B. Market Factors

This is the second factor to be considered in explaining the nature of thin market and is related to macro market factors that affect residential property values. These can be divided into demography, population, economic base and income level. These four factors affect the demand and supply of housing.

Basically, supply and demand factors are very important in explaining the property market. Increase and decrease in supply and demand will affect the transaction volume. Low demand will lead to low transaction volume and this will result in a thin market.

C. Types of Property

The third element of thin market is the types of property. [1] states that not all markets with low transaction volume is considered as thin because some property such as special property may physically have low transaction volume. Market for these types of properties cannot be considered as thin because it is naturally limited and being utilized for certain special purposes only.

IV. The Implications Of Thin Market

Many problems can occur due to the thin market circumstances. According to the literature, there are six main implications of thin market. These are price bias, market manipulation, instability of price, data cannot cooperate quickly, difficulty in gathering required information and inconsistent assessment ([1], [2], [3], [9], [12], [13] and [14]). This is summarized in Fiq. 2

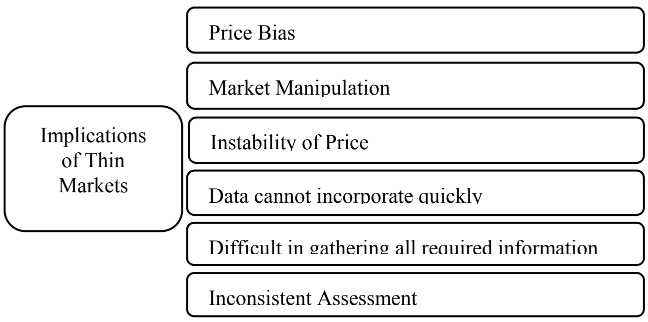

Fig. 2. The Implications of Thin Market

A. Price Bias

Bias is describe [13] as a deviation in term of movement or volatility in sample values. This supports by [1] where price bias is related with price movement or price volatility. In the real estate context, price movement is very important in valuation process as will affect the appraisal value. The potential problem arising from pricing bias is under or over valuation of the property where its current market price not reflective of the current market conditions [10]. Therefore, leads to a pricing problem.

Thin market leads to a less uniformed and regressive distribution of assessments [10]. Furthermore, price bias is not representative of true market conditions and should not be used as a guide ([8] and [13]). According to [5] price bias originates from human behavior and in this case refers to the real estate assessor's knowledge and experience. The assessor must be intimately familiar with the market conditions under their administration. Any errors in their valuation may lead to price bias [10]. This statement underlines the existence of price bias due to thin market.

B. Market Manipulation

Thin market issues can contribute to market manipulation ([12] and [13]). For instance, the common methods used in mass appraisal valuation are manual methods such as comparison, income and cost methods [4]. According to [16] manual method are not only inefficient and costly but most importantly impairs the ability of the assessors to provide fair and equitable valuations. In the valuation process, the assessor will make the adjustment for differences between the subject property against comparison properties according to date of transaction, land size, location, and other factors. It become difficult for the assessor to make accurate adjustments based on minimal number of comparables in a thin market. This opens up opportunities for market manipulation.

C. Instability of Price

Besides price bias and market manipulation, the instability of prices is also related to price movements. The price of a property may be under or overvalued and this leads to difficulty in undertaking an assessment. Instability of prices occurs when the assessor committed errors in the assessments process. In addition, thin market can also produce unstable prices and lead to the market manipulation problem [18].

D. Data Cannot Incorporate Quickly

In thin market, relevant data cannot be swiftly incorporated due to lack of comparable properties to execute an assessment. Due to the lag, assessors cannot verify the accuracy of information [10].

E. Difficult in Gathering All Required Information

The latest evidence of property values is a vital aspect in assessments as property taxes are levied based on the said values. Hence, is very important to ensure the comparables can adequately represent the current market value is reflects the demand and supply conditions of the market. however, there is significant difficult in gathering required information in a thin market with low transaction volume. As a result, property taxes may be inaccurate determined based on outdated market values. According to [10] the required information in an appeal to reduce taxes is also difficult in a thin market because the value of a property may be higher than expected.

F. Inconsistent Assessments

Consistency is very important because the assessment value will be used as a comparison for the next assessment. The problem of inconsistent assessment can arise in thin market situation because the assessor is prone to making valuation errors due to lack of comparable properties [10].

V. Methodology

Two types of data are used in this paper which are primary data (questionnaire distribution) and secondary data (property transactions). The questionnaire was designed to investigate thin market issues in the study area. In addition, an analysis on the property market was undertaken to perceive the implications of thin market on the efficiency of property values. Questionnaires were distributed to local authorities in Johor, Malaysia. The purpose was to identify the perception of the assessors towards the determinants and the implications of thin market. Besides that, the respondents were asked about their understanding on the term 'thin market'. For the purpose of this study only double storey terrace houses were sampled. The transaction data for double storey terrace houses in Tangkak, State of Johor Malaysia is from 2006 to 2009. The main source of these property transaction data is Muar Valuation and Property Services Department (VPSD) and Tangkak District Council (TDC).

VI. Discussion and Findings

Fig. 3 shows the result from the questionnaire survey on the respondents' understanding on thin market term from the respondents in local authorities. The results demonstrate that the respondents are not familiar with the term 'thin market'.

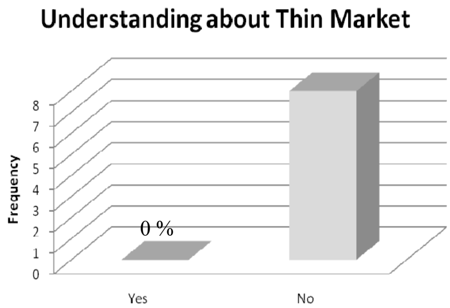

Fig. 3. Understanding about thin market term

Table I show the result from questionnaire distribution on the nature of thin market and it was transferred to bar chart (Fig. 4). The highest frequency is found for lack of evidence at score five and time constrains at score three. It shows that the assessor frequently deal with this problem in their daily works. Based on the literature, the nature of thin market can be examined from low transaction volume, market factors and types of property.

The main factor that explains the nature of thin market is low transaction volume. Results from the questionnaire show that the problem related to lack of evidence (low transactions) exists in the study area with highest frequency score of five (Table 1). This is aligned with the statement by([1], [2], [6], [10], [13], [14], [15] and [18]) where, the nature of thin market is related to the low transaction volume.

TABLE I: The Result From Questionnaire Distribution On The Nature Of Thin Market

	Lack of Evidence					Time Constrain				
Scale	1	2	3	4	5	1	2	3	4	5
Kluang Municipal Council			/				/			
Johor Bahru City Council					/			/		
Kota Tinggi District Council					/			/		
Kulai Municipal Council				/						/
Labis District Council					/		/			
Pontian District Council					/				/	
Batu Pahat Municipal Council				/				/		
Segamat District Council					/			/		
Total	0	0	1	2	5	0	2	4	1	1

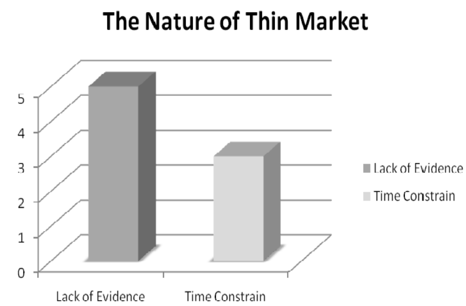

Fig.4.The nature of thin market

Besides that, the assessors always deal with time constrains. Usually, time constrains occur as the data is incomplete, lack of comparables, difficulty in making an analysis (adjustments) and others.

Table 2 show the result from questionnaire distribution on the implications of thin market and it was transferred to bar chart (Fig. 5). The results demonstrated that price bias has the highest frequency score of five followed by difficulty in gathering all the required information, inconsistency of assessment at score of four and followed by market manipulation, instability of price relevant data cannot incorporate quickly at score of three.

TABLE II: The Result from Questionnaire Distribution on the Implications of Thin Market

PBT	Market Manipulation					Instability of Price					Price Bias					Relevant Data Cannot Corporate Quickly					Difficult to Gather all the Required Documents					Consistency of Assessment				
Scale	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Kluang Municipal Council			/					/					/				/							/			/			
Johor Bahru City Council				/					/					/					/					/					/	
Kota Tinggi District Council					/			/							/			/							/			/		
Kulai Municipal Council			/					/						/				/						/					/	
Labis District Council			/						/				/					/						/					/	
Pontian District Council		/						/							/					/					/			/		
Batu Pahat Municipal Council			/					/							/			/						/					/	
Segamat District Council				/					/						/				/					/					/	
Total	0	1	4	2	1	0	0	5	3	0	0	0	2	2	4	0	1	4	2	1	0	0	0	6	2	0	1	2	5	0

(Scale: 1=Least Significant, 2=Less Significant, 3=Fair, 4=Significant, 5 =Most Significant)

The results from the survey show the problem related to price bias exists in the market with the highest frequency at score of five. Hence, it supports the statement by [13] where the concept of thin market is focused on pricing problem which mean price bias.

The implications of thin market are connected to one another. Hence, it is very important to overcome this problem in order to ensure the value of properties are reflected the current market. Analysis related to the market condition in study area was conducted in order to support the results on the nature and the implications of thin market.

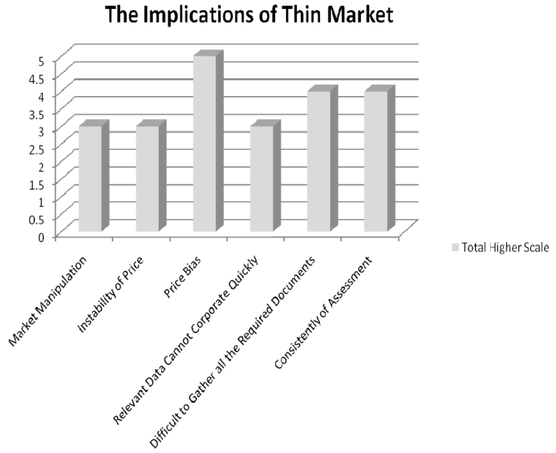

Fig. 5.The implications of thin market

The preliminary set of transaction data from Tangkak District Council (TDC) contains 227 observations. After removing all incomplete transaction data only 109 observations were left. For instance, incomplete data include in availability of main floor area, ancillary floor area, address and selling price.

Fig. 6 shows the price movement between actual selling prices and improved value. Improved value is assessment values obtained from local authority which reflects the market value and are used for tax purposes. Actual selling price is a market value obtained from the transaction between owners and buyers. Fig. 6 shows that there is a large gap between actual selling prices and improved value. Actual selling price is lower than improved value.

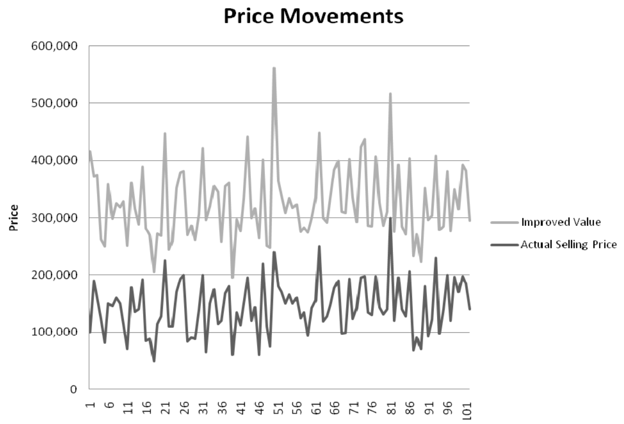

Fig. 6. Price movements between actual selling price and improved value

Table 3 shows the percentages of total transaction based on the range of differences value between actual selling prices and improved value. The result shows that the total transactions for range between ±0% to ±20% is 41. Hence, it demonstrates the existence of thin market in the study area because out of 109 data only 41 (38%) can be used for valuation purpose and about 68 (62%) data cannot be used because they do not reflect the current market values. If the remaining data were used for valuation purposes it would cause non-uniformity of assessment values in the market which leads to price bias.

According to [13] price bias means a deviation in sample value. Hence, the property market in the study area shows the existence of bias in the sample value because 62% of the actual selling prices have more than ±21% differences from improved value. This indicates the existence of thin market issues.

TABLE 3: DIFFERENCES BETWEEN ACTUAL SELLING PRICE AND IMPROVED VALUE ACCORDING TO RANGE OF PERCENTAGES

Differences value between actual selling price and improve value (%)	Total Sample	% from Total Sample
±0% -±20%	41	38%
±21% - ±50%	38	35%
±51% - ±100%	10	9%
±101% - ±260%	20	18%
Total	**109**	**100%**

VII. CONCLUSION

Based on the literature review, the study has identified three factors in explaining the determinants of thin market. These factors are low transaction volume, market and types of property. The study also outlined several implications of thin market. The implications are price bias, data cannot cooperate quickly, difficult in gathering all required information and inconsistent assessment. Validation of thin market has been carried out by undertaking a questionnaire survey on local authorities. The survey results show that despite minimal understanding of the term 'thin market' among local assessors, thin market does exist in the study area. The problem price bias is the largest implications of the thin market. Thus, it can be concluded that the thin market eventually lead to the pricing problem in the residential market of the Tangkak, State of Johor Malaysia. Further studies on thin market should investigate the appropriate valuation model for thin market. This is important because it relates to the accuracy of property value.

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Junainah Binti Mohamad, The first author was born in Malacca, Malaysia on 6 March 1986. She received a first degree in Bachelor of Science (Property Management) in Universiti Teknologi Malaysia in 2009. The major field of study is real estate appraisal. Currently, she is pursuing her study in Master of Science (Real Estate) at Universiti Teknologi Malaysia. The research focuses on thin market issues in real estate appraisal. Her future aspirations are to study for a PhD and continue the current topic for further research. Besides that, the author also involved in many extra research works especially on real estate appraisal.

Hishamuddin Bin Mohd Ali, He is currently designated as Deputy Dean (Academic & International) in the Faculty of Geoinformation & Real Estate at Universiti Teknologi Malaysia. His research interest is mainly in real estate asset portfolio strategy and investment.

Suriatini Binti Ismail, She is a senior lecturer at Department of Property Management, Faculty of Geoinformation and Real Estate, UTM. Her research interests focus on the application of GIS and spatial statistics in real estate price modeling.