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In Search of Housing Bubble in Bangladesh

Md. Abdullah Al Jamil, Kakoly Parvin & Md. Awlad Hossain

Abstract:

Housing bubble, in the recent past, has shattered the US economy and rendered the global economies vulnerable. Though the tremor of the subsequent global recession did not strike the housing market in Bangladesh so vehemently, Bangladesh Bank in 2011 cautioned of the existence of a bubble in the country's housing sector and an ensuing painful crash thereof. The fear is still not over as the supposed bubble did not burst yet. The present paper is meant to probe into the housing market of Bangladesh regarding the existence of bubbles. The paper tests hypotheses using the t-distribution at various significance levels. The data collected from a small sample (below 30) of housing companies in Dhaka city and finds that the price of housing grew significantly more relative to other products in the area. The study confines itself within the housing for the middle class; upper or lower class homes are out of its realm. It is anticipated that the findings will be functional to understand concerning the existence of housing bubble in the financial market of Bangladesh.

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About Authors

Md. Abdullah Al Jamil, (Corresponding Author), Assistant Professor, Department of Marketing, Comilla University, Comilla, Bangladesh.
Kakoly Parvin, Teacher, Oxford International School, Dhanmondi 27 (Old), Dhaka, Bangladesh
Md. Awlad Hossain, Lecturer, Department of Marketing, Comilla University, Comilla, Bangladesh.

1. Introduction

US housing bubble firmed in 2007 to shake not only the US economy but also the housing markets all over the world. However, in January 2011, Bangladesh Bank said that monies lent to the SMEs were channeled to the housing sector and resulted in overvaluation (The Financial Express, 2011). By its very nature, the real estate, along with some other industries, is characterized by its propensity to bubble (Investopedia, 2010). Investment experts confirm bubbles are usually identified only in retrospect, after the bubble has burst (Investopedia, 2010). These circumstances persuade an examination of the existence and nature of housing bubble in Bangladesh. From the US experience we learn that the 2007 Global Financial Crises were nothing but a hazard mainly moral in nature (Kevin Dowd, 2009). In a competition to grasp profits and growth, greedy bankers started to extend unqualified loans to unscrupulous proportions. Rating organizations took ill advantages by providing good ratings while the regulatory organizations failed to censure such dealings. Within a year or two, these loans started to default causing the investors to lose confidence in housing stocks. Panic spread fast quintessentially to make housing stocks ultimately plummet. Major banking corporations which invested in those stocks suddenly saw their investments diminish to the fraction's worth. This created a ripple effect to surge global markets in the developed world. Bailouts were planned to hold the great fall but all in vain. To preclude any possibility of any such overpricing from a bubble in Bangladesh, it seems necessary to delve into the situation and probe it prior.

The *Broad objective* of the study is to explore the housing market of Bangladesh regarding the existence of bubbles in the financial transactions in housing sector. There are some *specific objectives*, which are given below-

a) To analyze the price of housing grew significantly more relative to Consumer price index (urban) of Bangladesh;
b) To scrutinize the increment tendency of the housing prices in terms of the increase in the general price index in Bangladesh.

2. Literature Review

Hyman P. Minsky (1982) suggests a five-step model of bubble formation namely- displacement, boom, euphoria, profit taking and panic. Before panic spreads, investors continue invest gallop. Robert J. Shiller (2010) identifies the symptoms of a bubble in a few points- 1) Sharp increases in the price of an asset like real estate or dot-com shares 2)Great public excitement about said increases 3) An accompanying media frenzy 4) Stories of people earning a lot of money, causing envy among people who are not 5) Growing interest in the asset class among the general public 6) 'New era' theories to justify unprecedented price increases; and 7) A decline in lending standards (New York Times, 2010).

There are three types of speculative bubbles which are most clearly laid out in Charles Kindleberger, Manias, Panics, and Crashes (1978, 2000). The first is that most commonly found in theoretical literature on speculative bubbles and crashes (Blanchard and Watson, 1982; DeLong et al, 1990). In this pattern prices rise rapidly, usually at an accelerating rate in most of the theoretical literature, then to drop very sharply back to a presumed fundamental

level after reaching the peak. Price rises because agents expect it to do so, with this ongoing expectation providing the increasing demand that keeps the price rising. In the second type the price rises, reaches a peak that may last for awhile, and then declines again, sometimes at about the same rate as it went up. There is no crash as such, in contrast with other types of bubbles in which there is a period when the price declines much more rapidly than it ever rose, often characterized by panic among agents as described by both Minsky and Kindleberger. However, in this case one observes a price that appears to be above the fundamental and then moves back down towards that fundamental. The third type of bubble is that which exhibits a period of financial distress, a type first identified and labeled by Minsky (1972). In this the price rises to a peak that is followed initially by a gradual decline for awhile, but then there is a panic and crash. According to Kindleberger (1978, 2000), this is by far the most common type of bubble. Investopedia (2010) lists some industries as more prone to bubble and consequent instability: jewelry and valuable metals like gold, silver, new technology, antiques and relics, housing and real estate etc.

Different scholars work on several widely accepted measures used in searching for the bubble, all of which use two basic elements: one representing the cost of housing or price the house-owner has to pay as the numerator, and the other, representing the capability of the house owner or would be owner as the denominator. Popularly used measures are the Affordability measures such as the Price to Income Ratio, the Deposit to Income Ratio, the Median Multiple etc; the Debt measures such as the Housing Debt to Income Ratio, the Housing Debt to Equity Ratio etc; the Housing Ownership and Rent measures such as the Ownership Ratio, House price-rent ratio, the Occupancy Rate etc. Other measures include Housing Opportunity Index, Homes Bought as Investment and many others (The Business Week, 2011). By studying the changes in these ratios over the period of time, it is possible to detect whether the opportunity to purchase homes is emanating from substandard loan practices. This paper compares the growth rate of housing prices to the growth rate of CPI over several years.

3. Methodology

The paper strives to undertake a primary research using a survey study in light of the understanding of the housing bubble and its symptoms. Growth rates of housing prices are compared to the growth rates of CPI (Consumer Price Index) for various foods and non-food items during the same period. From the year 2007-08 to 2015-16, the housing prices of different real estate companies in different areas of Dhaka city are collected from the company offices. Growth rates are calculated for the housing from the same company in the same area. CPI data are taken from the secondary sources and growth rates are calculated. Appropriate hypotheses are drawn to test for the difference between the sample mean of growth rates of housing prices and the sample mean of CPI (urban) growth rates. As the sample sizes are below 30, hypotheses are tested using the t-distribution at various significance levels.

3.1. Hypotheses Tested

We form and test the following hypotheses at a significance level of 5%.

Null Hypothesis (H_0): There is no difference between levels of price increases in housing and increases in Consumer Price Index (urban). That is, $\mu_1 = \mu_2$

Alternative Hypothesis (H_a): Price increases in housing are higher than increases in urban Consumer Price Index (urban). That is, $\mu_1 \geq \mu_2$

3.2. Sources of Data

3.2.1. Field work: The data used in this research are collected from five different real estate companies in different areas of Dhaka City regarding the prices from 2007-08 to 2015-16. As the data represent 'prices per square feet' from the same housing company selling in the same area in the City, the ratio of prices in 2015-16 to those in 2007-08 are readily comparable to the ratio of urban Consumer Price Indices of the same years.

3.2.2. Secondary Data: Consumer price indices are collected from the 'Statistical Yearbook of Bangladesh-2016' published by Bangladesh Bureau of Statistics. However, the index of the year 2016 had to be projected from the previous data.

3.2.3. Limitations: The research is conducted only in the area of the Dhaka City. This cannot be generalized to the whole country. For the lack of scope of getting much fresh, the paper considers data from only five housing companies over their nine years of operation. This may not reliably represent the whole industry.

The paper limits itself within the housing for the middle class; upper or lower class homes are out of its ambit. This should be reckoned along with the outcomes.

There are some limitations of the study relating to the scarcity of secondary data from the macro-economic environment. The related web-pages of the Bangladesh Bureau of Statistics were ill managed and problem infested. Information from the Housing and Population Census 2016 is out of the reach of the mass. Had information on median income, median housing price, yearly sales in the housing sector been that available, exploratory research could be done in a more professional manner.

4. Findings and Discussion

In search for the bubble, it must be assumed that over time, other things constant, a person of moderate income would aspire for a moderate house for a fixed multiple of his/her income; and so, the increase in the prices housing should be approximately equal to the increase in general price index. If the increase in the price of housing goes higher than the growth in the CPI, then there may be two explanations- either lower interest rates has made housing loan easy or lenders/bankers are disbursing substandard loans. The following tables clear the notion-

Table-1: Prices of housing per square feet in different areas of Dhaka (in taka)-

Company	Area	2007-2008	2015-2016	Growth rate x_1
Asset Development Ltd	Gulshan	5,000	15,000	3
Asset Development Ltd	Banani	6,000	17,000	2.83
SEL	Mohammadpur	3,500	8,000	2.26
Japan Garden City	Mohammadpur	3,000	6,500	2.17
Navana Real Estate Ltd	Dhanmondi	6,000	16,500	2.75
			$\sum x_1$=	13.01
			$\bar{x}_1$=	2.602
n_1 = 5			s_1^2=	0.13397

Table-2: Consumer Price Index (Urban) from 2007-2008 to 2015-2016 as a base Year 1995-1996

Category	2007-2008	2015-2016	Growth rate (x_2) from 2015-16 to 2007-08
General	189.65	219.31	1.16
Food, Beverage and Tobacco	213.73	245.66	1.15
Clothing and footwear	170.51	216.5	1.27
Rent, fuel and lighting	147.54	186.86	1.27
Furniture and equipment	188.92	236.67	1.26
Medicare and Health Expenses	170.90	180.93	1.06
Transport and Communications	209.84	215.5	1.03
Recreation and education	167.16	152.84	0.91
			$\sum x_2$= 9.11
			$\bar{x}_2$= 1.13875
n_2 = 8			s_2^2= 0.01716

Source: Adapted from Statistical Yearbook of Bangladesh-2016

If the two sets of rates are assumed to have been taken from the same population, the population variance can be estimated to be$\sigma^2 = s_p$= 0.3655 using the formula of pooled estimate (Levin, R. I., Rubin D.S, 1997). The standard error of the difference between two sample means for the two small samples is 0.1188.

The calculate dt-statistic is$t = 2.4538$ and the criticalt-value at significance level of 5% is 1.7959. The null hypothesis is rejected. That is, the growth rate of housing prices is extremely higher than the growth rate of the CPI (urban). Even at a significance level of only 0.02, the null hypothesis is rejected. It becomes clear from the table that housing prices soared during those years.

Now, what about the rates of interest? Interest rates on housing loans from 2009 to 2016 are given below:

Table-3: Interest rates on housing loans from 2009 to 2016

Year	Sonali Bank Ltd.	National Bank Ltd.	Prime Bank Ltd.	Pubali Bank Ltd.	Jamuna Bank Ltd.
Jan 2009	13.75	14.88	15	11.5	15.5
Jan 2010	13	13	13	13	13
Jan 2011	13	13	14	13	13
Jan 2012	15	16.5	14.5	14	16.5
Jan 2013	16.5	18	16.5	16	16.5
Jan 2014	15	15.5	14	15	15
Jan 2015	13.50	14	13	13	14
Jan 2016	9	13	12	10	12

(Source: https://www.bb.org.bd/fnansys/interestlending.php)

So, the surge in housing prices must have been the result of easy money into the housing sector either through substandard loans or through channeling of moneys from other purposes into the housing sector.

5. Conclusion

A significant difference of our domestic stock markets from the US stock markets is that our markets are local while the US markets are global in nature. Any slight change in trend in the US reflects itself in all the related markets world-wide. But the market in Bangladesh is almost entirely national. In the US, the banks started aggressive and aberrant lending practices with the instrumental abetment from the rating organizations and lack of surveillance from the regulatory bodies. That caused bubble formation. Bangladesh Bank must guard against the profiteering tendencies of some company directors.

The complex inter-connections among the stakeholders of the US markets are absent in Bangladesh. In Bangladesh, many of the housing companies are privately owned and not enlisted in the bourse. So the US ripple effect is subdued here. This cocoon of a domestic air will not always benefit us. Another reason of recent time is that, the stock market is already corruption stricken; investors have already lost interest in the share market. So, the bull position necessary for a rush spread of panic is absent. Endless demand for housing for ever increasing population makes it possible for the housing prices to remain high. Though quality falls and buildings collapse, demand for remains high. In the absence of such perennial demand, the reality of bubble would become obvious.

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