Study the Effect of Recession on Real Estate Sector with the Help of Case Study of (PMC) Pune Municipal Corporation

Priti Arun Patil¹, Satyajit B Patil²

¹ME Student, ²Assistant professor
¹,²Department of Civil Engineering, Ashokrao Mane Group of Institutions, Vathar, Kolhapur, Maharashtra, India

ABSTRACT

Real estate is one of the largest sectors and plays a vital role in the Gross Domestic Product contribution, therefore only the major areas such as causes and its effects related slowdown in real estate sector. With the support of survey and deliberations with competent persons the severity of factors will also be evaluated. And the spotlight is thrown on Pune city’s Real estate sector which is one of the top ten real estate market of India in line with project permissions and sanctions during the last some years. Each of these influencing parameters reflects their own individual pattern that has affected the current day real estate scenario. The study is primarily based on secondary literature available through published sources. In addition data for Pune region related building project permissions and sanctions was collected by visiting Pune Municipal Corporation (PMC) as well as 4 ward offices of the PMC. This was done with a view to know the effects of economic slowdown on building premises and sanctions in Pune region.

KEYWORDS: Recession, Real estate, Gross domestic product, FDI

1. INTRODUCTION

The Indian real estate sector has witnessed a resounding growth in recent years due to factors like liberalization of urban policy and increased competition in the home loan segment. Also the booming Indian economy, favourable demographics transition and liberalized foreign direct investment (FDI) regime acted as a catalyst in this growth phase. Growing at a rate of 30 per cent, the real estate sector has emerged as one of the fastest growing investment areas for domestic as well as foreign investors.

According to McKinney report, the average profit from construction in India is 18%, which is double the profitability for a construction project undertaken in the US. Five per cent of the country’s GDP is contributed by the housing sector. In the next three or four or five years this contribution to the GDP is expected to rise to 6%.

According to ‘Housing Skyline of India 2007-08’, a study by research firm, Indicus Analytics, there will be demand for over 24.3 million new dwellings for self-living in urban India alone by 2015. As a result of this, this real estate sector is likely to throw huge investment opportunities. In fact, an estimated US$ 25 billion investment will be required over the next five years in urban housing, says a report by Merrill Lynch.

As far as the commercial property is concerned, the fast growing Indian economy has a cascading effect. The growth will propel the demand for commercial spaces and space for modern offices, warehouses, hotels and retail shopping centres. More over the demand for commercial office space is led by the information technology (IT) industry and organized retail. For example, it is estimated that the IT and ITES alone is estimated to require 180 million sq. ft. by 2010. Similarly, the organized retail industry is likely to require an additional 220 million sq. ft. by 2010. This huge demand will spill over to all parts of urban India.

A. Need for Study

The rapid growth of the housing market in India in the recent years has raised concerns about its sustainability and implications for financial and macroeconomic stability. In
the history of economic development, housing price bubbles have been recorded and studied with great interest.

- With the hindsight of documented experience, the bursting of asset bubbles in the housing market has often been associated with severe economic crises.
- Recessions triggered by sharp reduction in spending as a result of loss in the consumer’s power to leverage against capital gains on real estate market.
- The global economy is wending under the impact of the ongoing recession which started with the subprime crisis in the US and was transmitted to the rest of the world economies.
- Too much lending led to galloping real estate prices and for the banks, lending against mortgages (real estate) appeared to be highly remunerative, particularly with the backing of the two above mentioned quasi government entities.
- Due to the real estate boom, borrowers were eager to take second home loans since rising home prices implied that despite stressed personal finances, the borrowers could refinance the mortgage or even sell without going into delinquency and making some capital gains.

Hence in such conditions there is urgent need to study and understand the parameters of various recessions so that the indicators and causes can be known of the same and if the cycle is repeating again because of the same indicators and causes then necessary precautions and steps could be taken to avoid them

B. Study of Objectives
1. To study the effect of recession on real estate sector.
2. Comprehensive study of factors affecting the real estate sector.
3. To novelty out the new strategy to overcome the recession effect on real estate sector.
4. The above objectives will be deliberate with the help of case study in anxiety with recession in real estate.

2. LITERATURE REVIEW
What is Recession
- A Recession is a compression period of the business cycle.
- National Bureau of Economic Research (NBER) is the official office accountable for proclaiming that the economy is in a condition of retreat.
- Recession can be characterized as:

"Huge decrease in monetary movement enduring in excess of a couple of months, which is ordinarily noticeable in genuine GDP, genuine salary, business, modern creation, and discount retail deals".

As per macroeconomics a retreat is a decrease in a nation's genuine GDP or negative genuine monetary development for at least two progressive quarters of a year, so fundamentally for half of the year or more. Truth be told a retreat can really include concurrent decreases in correspondent proportions of in general monetary movement including work, speculation, and corporate benefits. In any case, subsidences are likewise associated with falling costs, which is additionally alluded to as flattening. Be that as it may, a subsidence can likewise be related with forcefully rising costs, which is called expansion, as long as these strongly rising costs are in a procedure known as stagflation. On the off chance that a subsidence continues for an extensive stretch or is an especially awful retreat then the retreat is never again viewed as a retreat, however it is currently a financial downturn.

In any case, the United States has its own specific manner of making a decision about subsidence. Actually in the U.S. the judgment of the business-cycle dating advisory group of the National Bureau of Economic Research (NBER) in regards to the accurate dating of retreats is commonly acknowledged by everybody.

The explanation behind this is the NBER really has a progressively broad system for making a decision about retreats contrasted with different gatherings. As per the NBER a subsidence is a noteworthy decrease in monetary movement spread over the economy that keeps going longer than only a couple of months. The National Bureau of Economic Research (NBER) characterizes retreat as "a time of falling financial action spread over the economy, enduring in excess of a couple of months, typically noticeable in genuine GDP, genuine salary, work, mechanical generation, and discount retail deals."

Recession in Real Estate
Land appreciated maintainable financial improvement with pad of low loan costs over couple of years and furthermore during. This came about into complete obliviousness of fundamental business cycle of economy.

Another mindful factor is pad appreciated by private and venture banks. Submitting their general direction to great financial condition, the vast majority of these high flying banks went for broke. The vast majority of their business arrangements were profoundly utilized exchanges.

The sort of hazard attempted by speculation banks demonstrated to be their fee as they neglected to assemble enough funding to help their hazardous ventures. The manufacturers likewise obtained very considerable amount of land going out on a limb during the high improvement time frame.

Third capable factor is size of speculation banks. A considerable lot of them saw immense development when economy was on the ascent. They made enormous benefits dependent on their high hazard inclination adventures. These FIs (money related foundations) additionally contributed vigorously to India’s corporate benefits.

Another significant reason was disappointment of top echelons of the board to give ability to read a compass to their arrangement producers. Covetousness dominated and the rest is history. In any case, USA has begun taking genuine strategy choices to control the intensifying circumstance. The $ 700 billion bailout bundle was initial phase in helping the destined organizations. Aside from that, taking over of AIG, coordinating BearStearns’ merger with JP Morgan, assuming responsibility for Fannie Mae and Freddie Mac, combining Merrill Lynch with Bank of America are other significant advances. However, every one of these means won’t demonstrate to be of much help for the time being. It is being said that, it will take another year to settle the market and credit stream.
Study of Various Research Papers from International Journals Economic Recession and Indian Real Estate – Hopes and Implications

According to writer, the Indian land has been seeing a brilliant period with a property blast spreading every which way and it is contacting new statures. The Industry specialists feel that Indian land has tremendous interest and potential in pretty much every area, particularly business, private, and retail. Be that as it may, Indian land couldn’t stay unaffected from the effects and ramifications of worldwide subsidence. This is clear from the fall sought after of a wide range of property and a stamped decrease in development exercises. It was accepted that Asian economies like China and India would remain protected as well as assume a noteworthy job in directing the worldwide log jam. Be that as it may, the ‘decoupling hypothesis’ has refuted. The worldwide financial log jam has unquestionably affected the land part – both over the world and India also.

The accompanying exercises and recommendations are important from the examination paper:

A. Sound credit approaches ought not to be abused while endorsing lodging advances.

B. There is a need to set up a brought together Real Estate Regulatory Authority in accordance with existing specialists, for example, SEBI, IRDA, TRAI and RBI.

C. Fiscal improvement bundle ought to be actualized for key territories, for example, lodging to defeat the emergency.

Effect of Economic Slowdown on Construction Industry

In this paper creator targets getting relative data about development industry at present and the route ahead in future. Likewise to examinations and think about the interest and supply of genuine state spaces, material required, modeler, building experts required in future to satisfy future needs. The part has request suggestions for middle of the road information sources like steel, bond, and so on., while keeping above water the entire development industry including transport and other transitional work administrations. Given its significance for the economy it is advantageous to perceive how unfavorable desires are assuming a job in this division. Following ends are gotten from research paper according to the review led by creator:

A. The target here is to guide building professionals in distinguishing these key inner and outside elements and present a methodical methodology for choosing the correct technique, customized to the exceptional attributes of their association.

B. Professional building firms would then be able to pick suitable procedures coordinating their company’s assets and capacities to the outside condition for progress during monetary downturns.

C. FDIs streams in India can support and sort out the reaity area and along these lines likewise make better work openings in this division.

Impact of Demonetization on Real Estate Market in India

As per creator, Construction Industry. There Are About 75 Large Companies And 28000 Organized Companies In This Sector. In India, the size of the indian land market is assessed at usd 12 billion and it is at present developing at pace of about 30% every year. 2016-17 had been where we had seen the consequences of the dynamic government mediation as far as the demonetization, land administrative act and GST in India. While there is still significantly more that the administration can and guarantees that it will do, the way that clients still need homes will set in. this, complimented with lower land rates, lower loan costs and better impetuses to clients to buy homes will go far in remaking the whole land industry. In spite of the fact that the underlying land blast was packed in spots like Bangalore and the national capital district of Delhi (counting Gurgon), all the more as of late the topographical spread has extended. There has been a huge move in land advertise from metros to its rural areas and to level II and level III urban communities. Rent rentals and inhabitations have been getting consistently and there is an expanding interest for quality framework crosswise over different fragments of the land segment. The interest for new office space in India has developed from an expected 3.9 million square feet in 1998 to more than 16 million sq. ft. in 2004-05. 70% of the interest for office space in India is driven by over 7,000 Indian IT firms and 15% by budgetary specialist co-ops and the pharmaceutical part. Aggregate interest for office space in India throughout the following two years (2006-08) is assessed to be more than 45 million sq. ft. The Indian IT industry, evaluated at USD 36.3 billion out of 2006 has developed at a CAGR of 36% throughout the most recent decade and by 2008, is required to represent over 7% of India’s GDP and 30% of outside trade inflows. in 2005 alone, IT/ITES division retained a sum of approx. 30 million sq. ft. what’s more, is assessed to create an interest of 150 million sq. ft of space crosswise over significant urban areas by 2010. South Indian urban communities like Bangalore, Chennai and Hyderabad alongside NCR (national capital area) keep on drawing in its real portion/ITES and business venture. In any case, optional urban areas, as Pune, Chandigarh, Indore, Kochi and Kolkata are currently developing as the new favored goals for these organizations because of their expense and framework points of interest.

Coming up next are significant the administration arrangements from the examination paper:

A. Infrastructure Status Has Been Accorted To The Affordable Housing Projects.

B. Rural Housing Expenditure Increased From Rs. 15,000 Crore To Rs. 23,000 Crore, Under Pradhan Mantri Awas Yojana (Gramin).

C. Over One Crore Houses To Be Built For The Homeless In Rural Areas By 2019.

D. The National Housing Bank (NHB) Would Refinance Individual Housing Loans Of About INR 20,000 Crore In FY2017–18.

E. Allocation To Infrastructure Sector Is At A Record High Of INR3.96 Lakh Crore For FY2017–18, An Increase of Over 38 Per Cent Over The Previous Fiscal Year.

F. The Pace of Construction Of Roads Under The Pradhan Mantri Gram Sadak Yojana (PMGSY) Has Accelerated To Reach 133km Per Day In 2016–17, As Against The Average Of 73km During The Period 2011–14.

Challenges of Economic Recession and Investment Scenario in Real Estate Sector of India

This paper makes an unobtrusive endeavor to perceive how antagonistic desires are assuming a job in the Real Estate Sector of India and to discover the potential answers for
conquer this circumstance. The Economic Slowdown has been the branch of poor under composition guidelines and feeble Regulatory Mechanism, especially in the home loan landing. Ensuing upheaval of the lodging air pocket and resultant money related commotion grasped the real economies around the world. The resultant imperfect result had broad impacts on creation and joblessness, especially in development and Real Estate Sector of India.

In any case, there is an expression that achievement isn't about how high you rise yet about how high you skip back when you hit absolute bottom. Land Companies of India today are at that key swelling point, when they should characterize new goals to be fruitful by and by. Building the hole between the clients and themselves investigating asset sapping forms or more all picking up nimbleness and adaptability as associations will be the venturing stone to progress.

The aftereffects of this examination uncover that however the image of Indian land isn't so blushing yet it is transitory and the prospects for future are great. A long past due change in land market is required. In the long haul, solid interest for land in India will stay flawless. With the economy giving indications of restoration, the land division will indeed take a mammoth jump forward.

**FDI in Economic Growth**

With this adjustment in the administration strategy on FDI, all land parts, private, business and retail are at present seeing colossal development popular. This has pulled in multiple occasions remote speculation at US$ 7.96 billion during making it among the "predominant host nations" for FDI in Asia and the Pacific (APAC).

India in the following five-year time frame is evaluated to require speculations worth US $ 25 billion with the urban lodging segment. This again has opened up open doors for outside interests in the realty area.

The Central government permitted up to 100% FDI for setting up townships in 2002. Notwithstanding, the progression of FDI ventures has been ruined by the 100 section of land standard, since gaining such an enormous piece of land was unthinkable in metropolitan urban areas and even satellite urban communities and state capitals.

In any case, a milestone choice taken by the Union government in 2005, where the base land territory for advancement by outside speculators was brought down from the previous floor of 100 sections of land to 25 sections of land has tossed open the rewarding pieces of the Indian realty market to worldwide financial specialists. Another recognizable side project of the facilitating of FDI arrangements will be the effect on quality and unavoidable speeding up in development exercises.

### 3. Overall Methodology

The Primary data will be obtained from the literature review and case study area of Pune city, the data will be collected from Pune Municipal Corporation office and respective ward offices. The research work includes the efforts for study the India real estate and particularizing the indicators, causes and effects of recession.

### 4. Case Study Brief

Pune city is the second largest city of Maharashtra state in India after Mumbai. It is the ninth most populous city in the country along with its extended city limits Pimpri Chinchwad and the three cantonment towns of Pune, Khadki and Dehu Road. Pune forms the urban core of the eponymous Pune Metropolitan Region (PMR) situated 560 metres (1,837 feet) above sea level on the Deccan plateau on the right bank of the Mutha river. Pune is also the administrative headquarters of its namesake district. The city is considered to be the cultural capital of Maharashtra, it is also known as the “Oxford of the East” due to the presence of several well-known educational institutions. The city has emerged as a major educational hub and IT hub in recent decades, with nearly half of the total international students in the country studying in Pune and in IT field Pune become world second fastest developing IT hub in the world. Research institutes of information technology, education, management and training attract students and professionals from India and overseas.

This study is focused on Pune Real Estate Sector. The source of data is from Pune Municipal Corporation (PMC) and their respective different Ward Offices.
The analysis of Pune city has been done for last fourteen years from 2005 to 2018. The period from 2005 to 2007 and 2009 onward years has been consider to understand the real estate market moment before and after recession year 2008. The following figures including of new, revised, change of use, renewal, repair and revalidation proposals. These figures also include occupancy and plinth sanctions in area.

<table>
<thead>
<tr>
<th>Year</th>
<th>Plot Area (Sqm)</th>
<th>Paid FSI (Sqf)</th>
<th>Registered Tenements (No's)</th>
<th>Sanctioned Residential Area (Sqm)</th>
<th>Sanctioned Non Residential Area (Sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1865583.52</td>
<td>798429.239</td>
<td>7228</td>
<td>498078.48</td>
<td>85974.16</td>
</tr>
<tr>
<td>2006</td>
<td>3510811.14</td>
<td>1152743.1</td>
<td>57137</td>
<td>488743.08</td>
<td>1460806.63</td>
</tr>
<tr>
<td>2007</td>
<td>24825887.7</td>
<td>140557549</td>
<td>74178</td>
<td>584577.64</td>
<td>1570444.79</td>
</tr>
<tr>
<td>2008</td>
<td>1558391783</td>
<td>8816239.76</td>
<td>41795.3</td>
<td>5823122.63</td>
<td>1075557.46</td>
</tr>
<tr>
<td>2009</td>
<td>31748757.8</td>
<td>1343590.62</td>
<td>3452</td>
<td>453067.76</td>
<td>50681.81</td>
</tr>
<tr>
<td>2010</td>
<td>31275896.3</td>
<td>2132172.15</td>
<td>3269</td>
<td>436793.157</td>
<td>48912.62</td>
</tr>
<tr>
<td>2011</td>
<td>32618913.2</td>
<td>2461735.72</td>
<td>19687</td>
<td>1898361.3</td>
<td>192741.97</td>
</tr>
<tr>
<td>2012</td>
<td>66384010.3</td>
<td>30139127.5</td>
<td>26357</td>
<td>2316975.02</td>
<td>2134317.1</td>
</tr>
<tr>
<td>2013</td>
<td>21116538</td>
<td>33794761.3</td>
<td>38463</td>
<td>3009612.74</td>
<td>178217.87</td>
</tr>
<tr>
<td>2014</td>
<td>21596787</td>
<td>33631149.7</td>
<td>45135</td>
<td>4296350.13</td>
<td>169984.46</td>
</tr>
<tr>
<td>2015</td>
<td>32615497.3</td>
<td>39532133.4</td>
<td>45326</td>
<td>4106217.1</td>
<td>148256.25</td>
</tr>
<tr>
<td>2016</td>
<td>38996345.8</td>
<td>40349269</td>
<td>47986</td>
<td>4719113.7</td>
<td>194151.61</td>
</tr>
<tr>
<td>2017</td>
<td>112459161</td>
<td>29372167.8</td>
<td>46691</td>
<td>4419317.9</td>
<td>145736.33</td>
</tr>
<tr>
<td>2018</td>
<td>713647693</td>
<td>22112437</td>
<td>42316</td>
<td>4266193.23</td>
<td>143420.84</td>
</tr>
</tbody>
</table>

It can be observed that from 2007 to 2008, a substantial increase in plot area in 2008. Similar kind of substantial increase has been observed in 2017 and 2018.

The data also has repetitive sanctioning data as no separate data of new sanctioning are available from PMC.

From 2009 to 2014 the plot area sold has been randomly showing up and down. From the year 2014 to 2018 the trend is showing up particularly in 2017 and 2018 year.

In 2017, the Pune city has observed an upward trade of about 2 times as compare to the previous year 2016. In 2018, the upward trend shown a substantial increase of 5.5 times as compare to the previous year of 2017. It may be the possible reason of buyers selling their plot as they expect that there are getting good value for their plot which may not available in future years and not much appreciation is expected by the sellers.
In 2007, the real estate market has observed a significant hike as compared to all previous years, which resembles the market potential and developers' confidence in developing and selling flats.

Then the market observes a downturn in the recession year i.e. 2008 and 2009.

The Pune city again witnesses the momentum from 2010 to 2013 and continually showcases growth in every year in buying the paid FSI. In the same arena, Pune is making its name in the country as well as in the world as the fastest developing IT city.

In the year 2015, a slight hike is observed due to PMAY I & II launch by the government of India. Even in 2016 a healthy increase as compared to previous years of 2015 is observed.

In the year 2017 and 2018, the real estate market illustrates a downturn; it may due to demonetization in the month of November 2016 which is similar to the recession observed in 2008.

In the year 2005 to 2006, the residential areas sanctioned were increased by about 90%.

In the year 2006 to 2007, the residential areas sanctioned were increased by about 16%. But in the year of 2007 to 2008, the residential areas sanctioned were decreased by about 0.5%, representing the recession and its effect on real estate.

In and around the 2009 and 2010, the residential area sanctions were at their lowest point.

From 2011 to 2014, we can see a healthy increasing trend which reflects the confidence of developer and demand in the market.

In 2015, the growth in sanctioned residential area has applied an break, but it again gain the momentum in 2016 and in 2017 and 2018 it again shows the downturn.

There are many plots were buoyed and projects were sanctioned too but many of the projects got an hold, particularly the residential projects of medium and high range segments flats. On the other hand, the budget residential flats received a great response in market but luxury flats couldn’t find potential buyers and the units were not sold.

One more observatory point is that the graph shows an increase in residential area in 2016 irrespective of demonetization.

In the year 2005 to 2006, the non-residential areas sanctioned were increased by about 94%.
In the year 2006 to 2007, the non-residential areas sanctioned were increased by about 7%.

In year of 2007 to 2008, the non-residential areas sanctioned were decreased drastically by about 46%, representing the recession and its drastic effect on non-residential real estate property.

In and around the 2009 and 2010, the non-residential area sanctions were at their lowest point i.e. 50681.81 and 48912.62 respectively.

From 2011 to 2013, we can see a healthy increasing trend which reflects the confidence of developer and demand in the market.

In 2014 and 2015, the growth in sanctioned non-residential area has applied a pause, but it again gains the momentum in 2016 and in 2017 and 2018 it again shows the decline.

The non-residential area in 2016 also showing an substantial increase irrespective of demonetization.

### Year V/S Gross Domestic Product and Plot Area

<table>
<thead>
<tr>
<th>Year</th>
<th>Plot Area Sold (Sq m)</th>
<th>GDP Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>66384010.26</td>
<td>5.456</td>
</tr>
<tr>
<td>2013</td>
<td>21116537.95</td>
<td>6.386</td>
</tr>
<tr>
<td>2014</td>
<td>21596786.95</td>
<td>7.41</td>
</tr>
<tr>
<td>2015</td>
<td>32615497.28</td>
<td>7.996</td>
</tr>
<tr>
<td>2016</td>
<td>38996345.79</td>
<td>8.17</td>
</tr>
<tr>
<td>2017</td>
<td>112459161.4</td>
<td>7.16</td>
</tr>
<tr>
<td>2018</td>
<td>713647692.9</td>
<td>6.982</td>
</tr>
</tbody>
</table>

On the other hand, plot area sold in Pune zone show unceasingly changing trend from a drastic decrease in 2013 and then having a uptrend of increasing till 2018.

There is not an appropriate relationship can be formed between GDP and plot area but in the year from 2013 to 2016 (inclusive of both years also) the increasing GDP represents the increasing in sell of Plot area in Pune.

### Year V/S Interest Rate And Plot Area

<table>
<thead>
<tr>
<th>Year</th>
<th>Plot Area Sold (Sq m)</th>
<th>Interest Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>66384010.26</td>
<td>7.2</td>
</tr>
<tr>
<td>2013</td>
<td>21116537.95</td>
<td>7.9</td>
</tr>
<tr>
<td>2014</td>
<td>21596786.95</td>
<td>7.7</td>
</tr>
<tr>
<td>2015</td>
<td>32615497.28</td>
<td>7.5</td>
</tr>
<tr>
<td>2016</td>
<td>38996345.79</td>
<td>7.2</td>
</tr>
<tr>
<td>2017</td>
<td>112459161.4</td>
<td>6.9</td>
</tr>
<tr>
<td>2018</td>
<td>713647692.9</td>
<td>8</td>
</tr>
</tbody>
</table>

As observed in the graph of Year v/s plot, the plot area decreases in 2013 and thereafter it increased till 2018. Similarly on the same line but in reverse way, in the graph of year v/s interest rate, the home loan interest rate increase in 2013 and then it is continuously decreases till 2017 and reaches last 6 years least of 6.9%. It is observed that there is converse proportion between home loan interest rate and plot sell area in Pune region which represents that plot area sell increases as home loan interest rate decreases accept in the case of 2018 where rate of interest rate increases but still the graph of plot sells increases.

This chapter witness the effect of recession in Pune Real Estate sector affirmative with the data collected from PMC and respective ward offices. Graphical representation reveals the fact that the numbers of registrations and approvals got hit due to slowdown in the Pune city.

### 5. CONCLUSION

Of late, interest and mortgage rates have tumbled to their lowest levels in decades, pushing house prices ever higher. When prices are high, it is clear that real estate investments can generate considerable wealth, but we should not forget that things can go the other way as well. Improving market transparency and liberalized investment regulations and implementing of Real Estate Regulatory Authority (RERA) is creating an unrest bubble. That said, real estate cycles do tend to be fairly long in duration and prices can often move
to extreme levels before correcting. Upward extremes – known as “bubbles” in truly heated markets – can occur in any asset market (stocks, bonds, real estate, fine art) and tend to have several defining characteristics, including: parabolic price increases (i.e., that look like a hockey-stick when depicted in a time series chart), excessive valuations, and buoyant investor optimism whereby rational people extrapolate recent trends. In detail analysis of Pune case study, it has been observed that there is not an appropriate relationship can be formed between GDP and plot area but there is converse proportion between home loan interest rate and plot sell area in Pune region.

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