



# Devising Appropriate Mechanism for Collecting / Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

*Study Sponsored by*  
National Housing Bank, New Delhi

National Council of Applied Economic Research  
11 I.P. Estate, New Delhi - 110 002 (INDIA)

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NHB is committed to working towards the national goal of "Affordable Housing for All", with focus on unserved and under served.

NHB has undertaken various initiatives towards knowledge gathering; analytical studies; organising seminars/conferences; capacity building programmes for market players, policy makers, professionals; dissemination through Occasional and Discussion papers; on general and specific issues pertaining to the housing and housing finance sector.

NHB's activities cover a triad of functions - regulation and supervision of Housing Finance Companies; promotion and development; and financial assistance to housing financing institutions and others. Over the years, NHB has pioneered a number of new initiatives such as the Golden Jubilee Rural Housing Finance Programme, mortgage backed securitisation, finance for natural disaster affected housing, housing microfinance, reverse mortgage loan, residential property price index by the name of NHB Residex, Rural Housing Fund for the weaker sections in rural areas. In addition NHB has contributed extensively to public policy formulation in housing and housing finance.

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# STUDY TEAM

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## Principal Investigator

K.A. Siddiqui

## Team

Shashanka Bhide

D.B. Gupta

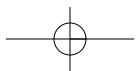
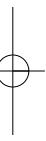
S.K. Bathla

Kiran Sheokand

Esha Jain

Ashutosh Sharma

Ummed Kumari



# PREFACE

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In India systematic information on housing properties is generally conspicuous by its absence. Unlike commodity and product prices, housing prices are not among the various official price indices. They are reflected only indirectly through rental values in the consumer price index of industrial workers. Yet, such information is a key input to decision making for all stakeholders in the housing sector, whether it is for public policy or private investments. Regular flow of data on prices and rentals would help in monitoring the trends in the housing sector.

The National Housing Bank (NHB) commissioned the National Council of Applied Economic Research to assess the suitability of a sampling approach to collect information on housing prices in the two cities of Faridabad in Haryana and Noida in Uttar Pradesh. This has been a pilot study and has been an important opportunity to understand not only the sources of information on housing prices but also to assess the additional data which can be collected through a sampling approach. The study has covered both prices and rental values of residential and commercial properties apart from the data from the sample survey. The study provides the basis of price comparisons with other sources of information.

As expected, the study finds that residential property prices vary significantly by location, type of construction and size of house. Quality of construction, location and type of neighborhood all appear to be important determinants of housing prices. Attributes such as electricity and water supply connections are important considerations as far as buyers of houses are concerned. Among the other factors influencing prices, but not directly related to the property attributes, mention may be made of accessibility as determined by roads, proximity to hospitals, schools and public transport. As far as commercial property is concerned, the prices in business neighbourhoods tend to be generally higher when compared to those in the mixed neighbourhoods. Transport infrastructure and regular power supply are also seen to influence prices of commercial property.

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From the viewpoint of undertaking similar studies on a larger scale, it is necessary to ensure full cooperation of key information providers, especially the registrars' offices. The present exercise has also pointed to the need for a review of formats in which transaction records are kept and their standardisation. The study has suggested a model format for the purpose.

The study team has received support and guidance from a number of individuals and organizations. We would like to place on record our deep appreciation to the NHB for providing necessary financial support and frequent consultations as the study progressed. We are particularly grateful to Mr. S. Sridhar, CMD, NHB and his colleagues Mr. P.K. Kaul and Mr. Vishal Goyal for their help and guidance. The offices of the Registrar in Faridabad and Noida extended full cooperation to the study team. The property dealers and house owners and tenants included in the sample survey provided the necessary cooperation.

We do hope that the present exercise will provide necessary inputs for systematic steps towards creating adequate data base and indicators of housing property prices for India in the future.

**New Delhi**  
**January 7, 2009**

**Suman Bery**  
**Director-General, NCAER**

# FOREWORD

In recent years, property prices have received unprecedented attention in most parts of the world, including India. The rise and fall of housing prices in many markets have been closely tracked by policy makers having regard to the strong linkages between housing and other sectors. Accurate information on housing prices on a regular basis can be a key input in decision making for policy makers as well as the individual buyers. Housing prices can provide important insights for financial stability analysis, since sharp increases and declines in prices can have a detrimental impact on financial sector health and soundness, by affecting credit quality and the value of collateral as evidenced in the recent global economic crisis. Also, the housing prices are a key determinant of affordability. Therefore, to understand the behavior of housing prices and their influence on the economy, it is crucial to have an accurate measure of aggregate housing prices.

National Housing Bank, launched the NHB-RESIDEX, the first official housing price index in the country in July 2007 by the then Hon'ble Finance Minister Shri P. Chidambaram. The launch was on a pilot basis and in respect of 5 cities namely Mumbai, Bhopal, Delhi, Kolkata and Bangalore. NHB endeavors to expand the coverage of the index to other major cities in a phased manner and finally launch a composite index for the country.

As part of its research and knowledge dissemination initiatives, the Bank commissioned a study on "Devising Appropriate Mechanisms for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values" conducted by the National Council of Applied Economic Research (NCAER). The study seeks to develop a methodology for estimating the prices of housing properties in the urban areas of the country and can be a key input for the refinement of NHB-RESIDEX. The study was conducted as a pilot in the cities of Noida in Uttar Pradesh and Faridabad in Haryana. The study has covered prices and rental values of residential and commercial properties and has determined

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important attributes and linkages for determining the housing prices.

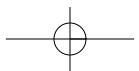
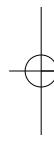
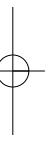
I do hope that the Study will make a small contribution to the evolution of a comprehensive stable and data based system for tracking prices of housing properties in India.

**New Delhi**  
**January 7, 2009**

**S. Sridhar**  
**Chairman and Managing Director**  
**National Housing Bank**

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# 1. INTRODUCTION

## 1.1 BACKGROUND AND OBJECTIVES

The main objective of the study is to develop a methodology for estimating the prices of housing properties in the urban areas of the country. The study is confined to two cities for this pilot exercise: Noida in UP and Faridabad in Haryana.

It is necessary to clarify the concepts relating to the price of housing property given the fact that the methods of payment by buyers to sellers are quite varied. For example, the consideration price for a cash transaction may be quite different from the price when payment is spread over a period of time. The price paid by the buyer may not be the same as the cost of the property to him as the latter may include various costs associated with the transaction. In this study, the price is defined as the value of the property paid by the buyer to the seller. It does not include the transactions cost (TC).

There are several alternative approaches for estimating the price of housing properties. For example, price information can be collected from the office of the registrar of properties where each transaction would be recorded. However, there are serious concerns in regard to the value recorded as it may not be the 'true' price because of the incentives that come with under-declaring the value.

Another approach to collect information on housing property prices is to collect information from the housing finance agencies-banks as well as other retail financiers who provide loans for purchase of housing property. While this approach is likely to provide adequate information in cases where people have taken housing loan, it would, however, miss out on those that have not. This proportion may indeed be fairly high.

The third option is to collect relevant information from the property dealers who facilitate transactions. There are two difficulties in this approach. One, there are no comprehensive lists of property dealers which can be used to select a sample for data collection. Secondly, not all the transactions go through property dealers and therefore this approach may fail to cover all types of transactions.

The fourth option, which the study has adopted, is to use a sample survey approach. In order to have a representative sample it would have to cover a wide spectrum of transactions in terms of prices paid. However, there are limitations to this as the incidence of housing property transactions as a proportion of total number of households is quite small. Therefore, it is necessary to develop a procedure based on a record of property transactions. The registrar of properties in the cities is the focal point where transactions are recorded to enable the buyer get legal possession of the asset. The approach may still leave out certain transactions such as the 'power of attorney' sales, common in the city of Delhi. The extent of such transactions is not clearly known in the other cities. However, besides such aberrations, the approach based on information from the registrar of properties appears far more comprehensive than the one based on either the housing finance agencies or the property dealers.

With this in view, the present study developed a procedure to estimate housing property prices through a sample survey approach. The study provides some additional information collected from property dealers and secondary data for comparison with the sample survey information.

In addition to the estimation of residential property prices, the study also provides (1) estimates of commercial property prices and (2) rental values of residential and commercial properties.

## **1.2 METHODOLOGY**

### **1.2.1 Residential Properties**

The sample survey approach adopted in this study begins with the information collected from the offices of registrar of properties in the respective cities. We first examined the information available from these offices on transactions registered. The objective of the study was to obtain information on recent transactions. Accordingly information was collected on transactions that took place in the previous six months: April 2007 to September 2007.

After a review of the data available from the registrar's office, it was decided to collect information on variables on each transaction for selected (sample) transactions:

- Location of the property
  - Name and address of the buyer and seller
  - Size of the property (area)
  - Value of the property declared by the buyer
  - Estimated value as per the 'circle rate'
  - Type of deed
  - Whether the property is agricultural, residential or commercial
-

However, it was necessary to design some stratification scheme so that an efficient method of covering the large areas of the city could be adopted. The 'circle' defined by the registrar's office was found to be an effective way of stratification of the transactions. In each of the two cities, 'circle rates' were defined to geographically demarcate the transactions. These circle rates provide a minimum value for property prices for the purpose of levying stamp duty. The rates are determined based on assessment of the prevailing prices of property by the authorities. The circle rates available at the time of the survey are given in Tables 1.1 and 1.2. There were a large number of circle rates, it was decided to group them into four categories: 'low', lower middle', 'medium' and 'high'. This grouping is indicated in Tables 1.1 and 1.2 for each city. The circle rates vary significantly between the two cities although the names of four categories of 'price zones' have been kept the same. For reference, we have summarized the price zones in the two cities in Table 1.3.

**Table 1.1: Sectors Covered in the Survey: Noida**

Price Zone	Circle Rate (Rs. per Sqm)	Sectors	Sectors Used in Survey
Low	4000	80, 81, 83	63, 64, 2, 3, 6, 8, 9, 10,11,122
	6500	57, 58, 59, 60, 63, 64, 65	
	8000	66, 125, 126, 127	
	10,000	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 62, 82, 122	
Lower Middle	11,000	92, 93, 110	12, 16, 20, 22, 34, 46, 47,48,49, 55, 56
	12,000	12, 16, 22, 23, 32, 53, 53, 93A	
	14,000	20, 33, 34, 35, 42, 43, 45, 46, 47, 48, 49, 55, 56, 71, 72	
Middle	15,000	38	15, 31, 41, 50, 51, 52
	16,500	24	
	18,000	15, 31, 369, 40, 41, 50, 51, 52, 61	
High	20,000	16A, 19, 21, 25, 28, 29, 36, 37	19, 25, 37, 27,18
	22,000	26, 27, 30	
	23,000	14	
	25,000	44	
	28,000	14A, 15A, 17, 25A	
	1,00,000	38A	
1,50,000	18		

**Note:** The sectors not covered in the survey: Non listed sectors with a circle rate of Rs 9000 per Sqm , All Industrial sectors/area (Rs 4000 per Sqm) and Industrial area Phase II Block A, B, C & D (Rs 4000 per Sqm).

**Table 1.2: Sectors Covered in the Survey: Faridabad**

Price Zone	Circle Rates (Rs per Sq. Yard)	Area	Sectors Used in Survey
Low	2000	Agwanpur	Atmadpur,Dyal Bagh, Ghazipur,HB Colony Old Faridabad Sector 18,19,28,49, SGM Nagar
	1100	Badoli Faridpur, Mawai, Mirtzapur	
	1450	Durga Builder Colony	
	1500	Badkhal,Gajipur,Ismailpur, Kheri Gujran Nawada Koh,Qureshipur	
	1600	New Baselva Colony	
	2000	Atmadpur,Baselva,Dabua, Mojmabad,Nangla Gujran, Other Colony within MCF, Pali,Sehatpur, SGM Nagar, Sector 18,19,28,49 Tigaon,Tilpat,Wazirpur	
Lower Middle	2150	Jawahar Colony	NH 2, Sector 29
	2400	NH-2, Palla,Saran, Sector-29, Shiv Colony	
Middle	2800	Any Other. Ind. Upto 1000	Sector 16,21,46, Spring Field Colony
	3000	Ankhir, Lakarpur	
	3300	Sector-16,21{above350Sq.yds.}	
	3600	Fatehpur Chandila,Sector-45,48	
	4000	Spring Field Colony	
	4200	Faridabad,Sector-46	
High	4500	NIT Ind. Area{upto500Sq.yds.	Ashoka Enclave, Ex.Serviceman Society GF Colony, NH 1, NH-3, NIT Ind. Area Sector 14,15, 29
	4800	Ex.Serviceman Society NH-3{upto 500 sq.yards} Sector28{upto 350Sq.yds.}	
	5000	Sector14,29,30 & 31{Above 350 Sq.yds}	
	6000	NH-5{upto 500 sq.yards} Sector21-C{upto350Sq.yds.}	
	6500	Sector15,17{above 350 sq.yds.}	
	7000	Greenfield Colony	
	7200	Ashoka Enclave,NH-1{upto 500 sq.yards} Sector37 {upto 350Sq.yds.}	

**Table 1.3: Zones for Residential Properties**

Price Zone	Circle rate range	
	Noida Rates per sqm (Rs.)	Faridabad Rates per sq. yard (Rs.)
Low	4,000-10,000	Upto 4999
Lower Middle	10,001 - 14,999	5000 - 5999
Middle	15,000 - 20,000	6000 - 6999
High	More than 20,000	More than 7000

The records on transactions were reviewed first to determine the total number of transactions in each circle during the period as indicated earlier. These data form the universe for transactions from which the sample is drawn. The distribution of transactions as per the records is summarized in Table 1.4.

**Table 1.4: Residential Properties Registered During April'07 to September'07**

Price Zone	Noida		Faridabad	
	No. of Transactions	% Transactions	No. of Transactions	% Transactions
Low	181	15.3	1124	69.1
Lower Middle	184	15.5	199	12.2
Medium	349	29.5	163	10.0
High	471	39.7	141	8.7
<b>Total</b>	<b>1185</b>	<b>100.0</b>	<b>1627</b>	<b>100.0</b>

The total sample size accepted adequate for the various types of property is provided in Table 1.5. The table provides sample size that was proposed for estimation of the price of commercial property and also rental values of residential property.

**Table 1.5: Required Sample (Units) for Different Types of Property**

Type	Noida	Faridabad
Residential owners	180	180
Commercial owners	180	180
Residential tenants	150	150
Commercial tenants	30	30

The sample was allocated to different strata of transactions in proportion to the distribution of the transactions. However, it was also realized that considerable over sampling would be needed given the difficulties in locating the buyers and the properties themselves. Thus to overcome it, three times the allocated sample was selected from each stratum using random start and systematic selection.

The trained field staff was provided with the list and the questionnaires were canvassed by them. The actual number of responses received in each stratum and each city are shown in Table 1.6.

**Table 1.6: Distribution of Actual Sample in the Household Survey**

Price Zone	Noida		Faridabad	
	No. of Transactions	% Transactions	No. of Transactions	% Transactions
Low	15	8.4	62	33.7
Lower Middle	68	38.2	52	28.3
Medium	69	38.8	52	28.3
High	26	14.6	18	9.8
<b>Total</b>	<b>178</b>	<b>100.0</b>	<b>184</b>	<b>100.0</b>

We have provided estimates of property prices at the 'aggregate' level using weighted average estimator, the weights being the share of transactions in total transactions in the particular 'price zone'.

The data have been tabulated using different attributes of properties to understand the extent of variation in prices and also the factors influencing these prices.

### 1.2.2 Commercial Properties

The study has covered both residential properties and commercial properties. From the same list of

**Table 1.7: Categorisation for Commercial Properties by Price Zones**

Price Zone	Circle rate range - Rs per sqm	
	Noida	Faridabad
Low	Upto 70,000	Upto 20,000
Middle	1,00,000	20,001-25,000
High	1,50,0000	>=30,000

transactions in the registrar's office, we collected information on the transactions in commercial properties also. The number of transactions was much smaller in this case compared to the residential properties. The 'price zones' were defined based on circle rates as indicated in Table 1.7.

Based on a procedure similar to the one outlined for residential properties, sample was drawn to get information from the commercial property transactions. The final sample on which the analysis is carried-out is given in Table 1.8.

**Table 1.8: Distribution of Actual Sample Covered in the Commercial Establishments Survey**

Price Zone	Noida		Faridabad	
	No. of Transactions	% Transactions	No. of Transactions	% Transactions
Low	126	78.26	12	6.32
Medium	7	4.35	75	39.47
High	28	17.39	103	54.21
<b>Total</b>	<b>161</b>	<b>100.00</b>	<b>190</b>	<b>100.00</b>

### 1.2.3 Rental Values of Properties

The major problem in estimating the rental values is in regard to defining the 'universe'. One obvious approach is to use a sample such as the one used for household consumer expenditure surveys. In the present study, it was decided to assess the possibility of using a smaller. It was decided to take a sample of households and commercial properties for information on rental values in the same area where information was being collected for the 'price of residential properties. In other words, a certain quota was allocated to the field workers to canvass the questionnaires on rental values in the same area where they carried out property price survey.

Thus, the sample covered different 'price zones' of the two cities. However, the approach may not ensure that sample covers all types of properties (small/ large). Therefore, results can be said to be only indicative.

The actual number of rental properties on which information was collected in the present study is presented in Tables 1.9 and 1.10.

**Table 1.9: Distribution of Actual Sample Covered in the Rented Residential Housing Properties Survey**

Price Zone	Noida		Faridabad	
	No. of Transactions	% Transactions	No. of Transactions	% Transactions
Low	10	6.49	16	10.67
Lower Middle	82	53.25	11	7.33
Medium	47	30.52	86	57.33
High	15	9.74	37	24.67
<b>Total</b>	<b>154</b>	<b>100.00</b>	<b>150</b>	<b>100.00</b>

**Table 1.10: Distribution of Actual Sample Covered in the Rented Commercial Property Survey**

Price Zone	Noida		Faridabad	
	No. of Transactions	% Transactions	No. of Transactions	% Transactions
Low	24	45.28	12	38.71
Medium	4	7.55	9	29.03
High	25	47.17	10	32.26
<b>Total</b>	<b>53</b>	<b>100.00</b>	<b>31</b>	<b>100.00</b>

### 1.3 COMPARISON OF THE SURVEY FINDINGS WITH OTHER DATA

Given the heterogeneity of properties with respect to their numerous features, it is to be expected that the estimates based on any sampling approach are subject to significant sampling errors. As the present study has been based on the use of official data on transactions, it is useful to compare the estimates that may be obtained from other sources.

In the present study, we approached property dealers for data on property prices and rentals in the areas

**Table 1.11: Distribution of Sample Covered in the Property Dealers' Survey**

Type of Property	Residential		Commercial	
	Noida	Faridabad	Noida	Faridabad
Purchased	31	46	9	21
Rented	46	17	7	10

where the sample survey was carried out. The total number of transactions on which the property dealers provided information has been given in Table 1.11.

In addition to the property dealers' survey, we have also compiled information from the internet both on property prices and rental values. The information was downloaded during a specific period as shown in Table 1.12.

**Table 1.12: Dates of Secondary Data Download**

Area	Residential Properties	Rented Residential Properties	Commercial Properties	Rented Commercial Properties
Noida	15-01-2008	18-01-2008	17-01-2008	21-01-2008
Faridabad	18-01-2008	18-01-2008	17-01-2008	18-01-2008

The comparisons clearly do not validate or invalidate the findings of the study but can provide some confidence on the information collected. The expectation is that the broad based survey of buyers would be able to provide more accurate estimate of an 'average price' rather than the estimates based on partial coverage.

#### **1.4 ACCESS TO OFFICIAL RECORDS OF TRANSACTIONS**

The offices of the Registrar and Tehsildar are situated away from the offices of sub-registrar. The Registrar has to give instructions to the sub-registrar where the transactions data is maintained. This led to considerable delay in obtaining the universe of transactions for sampling. The transactions data is maintained by the sub-registrars for different localities within a city. The required information had to be collected separately from each sub-registrar office and then compiled together. Soft copy of the data were not available as records were sometimes maintained in Hindi language in hard copy. We could get the voluminous data in the form of hard copy. This was translated into English and entered into our computers. This process took considerable time.

In some cases the property addresses were incomplete. To get complete addresses we had to camp in the record room of the offices and go through the original documents and record the complete addresses of the property transactions.



## 1.5 ORGANISATION OF THE REPORT

The report is organized in six chapters including the introductory chapter. The information relating to the prices of residential properties is summarized in Chapter 2 and the commercial property prices are discussed in Chapter 3. The rental values of the residential properties are presented in Chapter 4. In Chapter 5 we provide a comparison of data obtained from alternative sources. Chapter 6 presents the key findings of the study.



## 2. PRICE OF RESIDENTIAL HOUSING PROPERTIES

Housing property price is key element in gaining an understanding of the state of the economy. In the present study, we have, therefore, made an attempt to assess housing property prices across different types of property. This is done through a survey of occupants of properties. As indicated above, the survey was carried out in two cities: Noida in UP and Faridabad in Haryana, both adjoining Delhi.

### 2.1 OVERALL PRICES OF HOUSING PROPERTY

The price of housing property during the reference period is Rs 32,356 per (sqm) in Noida. Variation in prices across different types of properties is to be expected. We have provided a description of such variations using the survey data.

The sample of properties for the survey has been drawn using the information available from the registrars' office.

The sample for the survey has been chosen from different 'price circles' or 'price zones' in each city. The findings of the survey are presented for each city separately.

### NOIDA

We first examine the variation in prices across these zones. Table 2.1 below provides the estimated prices in terms price per sqm of the built up area of the property. For reference we have also presented the average built up area of the properties and the number of observations in the sample for arriving at these averages. Figure 2.1 illustrates the variation in price across price zones. Some main patterns here can be summarized as follows:

- The prices increase in line with the definition of the 'zones' demarcated by the city authorities. The variation is as much as 83 per cent between the lowest 'price zone' to the highest price zone. The increase is sharper between the 'medium' and the 'high' price zone as compared to the 'low' and 'lower middle' or 'lower middle' to 'medium'.
- The average built up area of the housing properties does not follow a uniform pattern across the price

zones although there is a general tendency to find larger properties in the higher price zones. The 'lower middle price zone' segment actually has the second largest properties in terms of built up area after the 'high price zone'.

- The overall price is a weighted average of the averages for the four 'price zones' with the weights being the proportions of the number of transactions in each zone during the last year (April 07 to September 07). The weighted average is higher than the simple average as the actual number of observations in the sample in the high price zone is relatively smaller than the actual number during the year.

**Table 2.1 Average Price: Overall (Rs. Per Sqm) : Noida**

Price Zone	Average Price (Rs. (Sqm))	Average Built-up Area (Sqm)	No. of Observations
Low	22234	103	15
Lower Middle	26531	164	68
Medium	29437	119	69
High	40685	171	26
<b>Total (Weighted)</b>	<b>32356</b>	<b>144</b>	<b>178</b>

**Figure 2.1: Average Price of All Residential Properties (Rs. Per Sqm)**



We also note that the prices reported here are well above the 'circle rates' of the price zones upto the 'high price zone'. The 'high price zone' has circle rates of upto Rs 1.5 lakh per sqm in one of the sectors and Rs 1 lakh per sqm in another sector. The next lower rate in fact is just Rs 28,000 per sqm.

### 2.1.1 Price Variations within a Price Zone

There can be substantial variation in prices even within a price zone depending on the size of property, type of construction, location and many other characteristics. We first assess the variation in price in terms of average price of property for the lowest one-third, middle one-third and the top one-third of the sample in each zone. The patterns are shown in Table 2.2. The patterns show some important differences in the prices within each zone.

**Table 2.2 Variations in Prices within Zone: Noida**

Price Zone	Price Range (Rs/ Sqm)			Total (Rs/ Sqm)	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	19750	22483	25017	22234	15
Lower Middle	8647	22267	49686	26531	68
Medium	15363	25401	47549	29437	69
High	17284	30302	78694	40686	26
<b>Total (un-weighted)</b>	<b>15261</b>	<b>25113</b>	<b>50237</b>	<b>29722</b>	<b>178</b>

#### Some highlights are,

- The prices of individual properties may be significantly higher or lower irrespective of their 'price zone' tags. For example, the average price of top third of the properties in the 'lower middle zone' is higher than the average price of the top third of the next higher price zone. In fact the price of the lowest third properties in the 'low price zone' is the highest among all the four price zones.
- One explanation for the sharp fluctuations may well be the small number of observations. However, the findings do point to the substantial deviation in prices within a price zone.

### 2.1.2 Price Variations by Size of Property and Type of Construction

The variability in prices within a price zone was highlighted earlier by the overall price patterns within a zone. We now present the average price of properties across two groups in terms of the 'number of rooms', built up area of the property and the type of 'builder' of the property to understand if there any strong correlations between these features and the property price.

The survey findings are presented in Tables 2.3-2.5. Figures 2.2-2.4 also illustrate these patterns.

Although it is expected that the larger sized properties would attract higher price for the property as a

whole, do they also get higher price per unit of built up area? Would properties with more 'rooms' fetch a higher price? The sample data presents some illustrative pointers. We have classified the housing properties into two categories: 'upto 2 rooms per property' and '3 or more rooms per property'.

- Within each category in terms of number of rooms, the price variation remains significant suggesting that other factors also play a prominent role in influencing prices. Within two room properties category the average price ranges from Rs 17, 134 per sqm in the lowest third to Rs 1, 01, 673 per sqm in the top third properties. The variation is less significant in the lower price zones. In other words, the price variability is greater in the higher price zones even within a specific feature of the property.
- There is a general tendency for the three room properties to fetch higher price per area than the two room properties. However, the distinction is less prominent or missing in the 'low price zone'. In the high price zone the three room properties get 24 per cent higher price than the two room properties.

The patterns emerging from prices by the built up area of the property follows the pattern seen in the case of properties in terms of number of rooms. The larger properties have higher price per sqm of built up area with some qualifications:

- When we consider the price by the built up area of the property the relationship is not linear. The price per sqm decreases initially upto 150 sqm of built up area and then increase thereafter. In the lowest price zone, there are no observations for properties above 150 sqm or below 50 sqm.

Do the property prices vary by who constructs the house? We have considered four types of builders: Cooperative Group Housing Societies, government agencies, private builders and own construction. The sample has variation in the type of builders only in the higher price zone. In fact we find that the present sample has only government-built houses in the 'low price zone'.

- In the aggregate government-built houses fetch the lowest price per sqm and the 'own construction' fetches the highest price. However, this is not the case in all price zones. In the medium price zone, the private builders- built properties get the highest price per sqm.

The main findings emerging from the variation in prices of housing properties in Noida are that the variation is substantial and although the pattern does follow the 'price zone' classification, the individual properties are transacted in very broad price bands. This pattern clearly shows that there are a variety of determinants of property prices. We have examined a few of these determinants such as the number of rooms, area of the property, and type of builder. The findings point to some plausible relationships but these

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need to be examined in greater detail. We provide some additional details in a subsequent section.

**Table 2.3 Variations in Prices by Number of Rooms: Noida**

Price Zone	Up to Two Rooms Set (Rs/ Sqm)				Three or More Rooms Set (Rs/ Sqm)			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	20833	22570	25000	22396	19208	22222	25021	22126
Lower Middle	8088	23405	46777	18237	9258	21768	50146	30498
Medium	15838	25574	44087	25943	15154	25353	48277	30492
High	17134	–	101673	34042	17404	30302	75412	42267
<b>Total (Un-weighted)</b>	<b>15473</b>	<b>23850</b>	<b>54384</b>	<b>25155</b>	<b>15256</b>	<b>24911</b>	<b>49714</b>	<b>31346</b>

Note: '-'= no data points in the survey.

**Table 2.4 Variation in Prices by Built-up Area (Rs/ Sqm): Noida**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Low	–	23032	21037	–	–
Lower Middle	40863	33729	21494	20765	12944
Medium	31559	34012	28256	28783	14720
High	87905	39507	44584	45301	20627
<b>Total (Weighted)</b>	<b>59697</b>	<b>34475</b>	<b>32593</b>	<b>35063</b>	<b>17166</b>

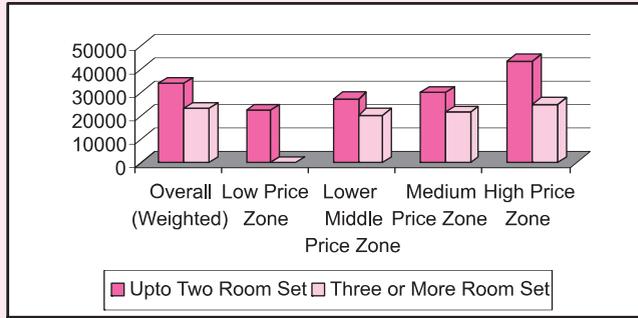
Note: '-'= no data points in the survey.

**Table 2.5 Variation in Prices by Type of Builder (Rs/ Sqm): Noida**

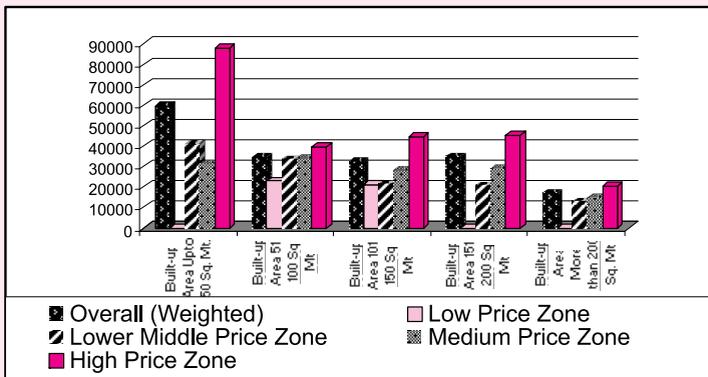
Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Low	–	22234	–	–
Lower Middle	30220	23859	20143	33158
Medium	21816	31158	32314	20497
High	34887	19841	41935	59737
<b>Total (Weighted)</b>	<b>29488</b>	<b>28520</b>	<b>34597</b>	<b>41226</b>

Note: '-'= no data points in the survey.

**Figure 2.2: Average Price Two and Three Room Set in Noida (Rs. Per Sqm)**



**Figure 2.3: Average Price (Rs. Per Sqm) by Built-up Area - Noida**



**Figure 2.4: Average Price (Rs. Per Sqm) by Type of Builder - Noida**



## FARIDABAD

A survey of occupants of property whose properties were transacted in the previous six months was carried out in Faridabad. A total of 184 properties were covered in this sample survey. The extent of price variation in the sample is presented in Table 2.6 across the four 'price zones'. Some of the highlights are,

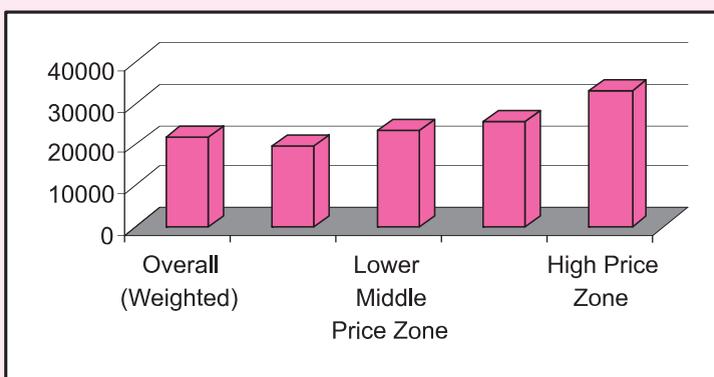
- The overall average price of properties is Rs 21,997 per sqm. This is lower than the price reported for Noida by 32 per cent.
- The average price is uniformly higher in the higher price zones.
- The average built up area of the properties is higher in the higher price zones except for the highest category.
- The average price of the 'high price zone' is 67 per cent higher than the price in the low price zone. The variability is lower than seen in Noida where the price in the high price zone was 83 per cent greater than the price in the low price zone.

**Table 2.6 Average Price: Overall (Rs/ Sqm) : Faridabad**

Price Zone	Average Price	Average Built-up Area (Sqm)	No. of Observations
Low	19839	197	62
Lower Middle	23349	270	52
Medium	25543	344	52
High	33189	230	18
<b>Total (Weighted)</b>	<b>21997</b>	<b>224</b>	<b>184</b>

The survey estimates of property prices are well above the 'circle rates'. The circle rate for the 'low price zone' is upto Rs 2,000 per square yard and the average we have estimated is 8 times this rate. For the lower middle zone, the circle rate is upto Rs 2,400 per square yard (or Rs 3346 per sqm). For medium price zone the circle rate is Rs 2,800 to Rs 4,200 per square yard (Rs 3346 to Rs 5019 per sqm) and for high price zone the circle rate is Rs 4,500 to Rs 7,200 per square yard (Rs 5378 to Rs 8604 per sqm). In all the cases the survey estimates of property prices are well above the 'minimum' determined by the city authorities.

The pattern of price variation across price zones is illustrated in Figure 2.5.

**Figure 2.5: Average Price of All Residential Properties (Rs. Per Sqm)**

### 2.1.3 Price Variations within a Prices Zone

The variation in prices within each price zone is significant in Faridabad also. The pattern is shown in Table 2.7. The highlights are,

- The average price in the top one-third of the sample is almost three times the average price in the bottom one-third of the sample. Within the price zones, the pattern shows that the variability is the greater in the low and lower middle price zones as compared to the other two zones.
- The average price in the lower middle price zone is greater than the average price in the next higher category of medium price zone.
- The patterns again indicate that variability in property prices is substantial within price zones and the prices may in fact be higher in the lower price zones as compared to the higher price zones.

**Table 2.7 Variations in Prices within Zone: Faridabad**

Price Zone	Price Range (Rs/ Sqm)			Total (Rs/ Sqm)	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	8971	14720	36625	19839	62
Lower Middle	9464	22422	38976	23349	52
Medium	16844	24549	35747	25543	52
High	19689	34037	45840	33189	18
<b>Total (Un-weighted)</b>	<b>13742</b>	<b>23932</b>	<b>39297</b>	<b>25480</b>	<b>184</b>

### 2.1.4 Price Variations by Size of Property and the Type of Construction

The variability in prices may be related to a number of factors. We examine the patterns with respect to area of the property and type of builders. Tables 2.8 to 2.10 present the patterns with respect to variation in prices across number of rooms, built up area and type of builder. The same patterns are illustrated in Figures 2.6-2.8.

- At the aggregate level, the price of three room properties is higher than the price of two room properties, a pattern seen in the case of Noida also. However, this pattern is not observed in all the price zones. The difference in prices is not as large as in the case of Noida. The price of 3 room properties is only 6 per cent higher than the 2 room properties in Faridabad as compared to a differential of 25 per cent in Noida. This is also reflected in the lower variability in the price in Faridabad as compared to Noida.
- The price variation is greater within 2 room properties as compared to variation within 3 room properties, a pattern slightly different from the one seen in Noida.
- When seen across built up area, the price does not show a definite trend. At the aggregate level, price drops upto 100 sqm, then rises in the next category but again drops in the largest area category. There are economies of scale in the largest area category for the home buyers. In the case of Noida, the pattern was the opposite in the largest properties.
- There were no properties in the 'government-built' category in the sample. The 'private builder- built' properties fetched the highest price in Faridabad. However, this pattern was entirely due to the observations in the 'low price zone'.
- The properties built by the cooperative group housing societies fetched the highest price among the three groups considered in the upper two price zones whereas the 'own construction' properties fetched the highest price in the 'low middle price zone'.
- Interestingly the price of 'own construction' properties decreases in the higher price zones as compared to the lower price zones.

The variations point to the significant influence several factors may have over the price of housing properties in a city. The extent of variation may vary across cities as seen the differences between Faridabad and Noida. The sample data also shows that the relationship between price and built up area may not be linear and therefore in turn may be influenced by other factors. The quality of construction may also be related to who builds the houses which in turn is reflected in the price. The survey findings show that 'private builder-built' properties are not necessarily the most expensive. The government-built properties, on the other hand seem to be the least expensive.

Devising Appropriate Mechanism for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

**Table 2.8 Variations in Prices by Number of Rooms (Rs/ Sqm): Faridabad**

Price Zone	Up to Two Room Set				Three or More Room Set			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	9360	14140	36913	16904	7725	15010	36470	22590
Lower Middle	9458	21685	37712	25234	9468	24191	41295	20971
Medium	14196	22093	46339	20870	17601	24703	35086	26153
High	10843	–	45587	34005	21458	34037	45967	33025
<b>Total</b>	<b>10964</b>	<b>19306</b>	<b>41638</b>	<b>24253</b>	<b>14063</b>	<b>24485</b>	<b>39705</b>	<b>25685</b>

**Table 2.9 Variation in Prices by Built-up Area (Rs/ Sqm): Faridabad**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Low	15929	9959	23863	32320	20613
Lower Middle	25552	26272	28290	–	13564
Medium	32885	21977	29227	24772	22260
High	27733	–	35007	43200	31166
<b>Total (Weighted)</b>	<b>19828</b>	<b>13462</b>	<b>25908</b>	<b>32533</b>	<b>20830</b>

Note: '-'= no data points in the survey.

**Table 2.10 Variation in Prices by Type of Builder (Rs/ Sqm): Faridabad**

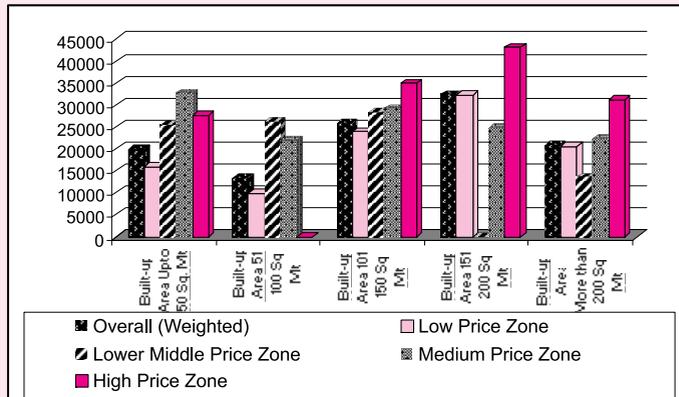
Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Low	13773	–	29386	13944
Lower Middle	23699	–	22367	28112
Medium	34543	–	24144	24096
High	46550	–	33750	10843
<b>Total (Weighted)</b>	<b>19908</b>	<b>–</b>	<b>28381</b>	<b>16425</b>

Note: '-'= no data points in the survey.

**Figure 2.6: Average Price of Two and Three Room Set in Faridabad (Rs. Per Sqm)**



**Figure 2.7: Average Price (Rs. Per Sqm) by Built-up Area - Faridabad**



**Figure 2.8: Average Price (Rs. Per Sqm) by Type of Builder - Faridabad**



## 2.2 FACTORS INFLUENCING PROPERTY PRICES

In the previous sections, the pattern of property prices was examined with features such as size of property and type of builder. However, it was seen that the patterns were not uniform suggesting many other influences at work. In this section we present some additional attributes of property that the respondents had provided an assessment on their influence.

In both Noida and Faridabad, the location of the house was a significant criterion while assessing the price of a house. About 40 per cent of the respondents have expressed these to be the criteria influencing their price decisions (Figure 2.9). In Noida, location in terms of a 'front view' was significantly important. In Faridabad, quality of construction was said to be the most significant criterion. It is not clear why this significant difference between Noida and Faridabad. It may be because there is considerable variation in the quality of construction in Faridabad.

**Figure 2.9: Perception of Independent Property Owners about Housing Attributes Influencing Prices**

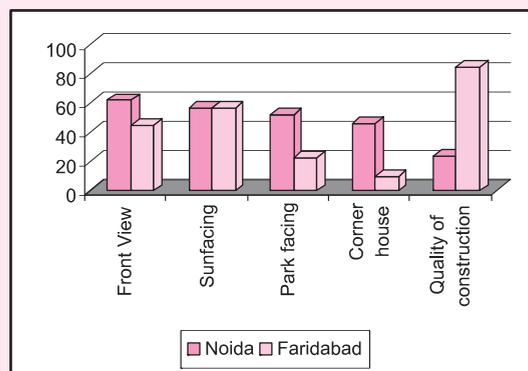
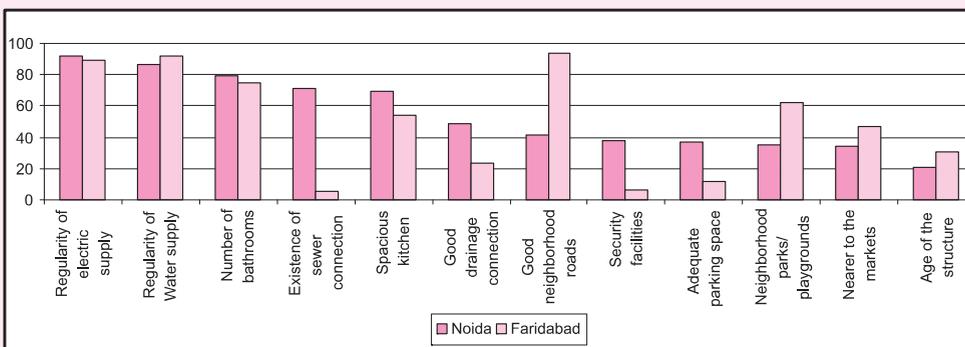


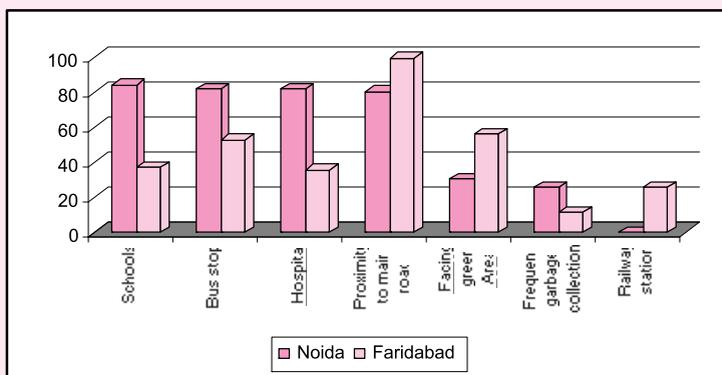
Figure 2.10 presents the percentage of respondents who said that the selected attributes relating to internal amenities of properties influenced their price decisions. Regular supply of electricity and water were the prominent criteria. In Faridabad good neighbourhood roads were a concern for more than 80 per cent of the respondents. Number of bathrooms, spacious kitchen and basic amenity such as sewer connection were important considerations in Noida. Surprisingly age of the property does not seem to be critical once all the amenities are considered.

External amenities are rated in Figure 2.11. Proximity to bus stop, schools and hospitals are key considerations in both Noida and Faridabad. Proximity to main road is rated by most respondents (more than 80 per cent) as an influencing attribute of property in Faridabad. In Noida this was also among the highly rated attribute.

**Figure 2.10: Perception of Independent Property Owners about Internal Amenities Influencing Prices**



**Figure 2.11: Perception of Independent Property Owners about External Amenities Influencing Prices**



In other words, there are, a number of considerations in the pricing decisions even within a locality. Even if the external amenities are similar, the internal amenities may differ; the exact location of the house may differ even when the area of the house may be the same and so on.

Table 2.11 provides a pattern of factors considered by the buyers of properties across price categories.

**Table 2.11: Percentage Distribution of Respondents across Determinants of Price**

Factors	Noida				Faridabad			
	Price Range				Price Range			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total 1/3
<b>Location Attributes</b>								
Front View	47.5	62.7	42.4	50.6	52.5	44.3	34.4	43.5
Sun facing	42.4	61.0	44.1	48.9	60.7	60.7	47.5	56.0
Park facing	40.7	55.9	50.8	48.9	26.2	18.0	26.2	23.4
Corner house	37.3	61.0	37.3	44.9	13.1	6.6	13.1	10.9
Quality of construction	13.6	20.3	16.9	16.9	85.2	72.1	72.1	76.1
<b>Internal Amenities</b>								
Regularity of electric supply	94.9	96.6	84.7	91.6	95.1	85.2	90.2	89.7
Regularity of Water supply	83.1	93.2	83.1	86.0	86.9	85.2	75.4	82.1
Number of bathrooms	67.8	89.8	84.7	80.3	57.4	50.8	57.4	54.9
Spacious kitchen	59.3	78.0	76.3	70.8	54.1	42.6	41.0	45.7
Existence of sewer connection	50.8	67.8	67.8	61.8	14.8	3.3	4.9	7.6
Good neighborhood roads		47.5	42.4	69.5	52.8	98.4	91.8	82.0
Nearer to the markets	54.2	40.7	59.3	51.1	45.9	49.2	59.0	51.1
Good drainage connection	39.0	54.2	57.6	50.0	27.9	9.8	19.7	19.0
Security facilities	39.0	40.7	71.2	50.0	6.6	1.6	4.9	4.3
Adequate parking space	28.8	45.8	64.4	46.1	13.1	3.3	9.8	8.7
Neighborhood parks/playgrounds	37.3	35.6	62.7	44.9	72.1	65.6	68.9	68.5
Age of the structure	22.0	30.5	28.8	27.0	34.4	27.9	16.4	26.1
<b>External Amenities</b>								
Bus stop	88.1	89.8	84.7	87.1	60.7	57.4	67.2	61.4
Schools	83.1	86.4	84.7	84.3	49.2	44.3	55.7	49.5
Hospital	74.6	88.1	84.7	82.0	37.7	39.3	50.8	42.4
Proximity to main road	78.0	84.7	78.0	79.8	100.0	95.1	96.7	97.3

(Contd...)

**Table 2.11: (Contd...)**

Factors	Noida				Faridabad			
	Price Range				Price Range			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle	Higher 1/3	Total 1/3
Facing green Area	30.5	23.7	28.8	27.5	52.5	47.5	36.1	45.1
Frequent garbage collection	25.4	23.7	27.1	25.3	13.1	8.2	4.9	8.7
Railway Station	N.A	N.A	N.A	N.A	39.3	21.3	24.6	28.3

### 2.3 THE IMPACT OF HOUSING PROPERTY ATTRIBUTES ON PROPERTY PRICES

The sample survey has brought out the extent of variation in housing property prices even within the 'circle rate zones of a city', varying by type of house (flat Vs. independent house), size of the house and its location attributes. Housing property is a complex product in the sense that it meets the basic requirement of space for living, its location influences access to other facilities such as work place, school for children and health facilities; it provides utility to household members by its attributes, and it is also a store of value for the house owners. Like any other good, demand for housing property is expected to be influenced by income of the household and also its preferences and priorities for various attributes of the property. While the price is determined by the dynamics of supply relative to demand, the variations across properties are more likely to be determined by the income of the buyers and their preferences for various attributes of housing.

The sample of transactions in housing properties available for this study provides the basis opportunity to examine the impact of different attributes of properties on the prices. Data on one of the major determinants of demand, namely household income, is not available in the sample. And this means reduced explanatory power of the empirical model which we use to assess the impact of various factors on property prices.

Before analysing the relationship between price and attributes of properties, we present the measures of attributes adopted for analysis. The survey included questions on whether the buyer of the property considered a specific attribute as important in deciding on the price of property. The attributes are classified into different groups as follows:

1. Location attributes: Corner house, Sun-facing house, Front view of the house or any other attribute
2. Basic amenities: Regular supply of water and regular supply of electricity in the area
3. Other internal amenities: Age of the structure, security facilities, good drainage connection, adequate parking space
4. Basic external convenience: Proximity to main road and proximity to bus stop
5. Other external amenities: Proximity to schools, hospital, facing green area, frequent garbage collection

In each case, if the buyer responds positively that a given attribute was a consideration in pricing decision, then the attribute was given a score of 1 and zero otherwise. The scores in each category are added up

**Table 2.12: Average Scores for Attributes of Housing Properties: NOIDA**

Factors	Sub-Categories of Factors	Location Factors	Regular supply of Electricity & water	Other internal amenities	Proximity to schools, hospitals, markets & availability of local public services	Proximity to roads & bus stop	Quality of Construction	No. of Observations
Zones	Lower	0.23	1.00	0.55	0.87	0.93	0.00	15
	Lower-Middle	0.41	0.88	0.37	0.65	0.90	0.24	68
	Middle	0.56	0.90	0.38	0.63	0.79	0.14	69
	Higher	0.62	0.83	0.32	0.49	0.76	0.15	26
Type of Property	Independent Property	0.55	0.89	0.35	0.55	0.82	0.24	82
	Flats	0.43	0.89	0.41	0.72	0.85	0.10	96
Quartile for Price	Ist quartile	0.42	0.82	0.29	0.57	0.81	0.16	45
	IIInd quartile	0.51	0.93	0.38	0.64	0.85	0.14	44
	IIIrd quartile	0.53	0.97	0.39	0.64	0.88	0.20	45
	IV quartile	0.48	0.83	0.48	0.72	0.82	0.18	44
Quartile for Value	Ist quartile	0.42	0.80	0.31	0.63	0.83	0.21	47
	IIInd quartile	0.37	0.96	0.44	0.76	0.82	0.11	46
	IIIrd quartile	0.51	0.92	0.38	0.59	0.83	0.20	49
	IV quartile	0.67	0.88	0.42	0.57	0.89	0.14	36

**Note:** 'Zones' refer to groups of areas based on the circle rates within a city; 'quartiles' of price refer to the categories of the observations classified into quartiles after they are arranged in ascending order of 'price' or 'value' of property.

and then the overall score for the particular category is normalized by taking the proportion of attributes with positive scores within the category. The normalised score, thus, ranges from zero to 1 for each category. Higher the score, higher is the implicit value attached by the buyer to this class of attributes in the pricing decisions.

The patterns emerging from the average scores of various attributes of properties suggest that attributes such as 'location factors' are more common considerations in the 'higher priced' and 'higher value' properties whereas 'regular supply of water and electricity' is more important consideration in the 'lower value' properties. Proximity to schools, hospitals, markets and other public services also appear to be more important considerations in the 'lower value' properties than in the 'higher value' properties. The location attrib-

**Table 2.13: Average Scores for Attributes of Housing Properties: Faridabad**

Factors	Sub-Categories of Factors	Location Factors	Regular supply of Electricity & water	Other internal amenities	Proximity to schools, hospitals, markets & availability of local public services	Proximity to roads & bus stop	Quality of Construction	No. of Observations
Zones	Lower	0.31	0.84	0.27	0.33	0.83	0.84	62
	Lower-Middle	0.36	0.80	0.32	0.79	0.96	0.52	52
	Middle	0.33	0.90	0.31	0.09	0.57	0.85	52
	Higher	0.35	0.94	0.35	0.43	0.81	0.94	18
Type of Property	Independent Property	0.33	0.89	0.33	0.33	0.74	0.84	123
	Flats	0.34	0.80	0.24	0.55	0.89	0.61	61
Quartile for Rent Rate	Ist quartile	0.38	0.84	0.34	0.40	0.84	0.78	46
	IIInd quartile	0.34	0.92	0.30	0.35	0.74	0.76	46
	IIIrd quartile	0.33	0.85	0.29	0.37	0.72	0.75	48
	IV quartile	0.30	0.81	0.29	0.51	0.88	0.75	44
Quartile for Rent	Ist quartile	0.34	0.85	0.25	0.47	0.87	0.67	46
	IIInd quartile	0.30	0.73	0.26	0.49	0.85	0.63	46
	IIIrd quartile	0.38	0.93	0.35	0.29	0.68	0.85	46
	IV quartile	0.32	0.91	0.36	0.36	0.76	0.89	46

utes and quality of construction rate is higher in the case of 'independent houses' relative to 'flats'. The basic internal amenities are rated equally highly by both the flat and independent house buyers. But in the case of all other attributes the buyers of flats consider these more frequently than the buyers of independent houses. These results point to the greater consideration of basic amenities in the lower value property buyers than in the higher value property buyers.

The average scores for different attributes across selected factors in the case of Faridabad sample are presented in Table 2.13.

The pattern of attribute scores across price categories or value categories of properties is less distinct in Faridabad than in Noida. For instance, the location attribute is consistently higher in the higher circle rate zones in Noida but not in Faridabad, although the pattern is not so uniform even in Noida. On other measure of price range it is relatively more consistent than in Faridabad. In general, the 'lower priced property' buyers have greater consideration for several of the property attributes considered here than the 'higher valued property' buyers. It is also striking that flat buyers are more concerned with external amenities whereas independent house buyers are choosy about internal amenities and quality of construction. In Noida similar relationship emerges with respect to external amenities and quality of construction but not in internal amenities.

The pattern points to the different needs of buyers of lower value properties as compared to the higher value properties. In other words, the attributes may in fact be influencing prices of properties within a particular price category rather than across price categories. The buyers of lower priced properties seek particular attributes in the property and the buyers of higher priced or valued properties look for some other attributes.

There appears to be an association between property attributes and the price or value of the property. But this association may not be uniform across the whole range of prices or values. For example, while regular supply of electricity and water may be taken for granted in higher priced properties, at the lower price end of property markets, people may be particularly far more conscious of this attribute.

To provide further assessment we consider the partial correlation coefficients of the different attributes and the two main variables of interest, namely, price and value of property.

The correlation between different attributes considered by the buyers of properties is not high. Only in the case of 'proximity to schools, hospitals etc', termed 'other external amenities' earlier, its correlation with

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**Table 2.14 Partial Correlation between Variables Related to Property Attributes: Purchase of Residential Properties in NOIDA**

Variables	Location Factors	Regular supply of Electricity & water	Other internal amenities	Proximity to schools, hospitals, markets & availability of local public services	Proximity to roads & bus stop	Quality of Construction
Location Factors	1.00					
Regular supply of Electricity & water	0.10	1.00				
Other internal amenities	0.04	0.23	1.00			
Proximity to schools, hospitals, markets & availability of local public services	-0.10	0.25	0.57	1.00		
Proximity to roads & bus stop)	0.32	0.24	0.26	0.23	1.00	
Quality of construction	-0.18	-0.06	-0.02	-0.20	-0.29	1.00
Price	0.08	-0.13	0.25	0.10	-0.11	0.09

'other internal amenities (other than electricity and water supply) exceeds 0.5. The cases where correlation coefficient is 0.2 or higher are: 'other external amenities' and 'regular supply of water and electricity', 'electricity and water supply' and 'other internal amenities', 'proximity to roads and bus stop' with all the other attributes and price and 'other internal amenities'. The relationship between price and other attributes is therefore, through its primary association with 'other internal amenities'.

In the case of Faridabad also (Table 2.15), the correlation coefficients are low. Only in the case of external amenities a close relationship is indicated. Those who look for proximity to main road and bus stop also look for proximity to other external amenities. The correlation coefficient is above 0.5 in this case. In the case of 'location factors' and 'other internal amenities', 'other internal amenities and quality of construction, the correlation coefficient exceeds 0.2. In other words, the property buyers are looking for a combination of attributes along with the physical living space when they buy a house. The importance of these attributes appears to vary across the cities and it may vary within the city by type of buyer.

**Table 2.15 Partial Correlation between Variables Related to Property Attributes: Purchase of Residential Properties in Faridabad**

Factors	Location Factors	Regular supply of Electricity & water	Other internal amenities	Proximity to schools, hospitals, markets & availability of local public services	Proximity to roads & bus stop	Quality of Construction
Location Factors	1.00					
Regular supply of Electricity & water	0.18	1.00				
Other internal amenities	0.34	0.11	1.00			
Proximity to schools, hospitals, markets & availability of local public services	0.08	-0.21	0.17	1.00		
Proximity to roads & bus stop)	0.00	-0.12	0.04	0.59	1.00	
Quality of construction	0.10	0.16	0.26	-0.19	-0.10	1.00
Price	-0.15	-0.06	-0.14	0.11	0.01	-0.05

The relatively low correlation coefficients may also be due to difference in the association across price ranges. Therefore, a more general analysis is needed to understand the relationship between what the buyers seek in the properties and the price they pay. This analysis is carried out in the 'regression' framework.

### Regression Results

We have examined the sample survey data to understand the factors influencing the prices of housing properties in the two selected cities of Noida and Faridabad. The assessment has been carried out in the framework of a regression model with the following specification:

**Specification 1:**

$$\text{Price} = a_0 + a_1 \cdot \text{Area} + a_2 \cdot \text{Area}^2 + b_1 \cdot \text{TYPE} + \sum c_j \text{ZONE}_j + \sum d_j \text{ATT}_j + e \cdot \text{DINTPR} + \sum e_j \text{ATT}_j * \text{DINTPR}$$

**Specification 2:**

$$\text{Price} = a_0 + a_1 \cdot \text{Area} + a_2 \cdot \text{Area}^2 + b_1 \cdot \text{TYPE} + \sum c_j \text{ATT}_j + \sum d_j \text{ZONE}_j$$

**Specification 3:**

$$\text{Price} = a_0 + a_1 \cdot \text{Area} + a_2 \cdot \text{Area}^2 + b_1 \cdot \text{TYPE} + \sum c_j \text{ZONE}_j$$

Where,

Price= Price of property (Rs/ sqm)

Area = Built up area of the property (sqm)

TYPE = 1 if the house is an independent house, =0 if a flat

ZONE<sub>i</sub> = 1 if the property is in circle rate 'i', =0 other wise; the variables are included for properties in circle rates, 1 to 3.

ATT<sub>i</sub> = Normalised scores of attributes of property measured by scores for i'th attribute ranging from 0 to 100; ATT<sub>1</sub>= score for the location preferences (corner house, front view);

ATT<sub>2</sub>= score for regular supply of water and electricity in the price decision; ATT<sub>3</sub>= score for other internal amenities of the house (drainage, parking, garbage collection); ATT<sub>4</sub>= score for score for proximity to bus stop and main road; ATT<sub>5</sub>= score for other external amenities (school, hospital, markets).

DINTPR = 1 if the property price is less than the mean price level, =0 otherwise.

In all the cases we have suppressed the random error term for convenience in presentation.

The specification 1 is the most general of the three taking into account the impact of the size of the property, other property attributes, circle rates and the difference in the impact of attributes between 'higher priced' properties and the 'lower priced' properties. The specifications 2 and 3 consider the impact of a narrower set of variables as compared to specification 3.

The results of regression analysis are presented in Tables 2.16 and 2.18 for Noida and in Tables 2.17 and 2.19 for Faidabad.

Some key observations that can be made from the regression results for Noida are

(1) an inverse relationship is indicated between the built up area of the property and the price of the

- property, at least for the initial price range. As the property area increases, the price per sqm decreases;
- (2) the average price of the property is higher in areas with higher circle rates;
  - (3) independent houses command a higher price than the flats, keeping other things the same;
  - (4) people, who are more conscious of the internal amenities other than electricity and water supply, pay a higher price for the property than those who are less concerned with the internal amenities;
  - (5) buyers concerned with regular supply of electricity and water are more likely to pay a lower price for the property;
  - (6) buyers concerned with proximity to roads and bus stop are more likely to pay lower price for the property rather than those who are less concerned with these amenities.

The findings reveal that property features do concern the buyers. However, the concerns vary with the income levels of the buyers. In other words, buyers who are likely to be in the higher income category would buy higher priced properties and for them regular supply of water, electricity or proximity to main road and bus stop would be normally taken care of by the house builders or they would make alternative arrangements for these services. For the buyers in the lower income categories these services are critical and therefore would look for these attributes in properties. Thus, the attributes rather than merely being determinants of price of property they also reflect the needs of different segments of the consumers.

The results for Faridabad are different from those of Noida with respect to the impact of the attributes of property. The impact of area of the property is also different from the one observed in the case of Noida. The price per sqm of property does not seem to vary with the size of the property in Faridabad unlike the case of Noida where there was a declining trend for very large sized properties. As in the case of Noida, prices do rise with the increase in circle rates. The independent houses command a higher price than flats, all other things being the same. Where the pattern changes from the one observed in Noida is the relationship between proximity to external amenities other than main road and bus stop on the one hand and the price on the other. In Faridabad, price of property is higher when buyers look for proximity to external amenities such as proximity to schools, hospitals and other public services. The price also varies inversely with the concerns of the buyers with respect to internal amenities in Faridabad unlike in Noida. The buyers who are more concerned with access to internal amenities such as good drainage, garbage collection, parking and security arrangements are more likely to pay a lower price to the property than the others.

The results suggest that the broad pricing range of the property is more likely to be determined by the buyers' income levels and then the buyers look for features of properties that maximize the benefits both in terms of amenities within the housing area and outside. The importance of property attributes would vary

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with the income levels of properties.

The results also show that at lower income levels, general amenities provided by the municipal administration are more critical to the house owners. The house owners residing in more affluent areas generally look for attributes beyond the basic services. On the other hand, for households in the lower income levels proximity to main road, bus stop and other public services such as bank, post office, etc. are important consideration not only for living but also for employment.

**Table 2.16 The Impact of Property Features on Prices: NOIDA**  
Dependent Variable: Price (Rs/ sqm)

Explanatory Variable	Unit	Model 1	Model 2	Model 3
Area	Sqm	-53.5419***	-99.59 ***	-104.76***
Area <sup>2</sup>	sqm*sqm	0.022801**	0.05 ***	0.05***
Locational Factors	Score	15912.51***	7175.03	-
Regular supply of Electricity & water	Score	-23394.6***	-9419.25 *	-
Other internal amenities	Score	15211.69	39053.48***	-
Proximity to schools, hospitals, markets & availability of local public services	Score	15879.14**	5144.82	-
Proximity to roads & bus stop)	Score	-13909.6**	-9959.69**	-
Quality of construction	Score	3024.656	-228.38	-
Dummy for Price	Dummy	-43294.6***	-	-
Location Factors * DINTPR	Score	-10886.5	-	-
Electricity and water supply * DINTPR	Score	28808.41***	-	-
Other internal amenities * DINTPR	Score	-5786.46	-	-
Proximity to schools, hospitals, markets & availability of local public services * DINTPR	Score	-17036.3*	-	-
Proximity to roads & bus stop) * DINTPR	Score	13002.99	-	-
Quality of construction * DINTPR	Score	-2823.83	-	-
Circle Rate Dummies	dummy1	-2051.62	-22466.11***	-18365.71**
	dummy2	-6709.64*	-15350.24***	-15763.94***
	dummy3	-8240.15**	-15216.09***	-13523.29**
Dummy for independent/ flat	Dummy	6276.764***	9360.44**	8378.48***
R <sup>2</sup>	-	0.65	0.36	0.23
Adj-R <sup>2</sup>	-	0.61	0.31	0.20
No. of Observations	-	177	177	178

**Note:** The statistical significance of the estimated coefficients is indicated by \*\*\* for significance at probability 1%, \*\* at probability 5% and \* for probability at 10%.

**Table 2.17: The Impact of Property Features on Prices: Faridabad  
Dependent Variable: Price (Rs/ sqm)**

Explanatory Variable	Unit	Model 1	Model 2	Model 3
Area	Sqm	-9.42768	4.44	-15.55
Area <sup>2</sup>	sqm*sqm	0.010991	-0.02	-0.003
Locational Factors	Score	-2185.78	-7084.63	-
Regular supply of Electricity & water	Score	-2795.77	-1482.00	-
Other internal amenities	Score	-4878.01	-17581.35***	-
Proximity to schools, hospitals, markets & availability of local public services (Proximity to roads & bus stop)	Score	2266.346	-187.03	-
Quality of construction	Score	-629.31	-972.57	-
Dummy for Price	Dummy	-18629.2***	-	-
Locational Factors * DINTPR	Score	7486.816	-	-
Electricity and water supply * DINTPR	Score	3834.759	-	-
Other internal amenities * DINTPR	Score	-1242.16	-	-
Proximity to schools, hospitals, markets & availability of local public services * DINTPR	Score	556.8921	-	-
Proximity to roads & bus stop * DINTPR	Score	-7124.75	-	-
Quality of construction * DINTPR	Score	-1199.61	-	-
Circle Rate Dummies	dummy1	-3249.42	-11821.85***	-13066.87***
	dummy2	-3712.35*	-11676.61***	-8288.78***
	dummy3	-4972.57***	-4087.95	-7571.66***
Dummy for independent/ flat	dummy	3149.446**	5812.74***	5262.67**
R <sup>2</sup>	-	0.72	0.24	0.14
Adj-R <sup>2</sup>	-	0.68	0.18	0.11
No. of Observations	-	184	184	184

**Note:** The statistical significance of the estimated coefficients is indicated by \*\*\* for significance at probability 1%, \*\* at probability 5% and \* for probability at 10%.

**Table 2.18: The Impact of Property Features on Prices: NOIDA**  
**Dependent Variable: Value of Property (Rs)**

Explanatory Variable	Unit	Model 1	Model 2	Model 3
Area	Sqm	8873.038***	10681.97***	10666.76***
Area <sup>2</sup>	sqm*sqm	-5.33057***	-6.17036***	-6.0929***
Location Factors	Score	2185590***	1228579***	-
Regular supply of Electricity & water	Score	-1443161**	-670749	-
Other internal amenities	Score	3061431**	3538668***	-
Proximity to schools, hospitals, markets & availability of local public services	Score	2141374***	-220575	-
Proximity to roads & bus stop)	Score	-2334498***	-818126	-
Quality of construction	Score	500876.9	55671.65	-
Dummy for Value	Dummy	-3200333***	-	-
Location Factors * DINTPR	Score	-2534111***	-	-
Electricity and water supply * DINTPR	Score	1497612***	-	-
Other internal amenities * DINTPR	Score	-2474567	-	-
Proximity to schools, hospitals, markets & availability of local public services * DINTPR	Score	-1570056	-	-
Proximity to roads & bus stop) * DINTPR	Score	2814906***	-	-
Quality of construction * DINTPR	Score	-238014	-	-
Circle Rate Dummies	dummy1	-201841	-1151722*	-1124286*
	dummy2	-996313***	-1619127***	-1860585***
	dummy3	-489345	-1278019***	-1200401***
Dummy for independent/ flat	Dummy	809537.3***	1699013***	1749085***
R <sup>2</sup>	-	0.71	0.47	0.40
Adj-R <sup>2</sup>	-	0.68	0.44	0.38
No. of Observations	-	177	177	178

**Note:** The statistical significance of the estimated coefficients is indicated by \*\*\* for significance at probability 1%, \*\* at probability 5% and \* for probability at 10%.

**Table 2.19: The Impact of Property Features on Prices: Faridabad  
Dependent Variable: Value of Property (Rs.)**

Explanatory Variable	Unit	Model 1	Model 2	Model 3
Area	Sqm	19365.94***	28785.72***	24947.54***
Area <sup>2</sup>	sqm*sqm	-5.06387	-12.9037***	-10.2331**
Location Factors	Score	-4420888***	-2010816*	-
Regular supply of Electricity & water	Score	-30094.8	63477.24	-
Other internal amenities	Score	-3680971*	-3590193***	-
Proximity to schools, hospitals, markets & availability of local public services	Score	923106.3	1824381***	-
Proximity to roads & bus stop)	Score	993345.3	-81980.5	-
Quality of construction	Score	78128.41	-68487.3	-
Dummy for Value	Dummy	-3234858*	-	-
Location Factors * DINTPR	Score	5782663***	-	-
Electricity and water supply * DINTPR	Score	-440620	-	-
Other internal amenities * DINTPR	Score	1025626	-	-
Proximity to schools, hospitals, markets & availability of local public services * DINTPR	Score	202553.6	-	-
Proximity to roads & bus stop * DINTPR	Score	-1459626	-	-
Quality of construction * DINTPR	Score	-246164	-	-
Circle Rate Dummies	dummy1	-1234715**	-2181033***	-2360364***
	dummy2	-1758566***	-3108544***	-2729496***
	dummy3	-1044667*	-1414053***	-1894990***
Dummy for independent/ flat	dummy	50516.6	-114899	-161559***
R <sup>2</sup>	-	0.76	0.69	0.66
Adj-R <sup>2</sup>	-	0.73	0.67	0.65
No. of Observations	-	184	184	184

**Note:** The statistical significance of the estimated coefficients is indicated by \*\*\* for significance at probability 1%, \*\* at probability 5% and \* for probability at 10%.

# 3. PRICE OF COMMERCIAL PROPERTIES

## 3.1 OVERALL PATTERN OF PRICES

Apart from residential properties the sample survey covered commercial properties. In all 161 properties were surveyed in Noida and 190 in Faridabad. The distribution in terms of price zones has been presented in Table 3.1 below. For analysis we have grouped the observations into three price zones, rather than the four used in the case of residential properties.

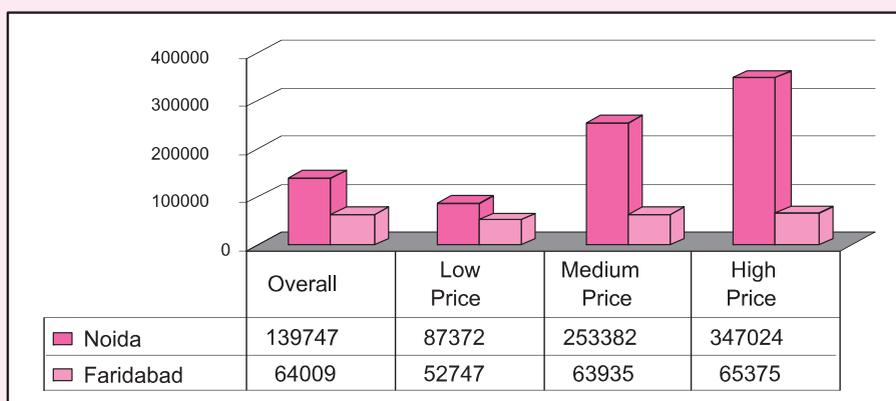
Some highlights from the overall estimates of prices are,

- The average price of commercial housing properties in Noida estimated at Rs 1.40 lakh per sqm as compared to Rs 0.64 lakh per sqm in Faridabad.
- The properties in the high price zone are about four times as expensive as the properties in the low price zone in Noida. In Faridabad, the price variability is much less with the properties in the high price zone being only 24 per cent more than the properties in the low price zone.
- We may also note that bulk of the sample in the present study is in the 'low price zone' in Noida whereas in Faridabad the sample is dominated by 'high price zone'.

The pattern in prices across price zones in the two cities is also presented in Figure 3.1.

**Table 3.1 Overall Price of Commercial Properties**

Price Zone	Noida			Faridabad		
	Average Price (Rs. Per (Sqm)	Average Built-up Area (Sqm)	No. of Observations	Average Price (Rs. Sqm)	Average Built-up Area (Sqm)	No. of Observations
Low	87372	463	126	52747	172	12
Medium	253382	13	7	63935	247	75
High	347024	54	28	65375	213	103
<b>Total</b>	<b>139747</b>	<b>372</b>	<b>161</b>	<b>64009</b>	<b>224</b>	<b>190</b>

**Figure 3.1: Pattern of Price Variation Across Price Zones (Rs. per Sqm)**

### 3.2 PRICE VARIATIONS: LOCATION AND TYPE OF BUILDER

The reasons for price variability can be several ranging from location attributes to amenities and quality of construction. For an initial understanding of the patterns in the prices of commercial properties, we examine the variation in prices across one attribute of location, viz. whether the property is located in a 'commercial complex' or a 'stand alone' property.

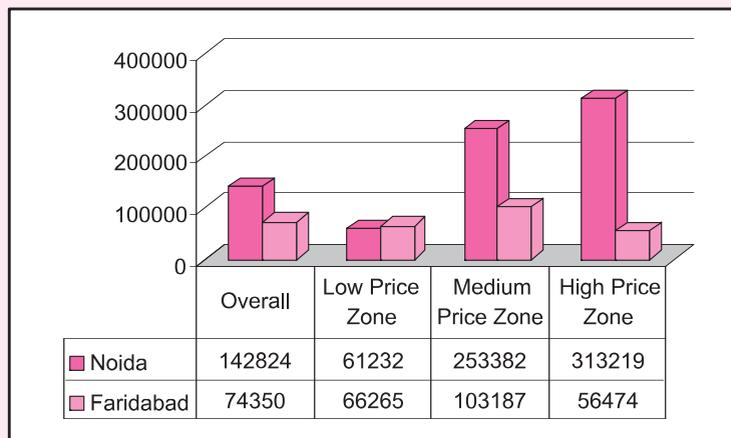
Table 3.2 presents the pattern of prices across two types of commercial property: independent and located in commercial complex. The patterns are also illustrated in Figures 3.2 and 3.3.

- The properties located in a commercial complex are more expensive as compared to the 'independent or stand alone' properties. In Noida the commercial complex properties have a price tag that is 6.7 per cent higher than the stand alone properties and in Faridabad the differential is 17.3 per cent. The reasons for the differential are likely to be the size of the 'market' provided by the two modes of location.
- The pattern of higher price for 'commercial complex' properties is seen in both the three price zones in Noida (where data are available) and in two out of three price zones in Faridabad.

Thus, although location of the property is one important criterion influencing the price, there may be other characteristics as well.

**Table 3.2 Average Price (Rs. Per Sqm) by Type of Property - Establishment Survey**

Price Zone	Noida		Faridabad	
	Independent	Commercial Complex	Independent	Commercial Complex
Low	12845	61232	51518	66265
Medium	–	253382	61724	103187
High	177643	313219	65923	56474
Total	133817	142824	63374	74350

**Figure 3.2 Average Price of Commercial Establishments in a commercial Complex (Rs. per Sqm)**

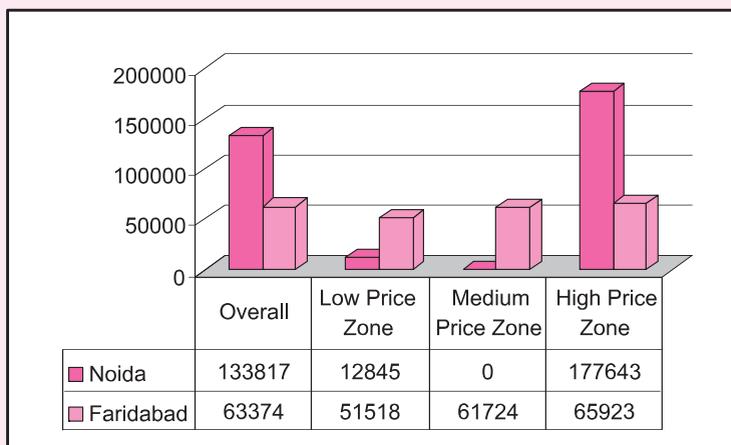
The variation in price across type of builders may reflect quality of construction, although there is no clear evidence for it. The patterns emerging from the present survey on the variations in prices by type of builder of the properties can be seen in Table 3.3 and Figures 3.4-3.5.

The highlights of the pattern are,

Both in Noida and Faridabad, the 'government built' properties are more expensive than the other types at the overall level.

- Within each price zone, however, the pattern is not the same. In Noida, private builder built properties are more expensive than the other types in the 'high price zone'. 'Own construction' is most expensive in

**Figure 3.3 Average Price of Independent Commercial Establishments (Rs. per Sqm)**



**Table 3.3 Average Price (Rs. per Sqm) by Type of Builder - Establishment Surve**

Price Zone	Noida			Faridabad		
	Government	Private Builder	Own Construction	Government	Private Builder	Own Construction
Low	102604	64523	163200	–	52747	–
Medium	253382	–	–	77825	63153	–
High	321027	394256	198249	70592	65062	70281
Total	181146	127330	169573	74725	63488	70281

the 'low price zone'. In Faridabad, 'government built' commercial properties have fetched higher price than the other types in two out of three price zones. There are no comparable data in the third zone in Faridabad.

- The pattern therefore is mixed. The results suggest that the type of builder may not be the critical factor influencing the prices but it is actually the more specific characteristics of the property.

**Figure 3.4 Price Variations by Type of Builders (Rs. Per Sqm) - Noida**



**Figure 3.5 Price Variations by Type of Builders (Rs. Per Sqm) - Faridabad**



### 3.3 PRICE VARIATIONS ACROSS OTHER LOCATION ATTRIBUTES

Does the location of the property in terms of the convenience or comfort it presents to the customers influence its price? In other words do the occupants of the property pay a higher price if these attributes are advantageous? We have identified a few features that distinguish the properties with respect to their loca-

tion. Here we discuss three of them: (a) a corner position which may attract greater attention by the customers as they pass by (b) sun-facing position of the property that may make the property more 'visible' to the customers and (c) the 'front view' the property presents in terms of whether the outside view from the property is pleasant.

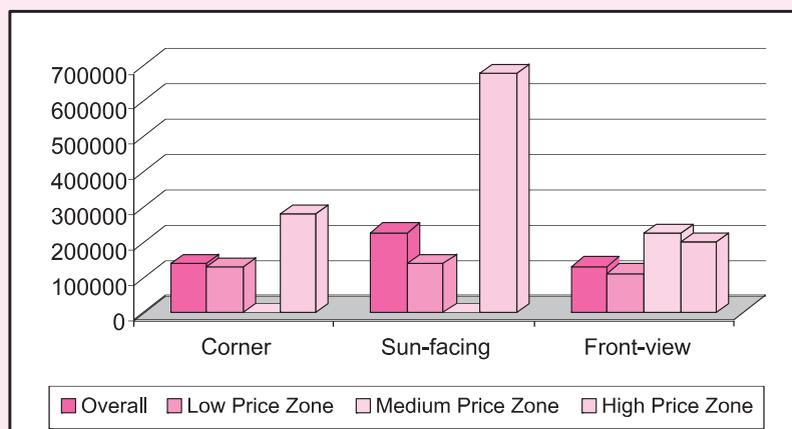
The patterns emerging from the survey are presented in Table 3.4 and Figures 3.6-3.7.

**Table 3.4 Average Price (Rs. Per Sqm) by Location Attributes of Establishment - Establishment Survey**

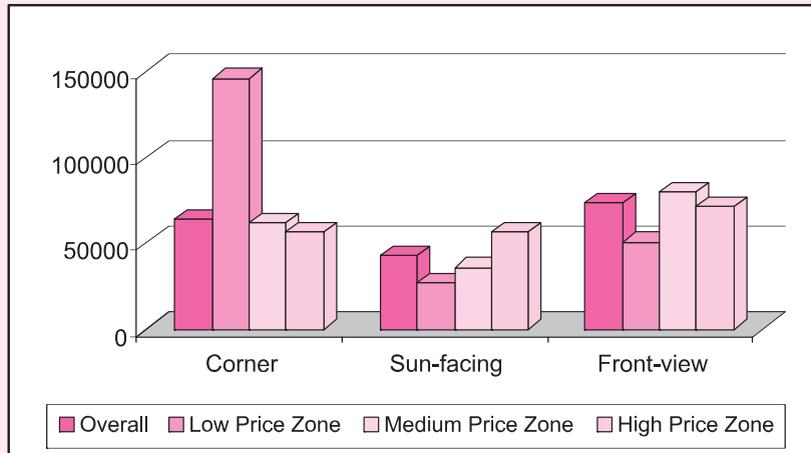
Price Zone	Noida*			Faridabad*		
	Corner	Sun-facing	Front-view	Corner	Sun-facing	Front-view
Low	132651	141911	115061	145869	26687	50602
Medium	-	-	226842	61641	35719	79390
High	283313	683723	203168	56340	56116	70951
Total	142477	230378	134074	63633	42472	73695

Note: \* There are observations relating to other attributes also which are not included here

**Figure 3.6 Average Price by Locational Attribute of Establishment (Rs. Per Sqm) - Noida**



**Figure 3.7 Average Price by Locational Attribute of Establishment (Rs. Per Sqm) - Faridabad**



The pattern is not the same in the two cities. In Noida the 'sun-facing' position fetches a higher price than the other locations in all the three price zones whereas in Faridabad the 'front view' attracts a premium over the other two attributes. Therefore, these attributes by themselves may not be the critical factors in influencing the price.

### 3.4 PRICE VARIATION BY TYPE OF NEIGHBOURHOOD

The respondents to the survey, occupants of the property, were also asked to provide an assessment of the neighbourhood in which the establishments are located: business class residents Vs. mixed groups. The price data was then correlated with the description of the response. Table 3.5 and Figures 3.8-3.9 present the findings.

**Table 3.5 Average Price by Type of Neighbourhood of Establishment (Rs/ Sqm) - Establishment Survey**

Price Zone	Noida		Faridabad	
	Business-Class Neighborhood	Mixed Neighborhood	Business-Class Neighborhood	Mixed Neighborhood
Low	100158	48189	40562	56809
Medium	–	253382	80807	49944
High	372315	195278	70146	61212
<b>Total</b>	<b>155047</b>	<b>96396</b>	<b>73366</b>	<b>56434</b>

- The business class neighbourhood, potentially a proxy for higher income neighbourhood attracts a higher price than the mixed group in both the cities at the overall level. In Faridabad, mixed neighbourhood fetches a higher price than the 'business class' neighbourhood in the low price zone of the city. However, the dominant trend is that the business neighbourhoods attract a premium in prices for commercial properties.

**Figure 3.8 Average Price by Type of Neighbourhood (Rs. Per Sqm) - Noida**



**Figure 3.9 Average Price by Type of Neighbourhood (Rs. Per Sqm) - Faridabad**



### 3.5 AN OVERALL ASSESSMENT OF THE ADEQUACY OF PROPERTY

The survey asked the respondents of the property to provide an assessment of the property. In other words the occupants of the property may be expected to have paid a higher price if they have rated the property to be 'very good' rather than 'good'. Given that the price of property is expected to be influenced by a variety of factors, we wanted to assess if these subjective assessments do in fact exist.

- The findings presented in Table 3.6 and Figures 3.10-3.11 actually show a remarkable uniformity. Only in the case of low price zone of Faridabad, the 'very good place' does not attract a premium over the 'good place'.

**Table 3.6 Average Price (Rs/ Sqm) by How Good is the Place for Business? - Establishment Survey**

Price Zone	Noida		Faridabad	
	Place is Very Good	Place is Good	Place is Very Good	Place is Good
Overall	181341	104368	71936	58489
Low	103040	74009	42771	54742
Medium	257699	247626	79235	51914
High	534345	206533	67691	63716

**Figure 3.10 Average Price by Type of Neighbourhood (Rs. Per Sqm) - Noida**



**Figure 3.11 Average Price by Type of Neighborhood (Rs. Per Sqm) - Faridabad**

### 3.6 PREFERRED ATTRIBUTES OF PROPERTY

While the relationship between price and some of the selected attributes appears complex, subject to several influences, we also attempted to get some idea of the preferences of the occupants of the property. In Figures 3.12-3.15, the findings have been illustrated.

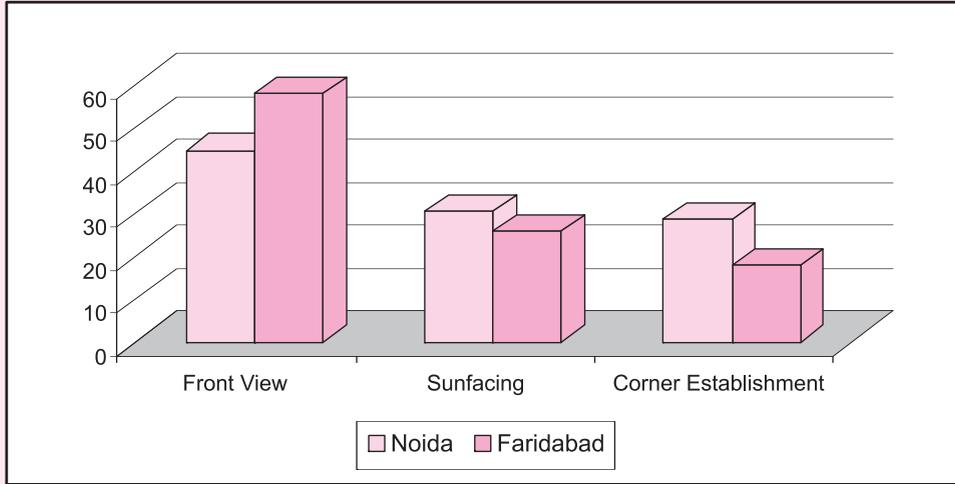
While the relationship between price and location was not unambiguous, the preference for a favourable 'front view' is prominent. More than 50% of the respondents in Faridabad and more than 40% in Noida said that the 'front view' was important consideration in selecting the property.

With respect to other 'internal amenities' the occupants rated regular electricity and water supply as the main criteria for a preferred property.

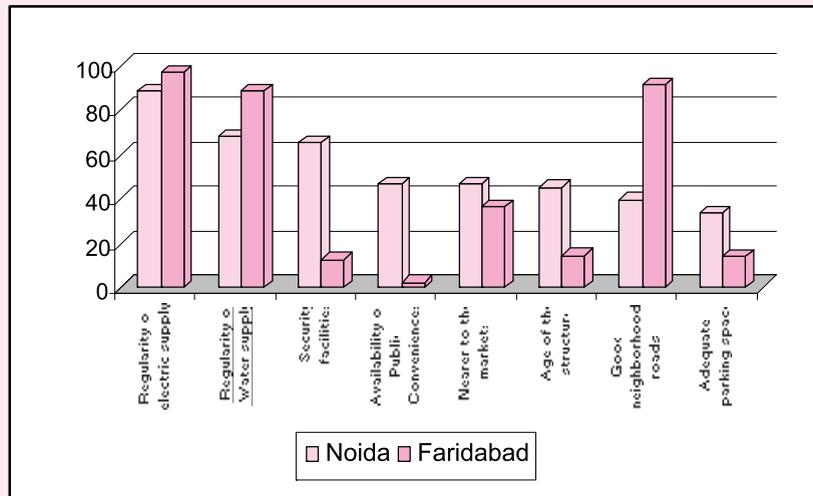
In Faridabad security issues were less prominent than Noida. By the same token, neighbourhood roads are a major concern in Faridabad unlike in Noida.

Among the external amenities, proximity to main road and to bus stops is still a major concern to the occupants of the properties. Despite the growth in private transportation, the property owners consider public transport as critical for the success of commerce and so also the ease of access through main roads.

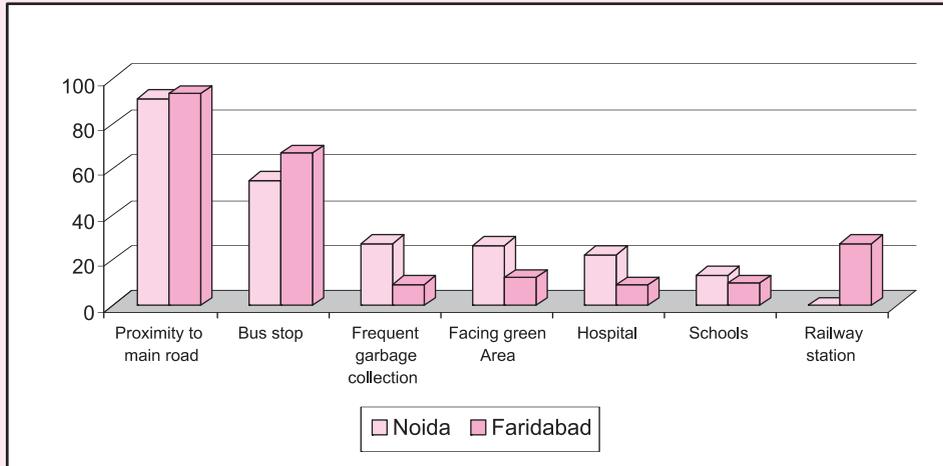
**Figure 3.12 Perception of Respondents about Housing Attributes Influencing Establishment Prices (% respondents)**



**Figure 3.13 Perception of Respondents about Internal Amenities Influencing Establishment Prices (% respondents)**



**Figure 3.14 Perception of Respondents about External Amenities Influencing Establishment Prices (% respondents)**



# 4. RENTAL VALUES OF PROPERTIES

The study has provided information on rental values of housing properties, both residential and commercial, from a sample of tenant respondents in Noida and Faridabad.

The information from the sample respondents has also been compared with the data collected from the property dealers in the area where the sample survey was undertaken.

## 4.1 RESIDENTIAL PROPERTIES

The information from the sample survey of tenant households has been summarised in Tables 4.1 and 4.2 across price zones for the two cities of Noida and Faridabad. Tables 4.3 and 4.4 provide the range of rental values within a price zone for the two selected cities. The variation across price zones is also illustrated in Figure 4.1.

**Table 4.1: Average Rent: Overall (Rs/ Sqm) : Noida**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Low	63	56	10
Lower Middle	76	68	82
Medium	82	95	47
High	120	93	15
<b>Total</b>	<b>85</b>	<b>78</b>	<b>154</b>

**Table 4.2: Average Rent: Overall (Rs/ Sqm): Faridabad**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Low	49	88	16
Lower Middle	62	69	11
Medium	62	136	86
High	44	187	37
<b>Total</b>	<b>54</b>	<b>139</b>	<b>150</b>

The average rent paid in Noida is Rs 85 per sqm as compared to Rs 54 per sqm in Faridabad. The rents are uniformly higher in Noida in the various price zones as compared to Faridabad.

**Table 4.3: Variations in Average Rent (Rs/ Sqm) within Zone: Noida**

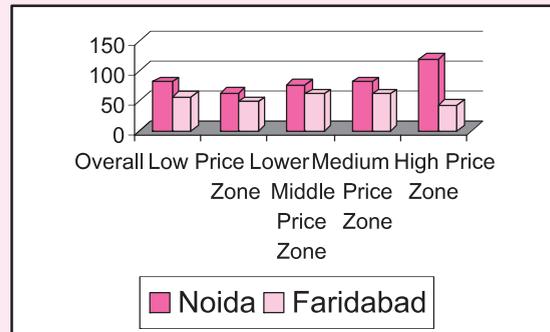
Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	47	68	87	63	10
Lower Middle	42	77	111	76	82
Medium	52	75	121	82	47
High	98	116	164	120	15
<b>Total</b>	<b>60</b>	<b>84</b>	<b>121</b>	<b>85</b>	<b>154</b>

**Table 4.4: Variations in Average Rent (Rs/ Sqm) within Zone: Faridabad**

Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	28	45	79	49	16
Lower Middle	32	69	93	62	11
Medium	37	63	100	62	86
High	23	46	67	44	37
<b>Total</b>	<b>30</b>	<b>56</b>	<b>85</b>	<b>54</b>	<b>150</b>

In the case of Noida, there is an increasing trend in rental values as we move from 'lower price zones' to 'higher price zones' at the aggregate level. The pattern is not so smooth in Faridabad. The pattern is also not uniform within price categories. For example, in Noida, the lowest one-third of the sample (in terms of rent per sqm) pays higher rent in the low price zone as compared to lower middle price zone. In Faridabad, all the household categories (in terms of rent) pay lower rates in the 'high price zone' as compared to even the 'low price zone'.

Again, as in the case of price of property, the rental values also show significant variation even within the broadly defined 'price zones' indicating many other factors at work in determining the rental values.

**Figure 4.1: Average Rent of All Residential Properties (Rs. Per Sqm)**

The variation in rental values by number of rooms shows no uniform pattern. The two room properties are not necessarily more expensive to rent than the three room properties on the average. Table 4.5 presents the pattern for this attribute.

**Table 4.5: Average Rent by Number of Rooms (Rs/ Sqm)**

Price Zone	Noida		Faridabad	
	Upto Two Room Set	Thre or More Room Set	Upto Two Room Set	Thre or More Room Set
Low	59	72	80	39
Lower Middle	79	66	60	65
Medium	91	70	77	53
High	99	126	54	40
<b>Total</b>	<b>81</b>	<b>83</b>	<b>70</b>	<b>49</b>

We have examined the rental value per sqm over the area of the property rented. This feature provides a uniform pattern in both the cities. The average rent per sqm declines as the area rented increases, barring a few exceptions. The patterns are given in Tables 4.6 and 4.7 and Figures 4.2 and 4.3.

The rental values in the cooperative group housing societies and government built properties are higher at the overall level than the other properties. The pattern, however, does not hold within a price zone in either of the two cities. Tables 4.8 and 4.9 present the findings for the two cities.

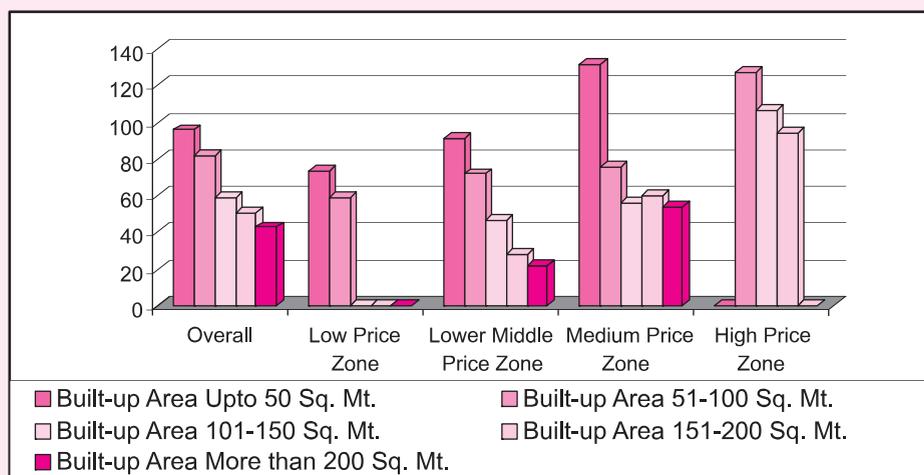
Devising Appropriate Mechanism for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

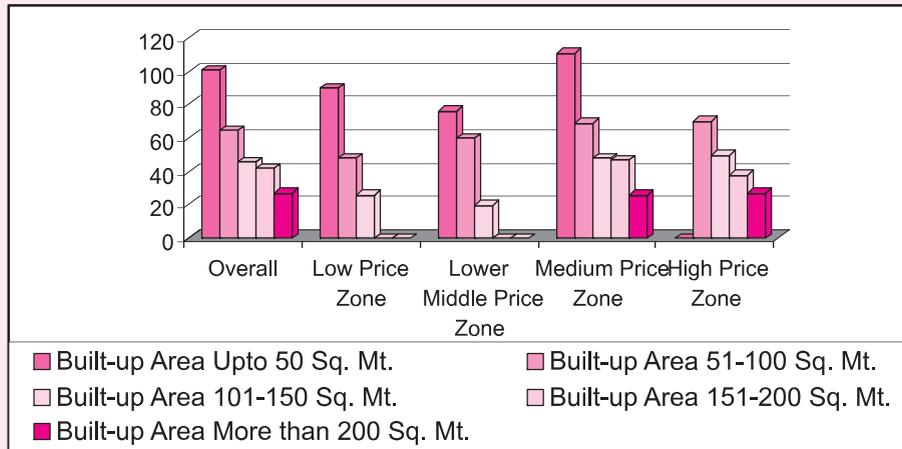
**Table 4.6: Variation in Rent by Built-up Area (Rs/ Sqm): Noida**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Low	74	59	–	–	–
Lower Middle	91	72	47	28	22
Medium	132	76	56	60	54
High	–	128	107	94	–
<b>Total</b>	<b>96</b>	<b>82</b>	<b>59</b>	<b>51</b>	<b>43</b>

**Table 4.7: Variation in Rent by Built-up Area (Rs/ Sqm): Faridabad**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Low	90	48	26	–	–
Lower Middle	76	60	20	–	–
Medium	111	69	48	47	26
High	–	70	50	38	27
<b>Total</b>	<b>101</b>	<b>65</b>	<b>46</b>	<b>42</b>	<b>27</b>

**Figure 4.2: Average Rent (Rs. Per Sqm) by Built-up Area - Noida**

**Figure 4.3: Average Rent (Rs. Per Sqm) by Built-up Area - Faridabad****Table 4.8: Average Rent by Type of Builder (Rs/ Sqm): Noida**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Low	71	45	–	48
Lower Middle	56	84	71	66
Medium	85	100	63	83
High	120	125	–	100
<b>Total</b>	<b>88</b>	<b>89</b>	<b>65</b>	<b>70</b>

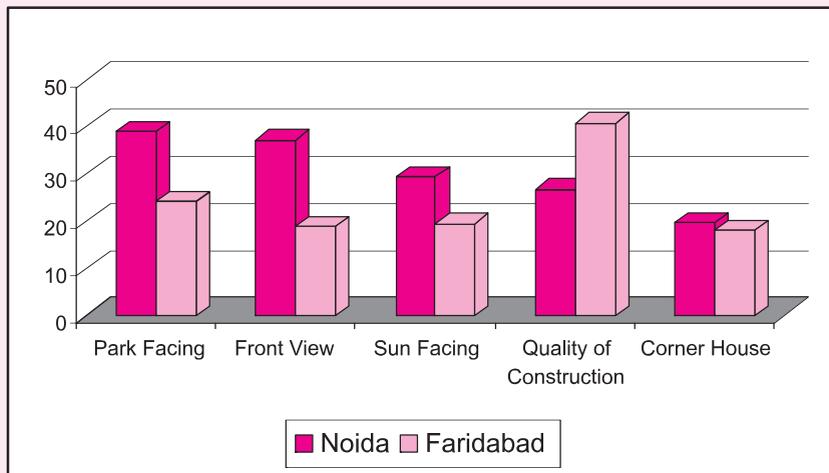
**Table 4.9: Average Rent by Type of Builder (Rs/ Sqm): Faridabad**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Low	75	–	42	46
Lower Middle	84	–	66	51
Medium	78	65	53	54
High	62	–	44	34
<b>Total</b>	<b>76</b>	<b>65</b>	<b>50</b>	<b>48</b>

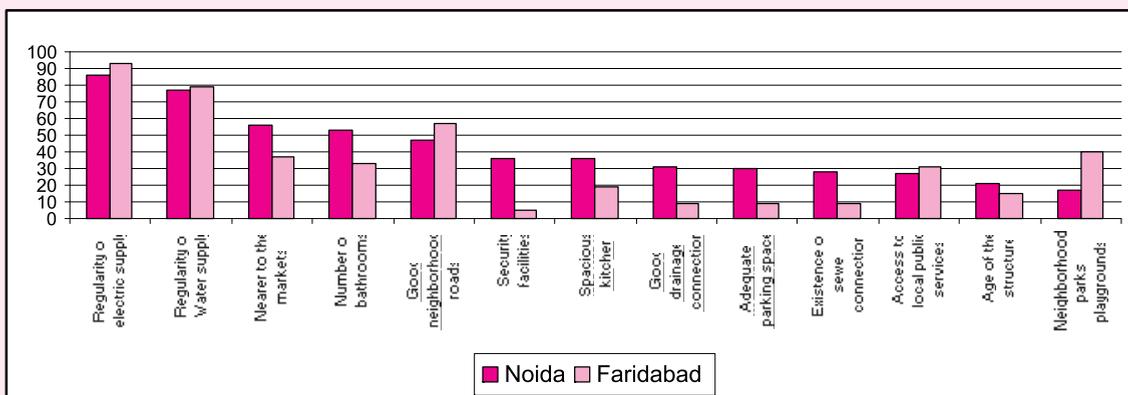
### 4.1.1 Location and other Attributes of Housing Properties and Rental Values

Besides the area of the property, number of rooms and quality of construction, there may be other features of property that influence the rentals that the tenants may be willing to pay. The survey has examined the attributes which the tenants consider in renting properties. Figures 4.4 to 4.6 point to the attributes that influence the rental decisions of the tenants. Some key patterns are,

**Figure 4.4: Perception of Respondents about Locational Attributes Influencing Property Rent (% Respondents)**

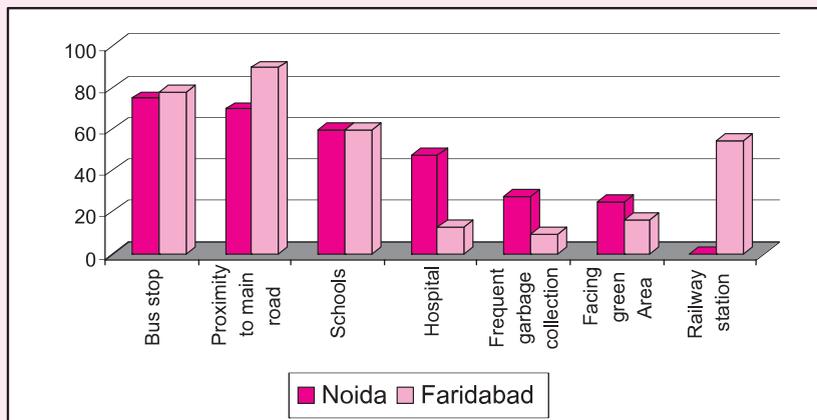


**Figure 4.5: Perception of Respondents about Internal Amenities Influencing Property Rent (% of Respondents)**



- Overall surroundings of the property, defined here as location attributes are significant considerations, especially in Noida. More than 35 per cent of the respondents have cited 'park facing' and 'front view' as the attributes influencing their renting decisions. In Faridabad, as in the case of 'price of property', the quality of construction again appears to be an important criterion in renting decisions also.
- Electricity and water supply are the influential attributes in determining rental decisions in both Noida and Faridabad. Proximity to markets is another prominent feature influencing rental decisions. Among the amenities, bathrooms and spacious kitchen are prominent in Noida. As in the case of 'property price' the good neighbourhood roads' are significant attribute while making property decisions in Faridabad.
- Among the external amenities, more than 85 per cent of respondents in Faridabad cite proximity to main road as a key attribute influencing rental decisions. This is followed closely by access to bus stop in both Faridabad and Noida. In other words, access to connectivity to other amenities is a critical amenity that the tenants look for.

**Figure 4.6: Perception of Respondents about External Amenities Influencing Property Rent (% of Respondents)**



## 4.2 COMMERCIAL PROPERTIES

The rental values of commercial properties were obtained from the sample survey. The average rents per month in the different price zones estimated from the survey are summarized in Tables 4.10 and 4.11. The price variation across price zones has been illustrated in Figure 4.7.

Devising Appropriate Mechanism for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

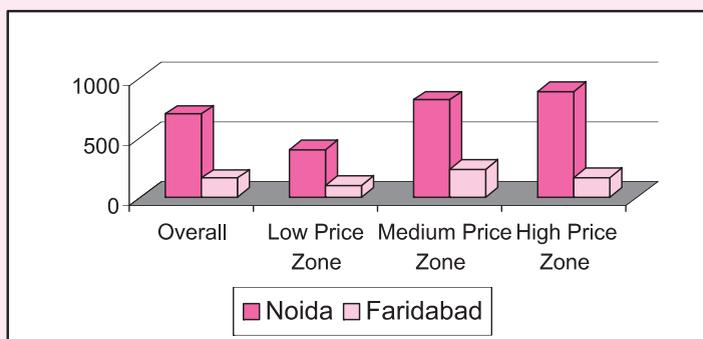
**Table 4.10: Average Rent: Overall Commercial Establishments (Rs/ Sqm) : Noida**

Price Zone	Average Rent (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Low	407	60	24
Medium	822	19	4
High	897	34	25
<b>Total</b>	<b>699</b>	<b>45</b>	<b>53</b>

**Table 4.11: Average Rent: Overall (Rs/ Sqm) : Faridabad**

Price Zone	Average Rent (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Low	103	146	12
Medium	235	120	9
High	177	97	10
<b>Total</b>	<b>165</b>	<b>126</b>	<b>31</b>

**Figure 4.7: Average Rent of Commercial Properties (Rs. Per Sqm)**



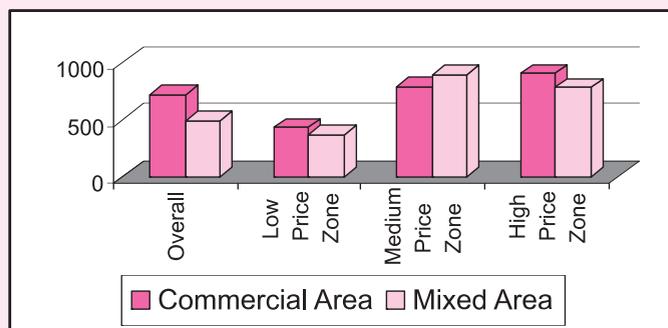
The average rent per sqm is Rs 699 in Noida and Rs 165 in Faridabad. There is a clear increasing trend in the higher price zones in the case of Noida but not in Faridabad. The deviations suggest significant heterogeneity in rental values within a given locality.

The variation in rental values by selected location characteristics is presented in Table 4.12 and Figures 4.8-4.9.

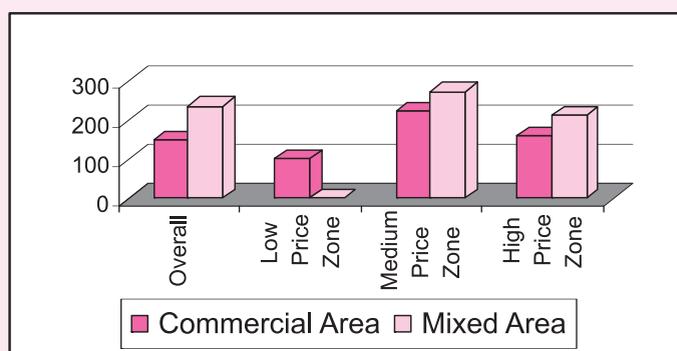
**Table 4.12: Average Rent by Location of Establishment (Rs/ Sqm): Noida**

Price Zone	Noida		Faridabad	
	Commercial Areas	Mixed Areas	Commercial Areas	Mixed Areas
Low	428	366	103	-
Medium	796	900	224	276
High	907	784	161	213
<b>Total</b>	<b>716</b>	<b>490</b>	<b>151</b>	<b>238</b>

**Figure 4.8: Average Rent by Location of Establishment in Noida (Rs. Per Sqm)**



**Figure 4.9: Average Rent by Location of Establishment in Faridabad (Rs. Per Sqm)**

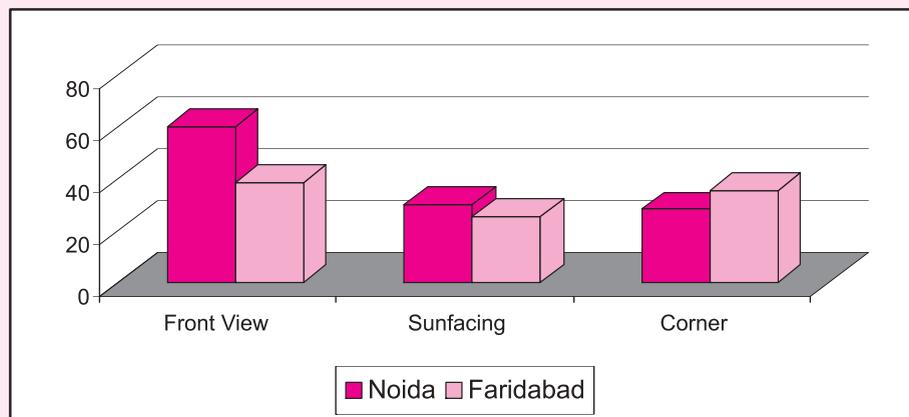


The rents in the 'commercial areas' or 'commercial complexes' is higher than in the 'mixed' residential/commercial areas in Noida but not so in Faridabad. Again, the pattern shows considerable variation in rental values even within broadly defined categories.

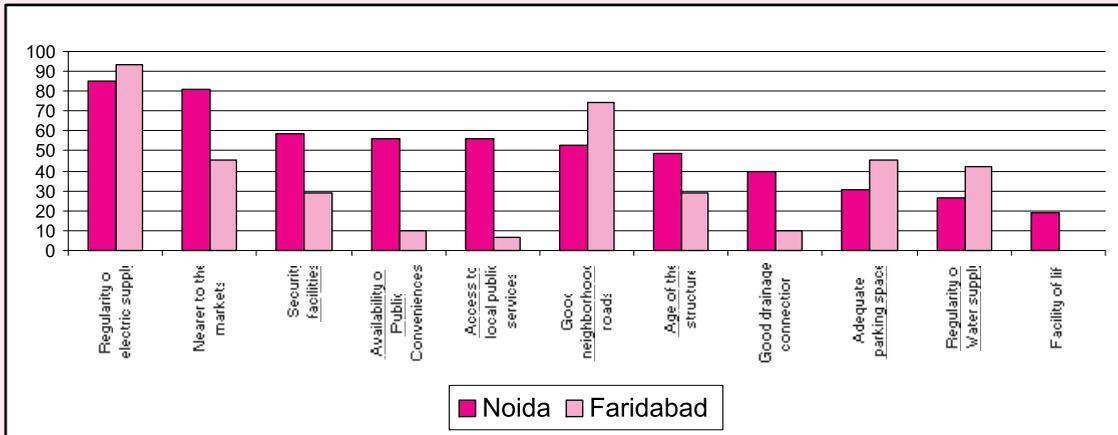
What are the other property attributes the commercial establishments consider in renting decisions? In Figures 4.10-4.12, we summarise the frequency of respondents who said that the respective attributes influenced their rental decisions. The key patterns emerging here are,

- The appearance of the establishment is a significant feature the tenants look for. The 'front view' is cited by close to 60 per cent of the respondents in Noida and about 35 per cent in Faridabad. This feature is more important than 'sun-facing' or a 'corner' position.
- Among the internal amenities, electricity supply is upper most concern in both Noida and Faridabad.
- Location in 'a market area' is rated highly in Noida. But in Faridabad, 'good neighbourhood roads' is the second more important factor after electricity. This mirrors the perceptions of buyers of properties also.
- Among the external features or amenities, proximity to main road and bus stop are the two most frequently cited features. Closeness to residential areas is also important.

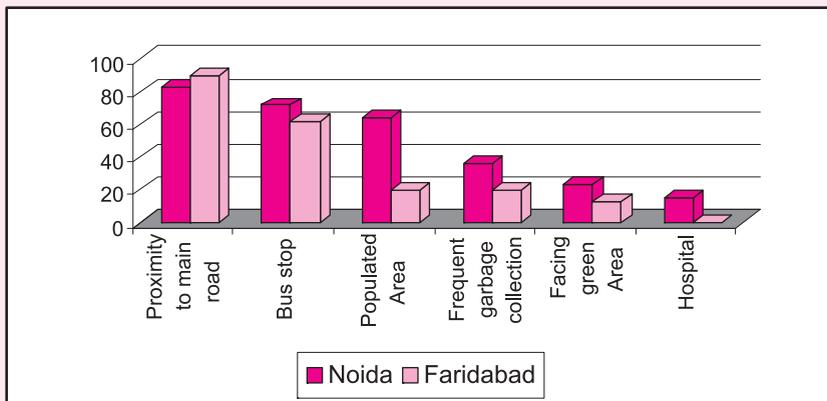
**Figure 4.10: Perception of Respondents about Locational Attributes Influencing Property Rent (% of Respondents)**



**Figure 4.11: Perception of Respondents about Internal Amenities Influencing Property Rent (% of Respondents)**



**Figure 4.12: Perception of Respondents about External Amenities Influencing Property Rent (% of Respondents)**



Devising Appropriate Mechanism for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

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# 5. COMPARISON OF DATA FROM ALTERNATIVE SOURCES

As pointed out in the first chapter of this report, the sample survey findings may be compared with alternative sets of information given the wide range of attributes of properties and therefore their price. The study has made an attempt to obtain information from the property dealers and also a secondary source from the internet where properties are advertised along with price information.

## 5.1 RESIDENTIAL PROPERTY PRICES

Table 5.1 provides a comparison of the prices from alternative sources for residential properties. As expected the direct survey of the buyers (households) has provided somewhat lower prices than the secondary source (which are only 'offer' prices from sellers). Surprisingly, the results from property dealer survey were not substantially different from the direct household survey at the aggregate level. The patterns are also illustrated in Figures 5.1 and 5.2.

**Table 5.1: A Comparative Average Prices of Residential Properties from Different Sources (Rs/ Sqm)**

Price Zone	Noida			Faridabad		
	HH Survey	Secondary Source	Property Dealers	HH Survey	Secondary Source	Property Dealers
Low	22234	46940	56667	19839	24330	24601
Lower Middle	26531	52768	45260	23349	30581	31887
Medium	29437	65390	44715	25543	38437	36856
High	40685	68161	23439	33189	38417	42344
Overall (Weighted)	32356	61713	38169	21997	27729	28258

Note: HH=household

**Figure 5.1: Variation in Prices by Alternative Sources in Noida (% Deviation from Survey Results)**



**Figure 5.2: Variation in Prices by Alternative Sources in Faridabad (% Deviation from Survey Results)**



## 5.2 COMMERCIAL PROPERTY PRICES

Table 5.2 presents the comparison of information from the three different sources for the price of commercial property. In this case although the direct establishment survey provides lower prices than either the property dealers or the secondary source in Faridabad, the pattern is not the same in Noida across price zones. Therefore, the pattern may vary from one city to another depending on the source of information. The patterns are also illustrated in Figures 5.3 and 5.4.

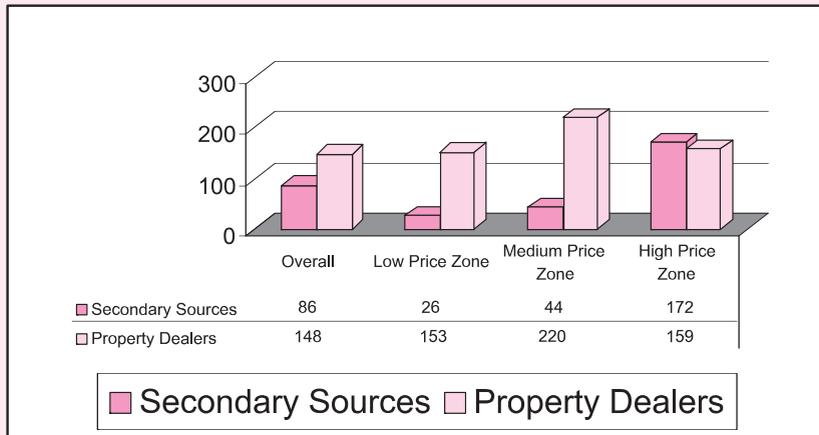
**Table 5.2: A Comparative Average Prices of Commercial Establishments from Different Sources (Rs/Sqm)**

Price Zone	Noida			Faridabad		
	Establishment Survey	Secondary Source	Property Dealers	Establishment Survey	Secondary Source	Property Dealers
Low	87372	114862	96374	52747	66438	133214
Medium	253382	319941	152381	63935	91833	204688
High	347024	297989	65772	65375	177652	169319
Total	139747	169294	88049	64009	119080	158933

**Figure 5.3: Variations in Prices by Alternative Sources in Noida (% Deviation From Establishment Survey Results)**

The comparison from alternative sources, including the comparison of the 'circle rates' with the survey results shows that the variation across properties is significant. The variation may not be so much due to the source of information but due to variation in attributes of properties themselves. Therefore, a well designed sample survey approach is likely to provide a more accurate estimate of the 'average price' than information from sources that may provide only partial information.

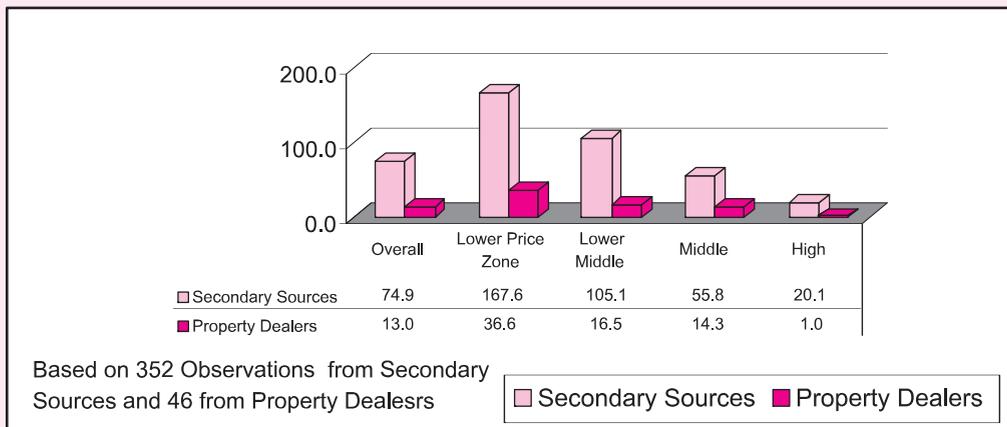
**Figure 5.4: Variations in Prices by Alternative Sources in Faridabad (% Deviation From Establishment Survey Results)**



### 5.3 RESIDENTIAL PROPERTY RENTS

We have also attempted to provide a comparison of the survey findings with other sources of information in the case of property rentals also. In Figure 5.5 and 5.6, we provide a comparison of rental values obtained from the sample survey of tenants with the data obtained from other sources.

**Figure 5.5: Variation in Average Rent Rate (Rs. Per Sqm) by Alternative Sources in Noida (% Deviation from Survey Results)**



**Figure 5.6: Variation in Average Rent Rate (Rs. Per Sqm) by Alternative Sources in Faridabad (% Deviation from Survey Results)**



The pattern shows that in Noida, the survey findings are close to the property dealers' data at the higher price zones. The variability is very large in the lower price zones in both the alternative data sources.

In Faridabad, we were able to get information only from property dealers for a comparison. The deviation of the sample survey findings is significantly large in relation to this data.

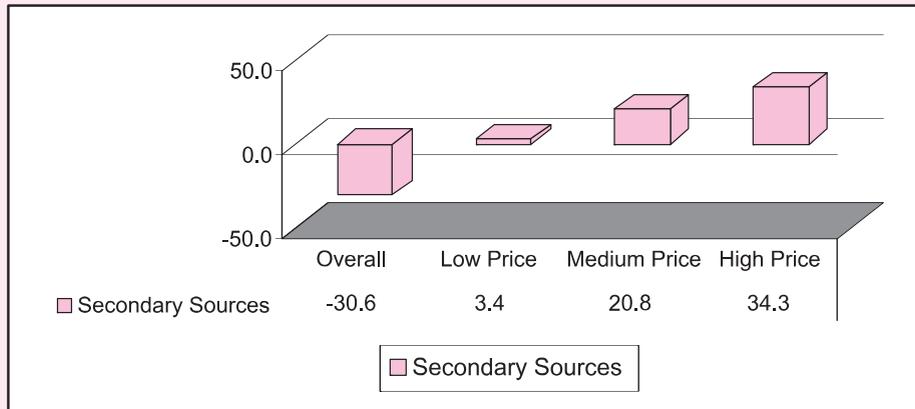
The sample survey approach has been more comprehensive than the information collected from the property dealers. However, the findings show that there is considerable heterogeneity in the rental values and the survey approach will have to ensure that large variation in the universe is captured.

## 5.4 THE COMMERCIAL PROPERTY RENTS

In the case of commercial property rents, the comparison of the survey findings with the alternative sources of data can be seen in Figures 5.7 and 5.8.

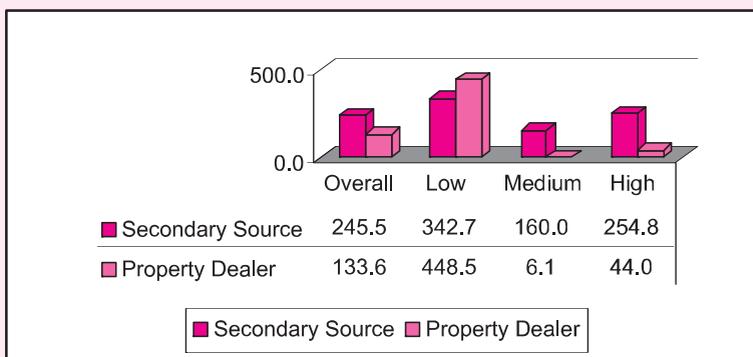
- The deviation of information from alternative data sources is significant. In Faridabad, the survey estimates are considerably lower than the alternative data. In Noida, where we have information only from secondary sources, the survey estimates are higher than the information from the secondary data.

**Figure 5.7: Variation in Average Rent Rate (Rs. Per Sqm) by Alternative Sources in Noida (% Deviation from Survey Results)**



As in the case of residential property rent, the comparison indicates the need for designing comprehensive surveys to obtain more accurate estimates of the commercial property rents.

**Figure 5.8: Variation in Average Rent Rate (Rs. Per Sqm) by Alternative Sources in Faridabad (% Deviation from Survey Results)**



# 6. SUMMARY AND RECOMMENDATIONS

## 6.1 SUMMARY

The present study has sought to develop a methodology for estimating average prices of housing properties in the urban areas. For this purpose a sample survey approach was applied in the two cities on a pilot basis. The cities of Noida in Uttar Pradesh and Faridabad in Haryana were selected for the study. The study covered residential as well as commercial properties. Besides collecting information on the prices of properties, information on rental values of the properties was also collected.

The variation in property prices is significant. It is expected that a host of factors influence the house price such as the quality of construction, location and just the neighbourhood. Therefore, estimation of an average price would have to take into account such variability. After assessing the suitability of alternative sources of information, the present study adopted a sample survey approach.

In the case of prices, the sampling approach captured the transactions that were registered during April 2007 to September 2007 in the database at the registrar of properties in the respective cities as the universe. The transactions were stratified into four 'price zones' based on the 'circle rates' that were in force in these cities. The 'circle rates' are a proxy for the average prices in the localities to which these rates are applicable. These rates form the minimum prices for the purpose of registration of transactions.

The pre-determined total sample size was allocated to different price zones based on the total number of transactions in each price zone. The sample was then selected from each stratum randomly with adequate provision for non-response.

Using the same approach, a sample of commercial properties was also drawn for the survey.

In all about 180 residential properties were canvassed in each sample city. The number of commercial properties canvassed in Noida was 161 and in Faridabad 190.

The survey of tenants was carried out in the same areas where the property prices survey was undertaken. The field staff canvassed 150 residential properties in each city for the rental values. The number of commercial properties canvassed for rental values was 53 in Noida and 31 in Faridabad. The sample included observations in all the price zones but not distributed uniformly.

In addition to the information collected from the survey of property buyers and tenants, the study obtained information on transactions from property dealers in the same areas where the sample survey was carried out. Further, we also obtained information from a website where properties were advertised for sale/rental in the two cities.

### 6.1.1 The Residential Property Prices

The heterogeneity in the various features of properties needs no elaboration. In keeping with this heterogeneity, the property prices are also expected to vary. The survey has shown considerable differences in property prices in the two cities. For example, in Noida, the average price of residential properties for transactions made during April-September 2007 is estimated to be Rs 32, 356 per sqm whereas in Faridabad it is Rs 21, 997 per sqm.

There is variation in prices across the price zones. Although the average prices do rise from the low price zone to higher price zone, in conformity with the logic of 'circle rates', there is significant variation in prices within a zone. In fact the average price within each zone is considerably higher than the circle rates.

The study has attempted to assess the relationship between various attributes of property and the price of the property. The bivariate relationships do not appear to be robust at disaggregate level of 'within a price zone' suggesting that many factors are at work in determining prices.

For example, the relationship between the size of the property, measured by built up area and the prices is not strictly linear, especially if one views the relationship within a price zone. The number of rooms and the prices also do not show uniform pattern within a price zone or across both the cities.

When we examined the factors considered by the 'buyers' of properties, the main factors appear to be supply of basic amenities such as electricity and water. This concern has been seen across all the price zones and price categories. The 'quality of construction' is seen to be a major consideration in Faridabad but not in Noida. Similarly 'good neighbourhood roads' was a key concern for property buyers in Faridabad but not so much in Noida. The city-specific concerns may, therefore, dominate property prices in different cities.

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Among the external amenities, access to 'roads' was a major concern in Faridabad. In Noida, proximity to schools, bus-stop, hospital and main road were found to carry equal significance in pricing decisions.

### 6.1.2 Impact of Housing Property Attributes on Property Prices

An analysis of the relationship between property price and housing property attributes has provided some important insights. First, there is considerable variation in the relationships across the two cities of Noida and Faridabad suggesting that the property prices are influenced by a combination of the property attributes as well as the overall development of the economy of the concerned urban area. Second, the broad price range of the properties is determined by such factors as income of the household. It is only when this broad range is determined that the buyers choose various attributes and may indeed be willing to pay higher price for properties with such attributes. Finally, the attributes that matter more to the buyers at the lower price segment of properties are basic internal services such as regular supply of water and electricity and basic external attributes such as proximity to main road and bus stop. At the higher price segment, the concerns are distinctly related to price. The 'independent' house buyers show greater concern for external amenities, quality of construction than say buyers of flats.

The findings suggest that the attributes that make a difference to the property prices vary with the broad ranges of price itself.

### 6.1.3 The Commercial Property Prices

The average price of commercial properties for transactions made in April-September 2007 in Noida is estimated at Rs 1.4 lakh per sqm. In Faridabad the price is Rs 0.64 lakh per sqm. As expected the prices of commercial properties are well above the residential property prices.

The prices do rise as we move from a 'low price zone' to a higher price zone, in line with the 'circle rates'.

When we examine the prices within a price zone, the differences are large. For example, in Noida, the average price of 'independent' or 'stand alone' properties in the 'low price zone' is Rs 12, 800 per sqm and in the 'commercial complex' the price is Rs 61, 200 per sqm. The difference is much less in Faridabad.

Although the nature of business for each commercial establishment would be quite different across regions within a city, the prices in 'business neighbourhoods' are higher than the prices in 'mixed neighbourhoods'.

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The commercial property prices are also influenced by both external and internal amenities of properties. The basic services are a key factor: regular supply of electricity is mentioned by a large majority of the sample in both the cities. Proximity to transportation services and transportation infrastructure are factors that influence the prices paid by the property buyers.

#### 6.1.4 Rental Values of Properties

The average rent of residential property is estimated as Rs 85 per sqm in Noida and Rs 54 per sqm in Faridabad.

There is a large variation within each price zone, but the variation is not as sharp as it is in the case of prices of properties.

The rental values per sqm drop as the property size increases. This trend is quite robust across price zones in both the cities.

There is a fairly wide-spread concern on the location-related features of properties when it comes to decision on rental values. 'Park facing' and 'front view' are commonly cited as concerns in Noida but in Faridabad it is the 'quality of construction' again as in the case of property prices.

Water and electricity supply are a consideration in rental price decisions. 'Good neighbourhood roads' and 'neighbourhood parks' are widely cited in Faridabad.

Access to public transportation or transportation infrastructure is a major concern in both the cities in the rental decisions.

The pattern of rental values for the commercial properties follows closely the pattern in the case of residential properties. The average rent in Noida for commercial properties is Rs 699 per sqm and it is Rs 165 per sqm in Faridabad.

The variability across price zones is less distinct and in fact does not follow the pattern of circle rates in Faridabad.

The factors influencing rental decisions are similar to those of the residential property tenants. The location attributes are felt more strongly in Noida as compared to Faridabad. The access to public trans-

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port and transportation infrastructure influence rental decisions more than the other property attributes.

### 6.1.5 Comparison with Other Data

Although information from other data sources does not necessarily validate or contradict the sample survey estimates, the other data help us understand the relevance of the survey estimates. The survey estimates of prices and rental values have been compared with information obtained from property dealers and also secondary sources (advertisement data).

As expected the survey estimates vary considerably from the ones based on the other two data sources. However, where disaggregation is possible, it has been noticed that the estimates follow similar patterns.

The survey estimates cover a larger spectrum of properties. They are also based on information provided by the 'buyers' or 'tenants'. These factors may bring in their own biases but the approach provides for wider coverage of the transactions.

## 6.2 RECOMMENDATIONS

The study has provided some insights both in terms of the actual patterns of prices and rental values of housing properties and also in terms of alternative approaches to obtaining data on these indicators.

The sample survey approach has been found to be feasible. However, the approach relies on cooperation by the offices of the registrar of properties. The data available there is in different formats and it is necessary to review the status of data before a larger study is launched. It also suggests the need to review and standardise the formats in which the transaction records are maintained in the registrar's office. We have developed model formats in which information may be collected in the registrar's office on the transaction. A uniform format across the country would be of significant value for monitoring the price of housing properties. The format is provided as Annexure 3.

The 'buyers' and 'tenants' do provide information on the value of transactions that is quite different from the 'circle rates'. We have not made any attempt to compare the values declared in the registrar's office and our own data. It is important to protect the identity of the sample respondents.

The approach has laid a foundation for monitoring the changes in prices over time. A similar repeat study would be necessary to assess the changes in property prices so that an 'Index of Property Price' can be

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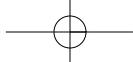
developed based on these surveys.

The alternative sources of information also need to be monitored. In the present study we have considered two sources. If the property dealers can be approached in a systematic fashion to provide data on recent transactions, the survey approach and the data from property dealers can be analyzed over time.

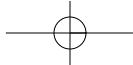
In order to create a better information system on the housing sector, we also recommend that the housing sector intermediaries such as property dealers may be required to maintain a data base on transactions that is available for periodic reviews of the sector. The National Housing Bank may begin a system of registration and accrediting of the property dealers and make certain practices mandatory including the information bank. We present in this study a model format for such purpose.

Periodic monitoring of the housing sector prices is also possible at an aggregate level - without detailed information on buyers and sellers - if such information is passed on to a price monitoring authority. The National Housing Bank may develop such a price monitoring system similar to other price indices in the country.

We recommend that information may be supplied by the office of the Registrar and registered property dealers (registered with NHB) on monthly basis. The formats for such information are presented in the study.



# ANNEXURES



## ANNEXURE 1: PRICES OF RESIDENTIAL HOUSING

**Table A1.1: Average Price (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall (Weighted)	34014	207	82
Low	-	-	0
Lower Middle	28990	183	40
Medium	29433	185	27
High	39372	232	15

Note: '-'= no data points in the survey.

**Table A1.2: Variations in Prices within Zone (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	-	-	-	-	0
Lower Middle	7975	21741	55082	28990	40
Medium	16025	25808	55165	29433	27
High	16029	31208	70881	39373	15
<b>Total</b>	<b>13343</b>	<b>26252</b>	<b>60376</b>	<b>32599</b>	<b>82</b>

Note: '-'= no data points in the survey.

**Table A1.3: Variations in Prices by Number of Rooms (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Up to Two Room Set				Three or More Room Set			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	-	-	-	-	-	-	-	-
Lower Middle	7405	22368	41322	17713	8926	21472	56332	33823
Medium	17824	27232	37181	24621	15350	25096	58163	31117
High	3125	-	-	3125	19255	31208	70881	41962
<b>Total</b>	<b>9451</b>	<b>24800</b>	<b>39252</b>	<b>15153</b>	<b>14510</b>	<b>25925</b>	<b>61792</b>	<b>35634</b>

Note: '-'= no data points in the survey.

**Table A1.4: Variations in Prices by Furnishing (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Furnished				Unfurnished			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	-	-	-	-	-	-	-	-
Lower Middle	7960	20939	49514	23087	8000	23611	57865	36976
Medium	15078	25808	56759	30150	18550	-	45603	25313
High	16029	31208	73668	37918	-	-	59737	59737
<b>Total</b>	<b>13022</b>	<b>25985</b>	<b>59980</b>	<b>30385</b>	<b>13275</b>	<b>23611</b>	<b>54402</b>	<b>40675</b>

Note: '-'= no data points in the survey.

**Table A1.5: Variation in Prices by Type of Builder (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall (Weighted)	57165	20518	32217	42019
Low	-	-	-	-
Lower Middle	80000	22250	21346	33158
Medium	22222	-	32294	22778
High	74137	19841	36406	59737

Note: '-'= no data points in the survey.

**Table A1.6: Variation in Prices by Built-up Area (Independent Property) : Noida (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall (Weighted)	65320	78080	35576	38660	19353
Low	-	-	-	-	-
Lower Middle	42750	36055	27612	20765	16997
Medium	-	100237	27619	39131	16007
High	74137	-	44584	45301	22752

Note: '-'= no data points in the survey.

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**Table A1.7: Average Price: Independent Property (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall (Weighted)	25100	181	123
Low	24596	163	34
Lower Middle	22595	223	24
Medium	24639	211	47
High	33188	230	18

**Table A1.8: Variations in Prices within Zone (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	6280	15232	37929	24596	34
Lower Middle	10478	25246	44176	22595	24
Medium	16844	24549	36460	24639	47
High	19689	34037	45840	33189	48
<b>Total</b>	<b>13323</b>	<b>24766</b>	<b>41101</b>	<b>26255</b>	<b>153</b>

**Table A1.9: Variations in Prices by Number of Rooms (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Up to Two Room Set				Three or More Room Set			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	6129	–	44252	25190	6506	15232	36470	24469
Lower Middle	12832	25118	45516	27822	10007	25310	43507	20852
Medium	14196	22093	46339	20870	17601	24703	35562	25191
High	10843	–	45587	34005	21458	34037	45967	33025
<b>Total</b>	<b>11000</b>	<b>23606</b>	<b>45424</b>	<b>26972</b>	<b>13893</b>	<b>24821</b>	<b>40377</b>	<b>25884</b>

Note: '–' = no data points in the survey.

**Table A1.10: Variations in Prices by Furnishing (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Furnished				Unfurnished			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	6280	15296	37929	24904	–	14458	–	14458
Lower Middle	10478	25246	44570	21742	–	–	42207	42207
Medium	16844	24549	36333	24352	–	–	37866	37866
High	19689	34037	45840	33189	–	–	–	–
<b>Total</b>	<b>13323</b>	<b>24782</b>	<b>41168</b>	<b>26047</b>	<b>–</b>	<b>14458</b>	<b>40037</b>	<b>31510</b>

Note: '-'= no data points in the survey.

**Table A1.11: Variation in Prices by Type of Builder (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall (Weighted)	17077	–	28381	16425
Low	9735	–	29386	13944
Lower Middle	22319	–	22367	28112
Medium	35810	–	24144	24096
High	46550	–	33750	10843

Note: '-'= no data points in the survey.

**Table A1.12: Variation in Prices by Built-up Area (Independent Property) : Faridabad (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall (Weighted)	24201	15872	25427	32533	20830
Low	21192	12048	23863	32320	20613
Lower Middle	31579	32467	26326	–	13564
Medium	32885	21977	26823	24772	22260
High	74137	–	44584	45301	22752

Note: '-'= no data points in the survey.

## Devising Appropriate Mechanism for Collecting/Monitoring Price Movement of Residential, Commercial Properties and their Rental Values

**Table A1.13: Average Price (Flats) : Noida (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall (Weighted)	32524	94	96
Low	22234	103	15
Lower Middle	23019	133	28
Medium	29440	77	42
High	42476	88	11

**Table A1.14: Variations in Prices within Zone (Flats) : Noida (Rs./Sqm)**

Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	19750	22483	25017	22234	15
Lower Middle	9006	25773	43212	23019	28
Medium	14756	25139	44216	29440	42
High	18853	29170	91716	42476	11
<b>Total</b>	<b>15591</b>	<b>25641</b>	<b>51040</b>	<b>29292</b>	<b>96</b>

**Table A1.15: Variations in Prices by Number of Rooms (Flats) : Noida (Rs./Sqm)**

Price Zone	Up to Two Room Set				Three or More Room Set			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	20833	22570	25000	22396	19208	22222	25021	22126
Lower Middle	8576	29630	49505	18867	9383	23845	41639	25326
Medium	14349	23087	46388	26971	14959	25481	43715	30113
High	21803	-	101673	41771	10000	29170	86737	42879
<b>Total</b>	<b>16390</b>	<b>25096</b>	<b>55642</b>	<b>27501</b>	<b>13388</b>	<b>25180</b>	<b>49278</b>	<b>30111</b>

Note: '-'= no data points in the survey.

**Table A1.16: Variations in Prices by Furnishing (Flats) : Noida (Rs./Sqm)**

Price Zone	Furnished				Unfurnished			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	19750	22483	25017	22234	-	-	-	-
Lower Middle	8585	23757	41727	21730	14903	29806	56577	33762
Medium	14756	25139	44216	29440	-	-	-	-
High	10000	29170	91716	50228	21803	-	-	21808
<b>Total</b>	<b>13273</b>	<b>25137</b>	<b>50669</b>	<b>30908</b>	<b>18353</b>	<b>29806</b>	<b>56577</b>	<b>27785</b>

Note: '-'= no data points in the survey.

**Table A1.17: Variation in Prices by Type of Builder (Flats) : Noida (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall (Weighted)	20238	27222	36951	17075
Low	-	22234	-	-
Lower Middle	13627	24664	11723	-
Medium	21612	31158	32334	17075
High	21803	-	50228	-

Note: '-'= no data points in the survey.

**Table A1.18: Variation in Prices by Built-up Area (Flats) : Noida (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall (Weighted)	65234	33382	23193	18436	8259
Low	-	23032	21037	-	-
Lower Middle	35832	32400	9259	-	6190
Medium	31559	31002	31657	18436	7000
High	101673	39507	-	-	10000

Note: '-'= no data points in the survey.

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**Table A1.19: Average Price (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall (Weighted)	17583	47	61
Low	14062	34	28
Lower Middle	23995	47	28
Medium	34037	133	5
High	-	-	0

Note: '-'= no data points in the survey.

**Table A1.20: Variations in Prices within Zone (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Price Range			Total	No. of Observations
	Lower 1/3	Middle 1/3	Higher 1/3		
Low	9812	13889	31409	14062	28
Lower Middle	7437	20882	36140	23995	28
Medium	-	-	34037	34037	5
High	-	-	-	-	0
<b>Total</b>	<b>8625</b>	<b>17386</b>	<b>33862</b>	<b>24031</b>	<b>61</b>

Note: '-'= no data points in the survey.

**Table A1.21: Variations in Prices by Number of Rooms (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Up to Two Room Set				Three or More Room Set			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	10105	14140	31409	14833	8538	12132	-	9437
Lower Middle	7771	20998	35978	24559	6769	19715	36871	21399
Medium	-	-	-	-	-	-	34037	34037
High	-	-	-	-	-	-	-	-
<b>Total</b>	<b>8938</b>	<b>17569</b>	<b>33694</b>	<b>19696</b>	<b>7654</b>	<b>15924</b>	<b>35454</b>	<b>21624</b>

Note: '-'= no data points in the survey.

**Table A1.22: Variations in Prices by Furnishing (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Furnished				Unfurnished			
	Lower 1/3	Middle 1/3	Higher 1/3	Total	Lower 1/3	Middle 1/3	Higher 1/3	Total
Low	9759	13889	31409	14190	10598	-	-	10598
Lower Middle	7437	20882	36140	23995	-	-	-	-
Medium	-	-	34037	34037	-	-	-	-
High	-	-	-	-	-	-	-	-
<b>Total</b>	<b>8598</b>	<b>17386</b>	<b>33862</b>	<b>24074</b>	<b>10598</b>	<b>-</b>	<b>-</b>	<b>10598</b>

Note: '-'= no data points in the survey.

**Table A1.23: Variation in Prices by Type of Builder (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall (Weighted)	17583	-	-	-
Low	14062	-	-	-
Lower Middle	23995	-	-	-
Medium	34037	-	-	-
High	-	-	-	-

Note: '-'= no data points in the survey.

**Table A1.24: Variation in Prices by Built-up Area (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall (Weighted)	16271	8242	35196	-	-
Low	14833	9437	-	-	-
Lower Middle	24393	1490	36145	-	-
Medium	-	-	34037	-	-
High	-	-	-	-	-

Note: '-'= no data points in the survey.

**ANNEXURE 2: RENTAL VALUES OF RESIDENTIAL PROPERTIES****Table A2.1: Average Rent (Independent Properties) : Noida (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall	70	94	52
Low	67	30	2
Lower Middle	65	82	31
Medium	75	122	17
High	97	110	2

**Table A2.2: Average Rent: (Independent Properties) : Faridabad (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall	42	201	56
Low	40	100	8
Lower Middle	54	80	3
Medium	46	210	29
High	33	256	16

**Table A2.3: Average Rent by Number of Rooms for Independent Properties (Rs./Sqm)**

Price Zone	Noida		Faridabad	
	Upto Two Room Set	Thre or More Room Set	Upto Two Room Set	Thre or More Room Set
Overall	68	73	55	41
Low	67	-	-	40
Lower Middle	63	77	-	54
Medium	87	71	80	44
High	100	94	29	34

Note: '-'= no data points in the survey.

**Table A2.4: Average Rent of Independent Properties by Furnishing (Rs./Sqm)**

Price Zone	Noida		Faridabad	
	Furnished	Unfurnished	Furnished	Unfurnished
Overall	69	81	41	53
Low	67	–	40	–
Lower Middle	65	67	54	–
Medium	73	95	45	53
High	97	94	33	–

Note: '–' = no data points in the survey.

**Table A2.5: Average Rent of Independent Properties by Type of Builder: Noida (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall	71	93	67	61
Low	86	–	–	48
Lower Middle	42	93	71	53
Medium	85	–	65	81
High	–	94	–	100

Note: '–' = no data points in the survey.

**Table A2.6: Average Rent of Independent Properties by Type of Builder: Faridabad (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall	–	100	38	44
Low	–	–	30	46
Lower Middle	–	–	–	54
Medium	–	100	42	47
High	–	–	33	34

Note: '–' = no data points in the survey.

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**Table A2.7: Average Rent of Independent Properties by Built-up Area: Noida (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall	83	77	46	62	43
Low	67	–	–	–	–
Lower Middle	82	67	42	18	22
Medium	97	82	59	69	54
High	–	100	–	94	–

Note: '-'= no data points in the survey.

**Table A2.8: Average Rent of Independent Properties by Built-up Area: Faridabad (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall	100	58	42	45	28
Low	–	54	27	–	–
Lower Middle	–	54	–	–	–
Medium	100	63	45	45	30
High	–	48	54	–	27

Note: '-'= no data points in the survey.

**Table A2.9: Average Rent (Flats) : Noida (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall	88	70	102
Low	62	62	8
Lower Middle	84	60	51
Medium	85	80	30
High	124	91	13

**Table A2.10: Average Rent (Flats) : Faridabad (Rs./Sqm)**

Price Zone	Average Price (Rs. Per Sqm)	Average Built-up Area (Sqm)	No. of Observations
Overall	65	102	94
Low	58	76	8
Lower Middle	65	65	8
Medium	70	99	57
High	53	134	21

**Table A2.11: Average Rent of Flats by Number of Rooms (Rs./Sqm)**

Price Zone	Noida		Faridabad	
	Upto Two Room Set	Thre or More Room Set	Upto Two Room Set	Thre or More Room Set
Overall	68	73	55	41
Low	67	-	-	40
Lower Middle	63	77	-	54
Medium	87	71	80	44
High	100	94	29	34

Note: '-'= no data points in the survey.

**Table A2.12: Average Rent of Flats by Furnishing (Rs./Sqm)**

Price Zone	Noida		Faridabad	
	Furnished	Unfurnished	Furnished	Unfurnished
Overall	82	110	66	57
Low	62	-	37	80
Lower Middle	85	77	62	84
Medium	66	125	73	44
High	117	147	54	30

Note: '-'= no data points in the survey.

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**Table A2.13: Average Rent of Flats by Type of Builder: Noida (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall	97	89	63	97
Low	68	45	–	–
Lower Middle	78	82	73	99
Medium	–	100	61	90
High	120	132	–	–

Note: '-'= no data points in the survey.

**Table A2.14: Average Rent of Flats by Type of Builder: Faridabad (Rs./Sqm)**

Price Zone	Group Housing Society	Government	Private Builder	Own Construction
Overall	76	47	57	62
Low	75	–	48	–
Lower Middle	84	–	66	40
Medium	78	47	61	66
High	62	–	50	–

Note: '-'= no data points in the survey.

**Table A2.15: Average Rent of Flats by Built-up Area: Noida (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall	103	83	69	37	–
Low	87	59	–	–	–
Lower Middle	95	75	54	33	–
Medium	150	74	54	44	–
High	–	132	107	–	–

Note: '-'= no data points in the survey.

**Table A2.16: Average Rent of Flats by Built-up Area: Faridabad (Rs./Sqm)**

Price Zone	Built-up Area Upto 50 Sqm	Built-up Area 51-100 Sqm	Built-up Area 101-150 Sqm	Built-up Area 151-200 Sqm	Built-up Area More than 200 Sqm
Overall	101	68	48	42	12
Low	90	43	24	–	–
Lower Middle	76	65	20	–	–
Medium	112	71	50	48	12
High	–	75	49	38	–

Note: '-'= no data points in the survey.

### ANNEXURE 3. MODEL FORMAT FOR MINIMUM INFORMATION ON PROPERTY TRANSACTIONS TO BE MAINTAINED AT THE REGISTRAR'S OFFICE FOR RESIDEX

S. No.	Detail	Information
1	Date of Registration	
2	Registration Number	
3	Buyer's details (in the case of individual)	
3a	Name	
3b	Sex	
3c	Age	
4	Buyer's details (in the case of Company/institution)	
4a	Name of entity	
4b	Type (Company/ Government/ Other institution)	
5	Address of the buyer House number: Street: Locality: City/ Village: District: State: Pin Code:	
6	Seller's details (in the case of individual)	
6a	Name	
6b	Sex	
6c	Age	
7	Seller's details (in the case of Company/institution)	
7a	Name of entity	
7b	Type (Company/ Government/ Other institution)	
8	Address of the Seller (As in item 5 above)	
9	Complete address of the property House number/ Street/ Ward number (As in item 5 above)	
10	When did the seller acquire this house site? (Month and Year)	
11	Method of acquisition of house site by the seller (inherited/ gift/ purchased/other)	
13	When did the seller acquire this housing property? (Month and Year)	
14	Method of acquisition of house property by the seller (inherited/ gift/ purchased/own construction/other)	
15	Total Plot area (Sqm)	
16	Built -up area of the property (Sqm)	
17	Type of the property- Residential, Commercial or Institutional	
18	Type of the property- Site/ Independent/Flat	
19	Age of property in case of housing	
20	Circle rate of the area (Rs. per Sqm)	
21	Type of deed	
22	Registration fee (Rs.)	
23	Stamp duty (Rs.)	
24	Mutation(in the name of new property owner)	

#### **ANNEXURE 4. MODEL FORMAT FOR INFORMATION ON PROPERTY TRANSACTIONS TO BE MAINTAINED BY PROPERTY DEALERS**

<b>S. No.</b>	<b>Detail</b>	<b>Information</b>
1	Complete address of the property transacted (House number/ Street/ Ward Number/ Area)	
2	Type of Buyer (Individual/ Govt institution/ Company/ Private institution/ Other)	
3	Type of Seller (Individual/ Govt institution/ Company/ Private institution/ Other)	
4	Date of Transaction (execution of sale deed)	
5	Price of the property paid by the buyer to seller (Rs.)	
6	Type 1 of property - residential/ commercial/ institutional	
7	Type 2 of the property- Site/ Independent house/Flat	
8	In case of housing structure: Status of construction (fully constructed with electricity and water supply/ complete construction without water and electricity connection/ partially constructed)	
9	In the case of residential construction:	
9a	No. of rooms	
9b	No. of bathrooms	
10	In case of commercial Properties- likely use of property: business establishment.(industry/ office/ shop/ other)	
11	Total Plot area (Sqm)	
12	Built -up area of the property (Sqm)	
13	Circle rate of the area (Rs.)	
14	Whether property is freehold/ leasehold	
15	Property constructed by: Group Housing Co-operative Society, Govt. Built, Built by Builder/Contractor/ Developers, Own Construction	
16	Furnishing of the Property: Fully furnished, Semi-furnished, Un-furnished	
17	Age of the property (since construction)	

### ANNEXURE 5. MODEL FORMAT FOR INFORMATION ON PROPERTY PRICES FOR CONSTRUCTION OF RESIDEX: INFORMATION REQUIRED FROM REGISTRAR'S OFFICE

Month: \_\_\_\_\_ Year: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_

Detail	Circle 1	Circle 2	Circle 3	Circle 4	Circle 5	Total
Circle rate (Rs/ sqm)						NA
Total number of registrations of housing property sales: Residential						
Total number of registrations of housing property sales: Commercial						
Total number of housing sites/ land for housing registered: residential						
Total number of housing sites/ land for housing registered: commercial						
Total Value of housing properties registered: residential						
Total stamp duty from housing properties: residential						
Total registration fee from housing properties: residential						
Total Value of housing properties registered: commercial						
Total stamp duty from housing properties: commercial						
Total registration fee from housing properties: commercial						

**ANNEXURE 6. MODEL FORMAT FOR INFORMATION ON PROPERTY PRICES FOR CONSTRUCTION OF RESIDEX: INFORMATION REQUIRED FROM PROPERTY DEALERS ON MONTHLY BASIS (INFORMATION ON 10% OF THE INDIVIDUAL TRANSACTIONS)**

S. No.	Detail	Information
1	Date of Transaction	
2	Circle rate of the area in which property is transacted (Rs per sqm)	
3	Type of buyer (Individual/ Government organisation/ Other)	
4	Type of seller (Individual/ Government organization/ Other)	
5	Price of the property paid by the buyer to seller (Rs.)	
6	Type 1 of property- residential/ commercial/ institutional	
7	Type 2 of the property- Site/ Independent house/Flat	
8	Total Plot area (Sqm)	
9	Built -up area of the property (Sqm)	
10	In case of housing structure: Status of construction (fully constructed with water and electricity connection/ nearly complete construction/ partially constructed)	
11	In case of commercial Properties- likely use of property (industry/ office/ shop/ other)	
12	Property constructed by: Group Housing Co-operative Society, Govt. Built, Built by Builder/Contractor/ Developers, Own Construction	