Chapter 7
Demand for Housing and Commercial Real Estate
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7.1 Housing Demand Function

Microeconomic theory is dedicated to understanding the functioning of individual markets. “A market is an institutional arrangement under which buyers and sellers can exchange some quantity of a good or service at a mutually agreed price” (Dominic Salvatore, 2003). The study of markets provides a framework for the analysis of demand and supply forces that help us to determine commodity and resource prices. Thus prices play a central role in microeconomic theory.

Over the last decades the housing market has been studied closely and most researches prove that housing markets are not as price sensitive as other commodity markets. A lot of other factors govern the demand and supply of housing in the market. Economists, financial experts, sociologists and demographers have studied how housing markets work and have proposed various reasons for the distinctive functioning of this market.

Most of the premises of urban planning are based on normative factors like number of people who require housing and the commensurate number of housing units to be built. It also tries to arrive at the quantum of infrastructure that would be required to enhance the quality of life of property owners. This approach may not fully capture precise interplay of the demand and supply phenomenon in real estate.

In contrast, the economic approach is positive and studies real life phenomena. It is successful in isolating the different factors that affect house and real property purchase and sale.

Understanding the application of the economic approach to the nature of housing demand is dealt with in the next subsection.

Like other economic goods housing too is traded in the market. Housing is today well recognised as a heterogeneous commodity which yields different services to different groups of people. It is, in fact, a bundle of diverse attributes and services, namely, space, physical quality, amenities, infrastructure, neighbourhood quality and location.
The demand for housing thus is a function of the following

\[ D_h = (P_h, \text{Income}, \text{Age}, \text{location}, \text{tenure security}, \text{status}, \text{occupation}, \text{education}, \text{background}, \text{size of family}, \text{emotion}, \text{price of rental substitutes}, \text{migration}, \text{religion}, \text{neighbourhood}, \ldots n) \]

Where \( D_h \) - Demand for Housing

\( P_h \) - price of housing

Background - background of the individual

7.1.1 Nature of housing demand

Most of the earlier research in this field focussed on applying the housing consumption theory to housing demand. However it was found that isolating the only consumption variable was not enough and therefore further research was done to include demographic and sociological constructs that captured the attitudes, preferences, and perceptions of the consumer into the classical economic model of housing demand (Isaac, Megbalougbe et al). Researchers have also attempted to isolate the influence on buying houses of mortgage interest rate fluctuation. Pami Dua et al (2004) have proved that interest rates - both current and future - have the maximum impact on decisions to purchase houses followed by expectations of real disposable income.

Muelbauer and Murphy (1997) have used econometric modelling to prove the reasons for the volatile behaviour of UK house prices between 1957-1994 and concluded that housing demand is inversely proportional to real house prices. It examined the context of accounting for other variables such as expectations of house price increase, credit constraints, transaction costs and uncertainty on house buying. The paper also ascribed the reason for market "booming" conditions that occur due to higher demand leading to even greater rise in prices. Finally the researchers were able to isolate the relation

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between house prices and the relative rates of return. They concluded that housing markets are not efficient and are subject to high extrapolative elements (returns on investment) but tempered by rational elements (rate of return). Muelbauer and Murphy (1997) also found that consumers have forward looking expectations regarding house purchase but feel constrained to invest due to their current income. Another variable that plays an important role in determining housing demand is the demographic factor. Wherein there are distinct house buying age groups.

Ioannides and Zabel (2002), in a series of analysis identify and measure the impact of the social context on individual economic behaviour. They conclude that neighbourhood choice made by individuals is to buy property close to people like themselves. They stated that neighbourhoods had a lot to do with the ability of people to earn more income security and peace because they benefit from a better social environment than do poorer individuals. The paper goes on to prove the interlinkages between the perception of the behaviour and characteristics of current and potential neighbours, the level of economic well being, and the effect of education on home purchase decisions. Thus they are able to conclude that choice of neighbourhood and housing are joint decisions.

Location or access to workplace has been a distinctive feature of housing demand studies. An earlier recognition of this aspect lay in the observation that housing and employment accessibility are jointly, purchased. In a study of bid rent curves, it was discovered that there existed trade-offs between housing consumption and cost of transportation to work. The equilibrium condition in this framework was such that the marginal utilities derived by consuming an additional amount of housing was equal to the disutility of transportation cost. The trade-offs made by households between location and transportation (and other attributes of housing) are particularly relevant for the design of housing projects. (This applies acutely to economically disadvantaged segments in Mumbai. Efforts to relocate and rehabilitate slum dwellers have met with limited response as a result of this inelasticity).

The durability aspect relates to housing as both a consumption good and as an investment good. While housing decisions of tenants can be modelled as consumptive decisions, the owner-occupied housing represents an investment, as well as, the current consumption and, therefore; depends not only on contemporaneous variables but also on future...
expectations of capital gains. Establishing a link between ‘permanent incomes’ and housing outcomes, then, could model the housing investment.

A local housing market operates within a set of regulations and controls established by the local and central authorities. This has resulted in a variety of property rights and tenure relationships for housing. The prevalence of Rent Control Legislation has often led to ‘pagdi’ or unaccounted money payments for transfer of tenancy. The security of tenure attached to renting, squatting or owning a house is also an important determinant of a household’s willingness to pay for housing.

Another aspect of housing which demands analysis is the difficulty of a majority of households to adjust their housing consumption with reference to other options. Many households may prefer to remain in sub-optimal living arrangements rather than incur the costs of moving or modifying their existing structures.

The British Columbia State Department for Statistics, Finance and Corporate Relations (insert reference) conducted a study on the influence of migration on housing demand. They found that there was a fairly strong relationship between net migration and changes in housing that led to the formation of new households in a province. Given below is a graph showing this phenomenon in the British Columbia province.

**Figure 7.1: Household formation reflects changes in net migration**

Household formation reflects changes in net migration

![Graph showing household formation and net migration](image)

*Source: Population Section, BC Stats, Jun 1996*

In the figure 6.1 above it is seen clearly that wherein in the period 1981-1987, net migration statistics was very low and the housing starts too dipped in the same period.
The study also found that other factors which influence housing demand include the age structure of the population and the make-up of households and families. In the same study the economic factors, which affect housing were found to be that of supply not keeping pace with the demand, which led to increase in house prices. As seen in the graph below the average housing prices rose steadily, apart from a levelling off in 1990 and 1991. In 1995 there was a drop of 5.5% in housing prices as the demand from housing eased and vacant housing stock grew by 15%. Thus it can be concluded that Housing Price = f(demand for housing)

Figure 7.2 : Effect of migration on housing

Housing prices are influenced by migration

Source: Population Section, BC Stats, Jun 1996

7.2 Major factors Affecting Demand

As is known in a demand and supply graph which is fixed, it is easy to predict housing prices or rental inflation because market conditions are stable and certain. However, in real life, dynamic conditions prevail and must be factored in while making real estate related decisions. The factors that affect demand can be described as a function of variables such as (1) population growth (2) salary increase expectations (3) buyer confidence (4) the real estate market conditions (5) consumer confidence (6) cost of alternatives (owned versus rented) 7) liberal loan facilities on easy terms 8) simple and convenient legal transactions etc.

Due to these variables, accurate forecasting of demand is difficult. Reviewing factors such as rate of population growth, average rate of salary increase, and cost of alternatives,
one finds that these have a greater bearing on variables like consumer confidence that in turn, affect real estate market conditions.

Demand and supply gaps occur when supply is unable to keep up with the demand. Project delays, further lower the supply curve leading to steeper demand as it postpones new stock from arriving in the market. This condition has an effect on real estate prices, because if demand continues to grow without supply catching up proportionately, prices rise disproportionately (creating ‘boom’ conditions).

In real estate markets normally the supply conditions are almost always severely constrained as supply (also seen in previous chapter 4) does not catch up with the demand in the short run. The corresponding phenomenon yields a more than proportionate pressure on rental rates leading to more investments in housing (for landlords). Meanwhile, the economies of renting versus buying (owning) one’s property diminishes thus triggering more demand for property. If the upward rise in prices continues it leads to overheating of the market, followed by a ‘crash’ in prices. This is explained by the characteristics of real estate products. These are high value, capital intensive, driven by finance availability and stable macro economic conditions of employment and investment. Demand Forecasting therefore is based on current data. It assesses current market conditions in the areas discussed below.

Economists generally predict strong ‘boom’ conditions prevail when most or all of the following factors prevail in the market.

1. Rents are very high – When housing prices remain fairly stable, rental yields demonstrate a sharp upward movement. Therefore investors are attracted into buying property, at the same time pushing those renting houses into buying.

2. Prices are low – with increased globalisation and financial liquidity prevalent in real estate markets creates market opportunities in specific markets for foreign investments to flow in.

3. Mortgage costs are falling – Local and international banks and financial institutions introduce new mortgage products, producing an effect of lowering the borrowing costs. This results in higher demand in such markets.
4. Legal Environment – When restrictive and over regulated market conditions prevail, more uncertainty is created for investors. On the contrary lowering of impeding regulations implies attraction of global capital in conducive markets, thus pushing property prices upward.

5. Supply shortage in key areas – When demand and supply gaps exists, property prices increase.

6. Demand high for key areas – Some areas due to quality and ‘location fetish’ continue to be pressurised by increased demand.

7. Supply gap in short run – Project time overruns compounds the problem of short supply. Added to this the ‘type’ of supply being produced may not be reflective of current market preferences.

8. State of economy – When Gross Domestic Product (GDP) is growing and conducive market conditions prevail, boom may occur.

9. Special Marketing effort – Globally, cities showcase their opportunities to attract investment. A major part of this investment lies in the industrial and service sectors. As a result of increased investment, employment increases in turn requiring larger quantities of built infrastructure.

10. Market confidence – The cyclical phenomenon of boom followed by bust are the result of market sentiments that drive demand. When market expectations are high, capital flows into creating more supply (investment), when confidence of expected returns fall, sudden capital flight occurs leading to ‘crashing’ or bust conditions. (Singapore Real Estate prices during S.E. Asian economic crisis of 1996-97.)

11. Building materials - when costs of inputs fall, due to the rise in supplies of the same

12. State-of art technology - use of, mechanised equipment that save construction time, labour, energy etc. and bring down the operating cost and cost of capital

13. Effective demand- when appropriate housing, finance and taxation policies boost housing demand
14. When the country's macroeconomic progress in raising income, employment and output, creates a suitable environment for investment – i.e. investor confidence

7.3 Estimation of Demand for Housing Characteristics

Households with similar incomes spend differing amounts on housing. The numerous factors that determine households' demand for housing relate to their preferences for physical and locational characteristics of housing services. Housing demand is also a function of factors other than price. This estimation can lead to a significant understanding of the dynamics in the housing market. From illegal squatting, low cost tenements, reasonably priced housing to hedonic housing consumption, all options prevail in the markets.

7.3.1 Variables of Hedonic Function

The basic premise of the hedonic analysis is that the price of a dwelling unit is a function of various housing characteristics such as location, accessibility, size and dwelling characteristics, shelter quality, neighbourhood quality and the like. The impact of the following variables are as follows:

7.3.2 House Prices

The dependent variable of house prices may be described as either a flow variable (market rental values) or stock variable (prevalent market prices). In the stock concept, the market price of dwelling units is considered.

7.3.3 Location Variable

Variation in house prices with reference to space is observed in all cities. In the traditional analysis related to land and housing, the distance from the central business district is considered adequate to capture the variation over space. Cities have a poly-nucleated structure and the employment centres are often dispersed over the entire city space. For e.g. in Ahmedabad, the city's industrial employment is concentrated in the east, the trade and commerce within the Fort walls and the service employment in west Ahmedabad. Naturally housing develops as per the locational needs in all the dispersed locales.

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7.3.4 Structure of Shelter Related Variables

The size of the dwelling unit, number of rooms and age of structure are in general the variables that determine the house price. Structural quality and surface quality, are based, to a large extent, on the durability of the building materials used.

7.3.5 Neighbourhood Characteristics Variables

In this group of variables, social composition is defined as the proportion of scheduled caste/scheduled tribe population in the Census Enumeration Block as a proxy for the social mix of the neighbourhood. The physical characteristics of the neighbourhood can be derived using two variables, site quality variable, which qualitatively measures the topography, density, organisation of buildings and spaces and an access quality variable related to the availability and maintenance of internal streets within the Census Block.

7.3.6 Tenure Security

The security of tenure essentially refers to the extent of threat of eviction or demolition of unauthorised construction. On the basis of the earlier discussion related to housing supply processes, the dwelling units can be categorised as a) squatters, b) quasi-Legal and c) formal. Availability of risk-free property titles *- A clear title abstract is defined as a “summary of the public records relating to the title to a particular piece of land”. An attorney or title insurance company reviews and abstract of title to determine whether there are any title defects which must be cleared before a buyer can purchase clear, marketable and insurable title.

Listed in the earlier part of the chapter were the broad factors that affect demand for housing and real estate. Many other market related factors too affect these variables viz.

7.3.7 Housing Expenditure-Income Ratio

The rent-income ratios for the renters and the housing expenditure-income ratios for the owners are correlated. With a heterogeneous housing market beset with rent control legislations, it is apparent that within each income class, we would find a substantial

* http://www.south-country.org/REGuides/RealEstateTerms.html
variation in the rent to income ratios. In order to present a more meaningful and
discernible picture of housing expenditure, the median rent-income ratios for each income
class is shown in Table 7.1.

**Table 7.1 : Median Housing Expenditure Household Income Ratio by Income Groups**

<table>
<thead>
<tr>
<th>Income Groups</th>
<th>Total Sample</th>
<th>Owners</th>
<th>Renters</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rupees per month)</td>
<td>Owner</td>
<td>Renter</td>
<td>Median for</td>
</tr>
<tr>
<td>Less than 750</td>
<td>138</td>
<td>131</td>
<td>0.050</td>
</tr>
<tr>
<td>750 to 1000</td>
<td>71</td>
<td>85</td>
<td>0.026</td>
</tr>
<tr>
<td>1000 to 1500</td>
<td>92</td>
<td>70</td>
<td>0.065</td>
</tr>
<tr>
<td>1500 to 2000</td>
<td>71</td>
<td>35</td>
<td>0.036</td>
</tr>
<tr>
<td>2000 to 2500</td>
<td>40</td>
<td>22</td>
<td>0.043</td>
</tr>
<tr>
<td>2500 to 3000</td>
<td>30</td>
<td>6</td>
<td>0.053</td>
</tr>
<tr>
<td>3000 to 3500</td>
<td>23</td>
<td>3</td>
<td>0.027</td>
</tr>
<tr>
<td>3500 to 4000</td>
<td>14</td>
<td>8</td>
<td>0.027</td>
</tr>
<tr>
<td>4000 or more</td>
<td>52</td>
<td>2</td>
<td>0.023</td>
</tr>
<tr>
<td>Total</td>
<td>531</td>
<td>362</td>
<td>0.040</td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td></td>
<td>0.083</td>
</tr>
</tbody>
</table>

**Note:** Housing Expenditure 1 (Renters) = Rent + taxes + maintenance. Housing Expenditure 1 (Owners) = Monthly instalments + taxes + maintenance.

As seen in the figure above we find that the owners’ median expenses (0.040) are lower than the renters median expenses (0.075) even after payment of instalments, taxes and maintenance of the property. This proves that home ownership is more profitable to the individual than renting across all income groups.

**7.3.8 Effect of Other Variables on the Housing Market**

Household size, urban plan allocations and type of home consumption (temporary, rental or ownership) are the other significant variables for tenant households in addition to the
income and price variables discussed above. The negative sign for household sizes is contrary to the hypothesised positive effect on housing consumption of those variables.

The 'household size' variable reflects constraints faced by the households in the housing market such as even though the size of the household is large, they may be constrained to decrease their housing consumption, often by changing the family consumption basket or controlling expenses rather than moving into a bigger house.

7.3.9 Premium on Ownership

The premium paid for ownership can be examined through the ratio of the opportunity cost of owning present housing and the gross imputed housing expenditure. The opportunity cost of housing is, derived as 1 percent of the estimated capital gains on the potential sale of house.

It is seen that the above phenomenon prevails among lower and middle-income groups. This could be attributed to the nature of housing supply processes and the nature of asset demand of housing. It is likely that many households find it difficult and expensive to buy new housing. At the same time, the factor of emotional attachment to a particular home; acts as a powerful deterrent to shift to a new house.

7.3.10 Housing Demand Analysis

Conventional demand analysis postulates a relationship between the quantities of a good demanded, its relative price, the income of the household and other demographic characteristics affecting demand. In this perspective, one can identify,

$$Q_h = f (P_h, Y, Z_1, Z_2, Z_3)$$

Where $Q_h$ is the quantity of housing services demanded, $P_h$ is the relative price of housing and $Z_i$ ($i = 1,...,n$) are the household characteristics. With regard to housing demand analysis, there are crucial issues of measurement of the variables, particularly $Q_h$, $P_h$ and $Y$ as well as functional form of the equation.

7.4 Housing Policy and Demand Fulfilment

Official housing policy will not always include demand for all types of housing projects. Conceptual, cognitive, and political matters too influence what is understood as the scope
and content of housing policy. To one who proclaims intentions of studying Indian housing policy, intelligent people respond – ‘India does not have a housing policy’. Housing is primarily a responsibility of state governments, not of the federal government. Although the federal government had some financial involvements in social housing, it had not really given extensive and significant attention to promulgating and implementing a comprehensive national housing policy until the late 1980s. Housing may-attract colourful political statements of intention; but not much in the way of substance in a practical way. In the national economic planning framework, the successive five-year plan allocations have not put any priority on housing. It has the rhetoric intent to start a debate in a country where discussion of public affairs is pursued enthusiastically.

It is not only India, which lacks comprehensive and effective policy-making in housing. Few countries in either the developed or the developing world, either of socialist or capitalist systems, have systematic, efficient and effective housing policies. In all countries there are some gaps between principles and policy and between policy intention and practice.

But, the context for the developing countries was vastly different. Masses of landless poor were migrating from the countryside to semi-urban and metro cities for survival itself. This added to high rates of population growth in the cities. Meanwhile, urban economies were not expanding jobs in modern factories and offices, at a sufficient rate to absorb the under-employed migrants and the city poor. For many of the poor, economic survival meant absorption within urban informal economy.

Housing alternatives for the poor included living on the pavements, crowding into deteriorating tenements, finding inner and mid-urban wastelands to build a cheap hut or dwelling structure or living in a squatter settlement on more peripheral land. All alternatives were cheap. Formal public housing provisions were feasible for a small minority of those in need of housing. When such housing was allocated to the low income families, these families could profit by selling the rights of occupancy to moderate-income families who were also sometimes desperately in search of a place to live as housing supplies fell, well short of demand or need.
By the end of the 1960's a new wave of housing theory was being promulgated. It rested upon the realities of large population, growth, rapid urbanisation, mass poverty, and hopelessly insufficient provisions of public housing or of formerly built private housing.

Economic resources, organisational directions, and policy frameworks could be switched from constructing limited amounts of apartment dwellings, to improving the slums in settled areas, and providing serviced plots in the new land development. The built structures could be left partly or wholly in the hands of the residents to make their own arrangements. Eventually, governments would also face the pragmatic reality that the new approach held out the prospect of providing housing for more people and that their own budgets would be less pressed.

Above all else, the new theory did imply sophisticated management, careful formulation of policies, complexities of implementation and the possibility of slipping up between intention and achievement.

Some of its advocates did not perceive that housing had to be closely related to the production, consumption and saving processes in the wider economy. Housing stood in virtuous independence of anything, which could be thought of as an economic dimension. However, the truth is that effective housing policies must be related to wider saving and investment processes, even when actual housing has the appearance of being an independent self-help expression. In fact, the World Bank’s approach with its emphasis upon “affordability-cost-recovery-replicability”, added some economic factors to the new theory of housing.

World Bank theory lies within orthodox neo-classical economics, more centred on individualism than upon the potential for developmental roles by the state, in housing and in other things.

Among the options, we shall find some early authors in housing theory, who writing from the mid-1960s, have elaborated a less conventional view of housing economics. They emphasised that housing could be pursued in a way which positively added to national income to employment and to the complex process of economic and political development.
7.4.1 The Present Indian Housing Scenario

The population of India has crossed 1000 million mark in the year 2001, reaching nearly 1027 million. This comprises 285 million of urban population, which makes 27.78 per cent of the total population. The corresponding urban populations in the 1981 and 1991 censuses were 23.34 and 25.71 percent respectively, implying thereby that the urbanization has been on the increase during the past decades.

Out of the total population of India, the population Below Poverty Line is 35.97 per cent overall (Rural 37.27, urban 32.36 per cent). The population living in slums is 21.2 per cent of the total urban population. In metropolitan towns this percentage is higher. A major part of the housing shortage would lie in these and other economically weaker segments of the population.

Some major factors that determine the choice of options are:

- A large segment of population (which includes the 36 per cent of the total population of India, below poverty line, the 21 percent of the urban population living in the slums, the economically weaker section, the low income group and a part of the middle income group) cannot afford to own a house. To all such people ownership of a house is a distant dream.

- A large section of population is mobile or migratory for one reason or another. For this section, rental housing is almost the only choice.

- Because of non-availability of long-term housing finance, the available credit facilities can only be availed by the higher and regular income-segment. For the lower and irregular income-segment these facilities are not affordable.

- The transfer of property is very expensive because of prevailing laws like "Stamp Duty Acts", "Registration Act", and "Transfer of Property Act" etc. It is very tedious and time-consuming.

- Most real estate transactions like sale, resale, purchase, etc attract capital gain, which is taxable in the same way as income.

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3 "Investment in Housing for Accelerating Economic Growth" by Dr. P.S. Rana, CMD, HUDCO, Construction Journal of India, February 2004.
• If the value of the property is beyond a certain amount, it is subject to assessment under Wealth Tax.

• The ownership houses are subject to House Tax, which, in most towns, is based on an assessment of rental value, which is largely exorbitant.

• The assessment of House Tax is made in the same manner for large and small units. There is no differential treatment on the basis of the size of the unit, which indirectly represents the income groups.

• The assessment of house tax is different for both the owner-occupied and the tenant-occupied houses.

• The fiscal incentives announced by the government for investments in housing are available only to the organised sector and not to the unorganized sector, which does not have access to credit from banks, or to organised housing activity.

The fiscal incentives are only available to those who take credit from banks, not to choose who invest their own savings directly.

7.4.2 Housing demand in seventies:

As per the study conducted, the housing demand between 1971 to 1981 was of the order of 7,57,000 tenements, with following break-up:

Table 7.2 : Housing demand in seventies decade

<table>
<thead>
<tr>
<th>Category</th>
<th>Demand</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Income Group</td>
<td>90,850</td>
<td>12%</td>
</tr>
<tr>
<td>Mid - Income Group+ Low I.G</td>
<td>98,400</td>
<td>13%</td>
</tr>
<tr>
<td>Economically Weaker Sections</td>
<td>5,67,750</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: Compiled from Planning Commission Data

Eleven measures adopted to solve housing problems in 1970s are as follows: ~

a. Availability of housing and within reasonable price.

b. Protection of land from encroachers.

c. Proper comprehensive and integrated planning, development and construction of urban spaces.
d. Self-help housing.
e. Exemption from Rent Control Act
f. Use of unaccounted money.
g. Public finances only for EWS housing.
h. Creation of revolving fund for EWS & LIG housing.
i. Planning as per individual requirements, development and redevelopment of urban spaces with the help of NGOs and Co-operative Societies with proper legal backing.
j. Part of the funds from beneficiaries.
k. Night shelters.

**Table No. 7.3 : Demand & supply or housing of different Types in 1980's**

<table>
<thead>
<tr>
<th>Year</th>
<th>Demand</th>
<th>Supply for the year</th>
<th>Backlog</th>
<th>Backlog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backlog in 1982</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9,41,938</td>
</tr>
<tr>
<td>1982-83</td>
<td>71,292</td>
<td>24,491</td>
<td>46,801</td>
<td>9,88,739</td>
</tr>
<tr>
<td>1983-84</td>
<td>68,022</td>
<td>31,569</td>
<td>36,453</td>
<td>10,25,192</td>
</tr>
<tr>
<td>1984-85</td>
<td>67,760</td>
<td>55,349</td>
<td>12,411</td>
<td>10,37,603</td>
</tr>
<tr>
<td>1985-86</td>
<td>67,280</td>
<td>24,018</td>
<td>43,262</td>
<td>10,80,865</td>
</tr>
<tr>
<td>1986-87</td>
<td>68,727</td>
<td>38,315</td>
<td>30,412</td>
<td>11,11,377</td>
</tr>
<tr>
<td>1987-88</td>
<td>71,817</td>
<td>27,412</td>
<td>44,405</td>
<td>11,55,682</td>
</tr>
<tr>
<td>BUDP</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>11,33,121</td>
</tr>
<tr>
<td>Total</td>
<td>4,14,898</td>
<td>2,01,154</td>
<td>213,744</td>
<td>11,33,121</td>
</tr>
</tbody>
</table>

Source: Compiled from Planning Commission Data

Graph of the same is given below

**Figure 7.3 : Demand & supply or housing of different Types in 1980's**
As seen in the graph above there has been a consistent build up of a backlog of supply of housing in India in the 1980’s decade. This has continues to grow even more during the Ninth and Tenth Plan period to around 42 million dwelling units in urban as well as rural areas.

7.5 Nature of commercial real estate demand

The nature and characteristics of commercial real estate are distinct compared to the nature of housing demand. This demand is very closely related to the state of the economy, employment, the geographical location in which the properties are located, the nature of industry and many other indirect variables that affect the demand for property. It is also closely linked with macro elements like the economic cycles, global investment climate and such factors.

As has been contended earlier real estate is cyclical in nature affected by national economic conditions. Both macro as well as local conditions equally affects the nature of demand and supply of real estate. There are different types of commercial real estate such as office, retail, industrial and so on. The primary influencers of each property type may be different for eg. In the retail sector, the levels of employment and consumer confidence and spending influence, the demand for total retail space as well as the level of retail rent. In case of the industrial sector the level of consumer spending, inventory levels, spending on public goods such as defence, dams, transportation etc. and the volume of exports affects the demand. The hospitality sector is affected by the strength of the national currency, consumer spending, the price of air travel, safety and security of the traveller and business conditions. A weak national currency would lead to foreign visitors to travel to the one’s country, while discouraging local tourists to travel abroad.

The supply and demand of commercial real estate can be forecasted based on the absorption of new supply, the existing inventory, and the rent or vacancy levels of metro-markets. This is because metro markets as compared to the rural markets drive most

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4 Commercial Real Estate is used in this chapter to include all types of similar property types such as industrial, office, leisure, retailing, and warehousing. In short all such property types which are used for purposes of business and other than for the exclusive 'shelter' need of the population. Therefore it may be noted that commercial real estate will be used interchangeably with other property types as all these mentioned above exhibit almost similar characteristics and are influenced by similar economic forces.
commercial real estate. In turn the real estate developers, and the public sector regulators influence this property type significantly.

However most experts conclude that accurate long-term forecasting of supply is difficult as the variables affecting it are far more complicated. However studies conducted in Wharton's Department of Real Estate and other leading universities in the study dealing with the econometric models related to office markets, John McDonald (2002)\(^5\), encapsulates the relationship between short term what he refers to as 'myopic' expectations of market value as the chief source of overbuilding in office space markets. In their study of the effects of business change on real estate portfolios, Gibson & Lizieri (2001) found that in the United Kingdom the wave of downsizing, delayering, business process reengineering and other initiatives of reducing the human resource in an organization had effects on the purchase, maintenance and disposal of real estate assets by companies. They found that the net impact of business change did not affect the real estate portfolio of a company as real estate operated in more 'inflexible market structures'.

Emil Malizia (1991) has attempted to forecast demand for commercial real estate using macro metro-level forecasts in areas such as employment, population, level of education, industry – mix, type of ownership of firms, and income.

**Figure 7.4 : Corporate Real Estate Demand and the Supply-Side Response**

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In a more micro level analysis of commercial property valuation, Carter et al (2004), have studied the impact of store (commercial property) location on the valuation of property of such stores. They have argued that central business districts in cities have declined due to the inability of these areas to change as a result of change in the environment.

Gibson and Lizieri (2001) have found that commercial real estate moves along the product -service continuum by providing more and more service related features in the form, of intangible value adds like financing, and facilities management services. These factors too affect the demand for real estate.

**Figure 7.5 : Product – Service Continuum**


An article by Richard S. Tay et al (1990), it was found that in the Hong Kong commercial real estate market many factors such as the type of store, the age of the shopping center, type of tenant mix and location of store (suburban, urban) affect the ability to command better lease prices.
Determinants of Commercial Property Demand

Commercial real estate decisions are more economic in nature than personal or social; unlike housing demand. These are very closely linked to parameters such as incentives, ease of operations, perceived risk and economies of scale. Interestingly they are also influenced by such ‘soft’ factors as demography of the local populace like education levels, presence of universities and colleges, innovation, entrepreneurship, and also lifestyles reflected in the way people spend (mall culture) and utilize free time.

Commercial real estate demand depends very heavily on global, national, regional and finally local factors. For instance huge real estate investment entities called Real Estate Investment Trusts (REITS), and Real Estate Mutual Funds (REMFS) determine real estate investment on a global basis wherein investments are made in geographically diverse markets through transfer of investment funds to that market or by way of direct investment in the property development.

In case of national factors affecting real estate, annual budgetary policies, fiscal incentives policy initiatives in setting up Special Economic Zones (SEZs), Industrial Development Corporations (IDCs) add to enhancing demand for industrial and commercial real estate.

Regional policies like duty drawbacks in special zones, tax holidays and other development incentives too help in increasing demand for real estate. Commensurate infrastructure development of the area also helps to improve demand for commercial real estate. Transportation network, warehousing facilities, Internet connectivity, and skilled workforce add to the attractiveness of the area.

The commercial real estate function could be stated in the following form

\[ D_{\text{CRE}} = f \left( \text{population, employment, } Y_d, \text{level of industry, industry mix, demography, level of education, growth of local economy, level of development of local economy, percentage of locally registered firms} \right) \]

Where

\[ D_{\text{CRE}} \] – the demand for commercial real estate
7.5.2 Description of economic growth versus economic development factors

Emil Malizia’s (1991) paper captures the essence of macro-factors affecting commercial real estate demand. In particular reproduced here is his proposition between the relative importance of real estate growth and real estate development. Malizia contends that economic models of growth forecast of a region say metro-area is useful to offer short-term predictions of demand. In the long term the competitiveness of an area over others in attracting investment will be determined on the basis of the economic structure (productivity, innovation potential, resilience, diversity and centrality) as well as industry mix of the area.

7.5.3 The Growth -Development Model

Figure 7. 6 : Commercial Real Estate Development Model

<table>
<thead>
<tr>
<th>High Growth - High Development</th>
<th>Low Growth - Low Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>(highly underrated)</td>
<td>(highly overrated)</td>
</tr>
<tr>
<td>Low Growth - Low Development</td>
<td>High Growth - Low Development</td>
</tr>
<tr>
<td>(pointless to invest)</td>
<td>(highly risky as it could become unsustainable in the long term)</td>
</tr>
</tbody>
</table>

Construct: M. N. Shah

This model can be explained as follows. The quadrant which shows high growth, low development will exhibit the tendency of commercial real estate to be overestimated. In the quadrant of low growth – high development commercial real estate will be grossly...
undervalued. The other two quadrants are not considered as they are either too risky and not representative of normal investment conditions.

7.6 Concluding Remarks

As is evident from the study of the nature of housing and commercial real estate demand factors determining the demand for the two are distinct from each other in following areas. The demand functions are described below and compared to find out the differences.

\[ D_{\text{housing}} = f (P_h, \text{Income}, \text{Age, Location, occupation, tenure security, status, education, background, size of family, emotion, price of rental substitutes, migration, religion, neighbourhood}) \]

\[ D_{\text{CRE}} = f (\text{population characteristics, employment, } Y_d, \text{level of industry, industry mix, demography, level of education, growth of local economy, level of development of local economy, percentage of locally registered firms}) \]

As is seen above the overall demand for housing property is driven by individual’s demographic (age, income, occupation, family size) and psychographic (emotion, tastes and preferences, neighbourhood, characteristics.

On the other hand the demand for commercial real estate it is heavily influenced by macro factors like size of population, growth of local economy, level of development, industry mix.