Chapter 8

Housing interventions during recessionary periods
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8.1 Introduction

For a long time, policy makers, economists, as well as social scientists have acknowledged the dominant role of housing and the construction industry in providing socio-economic stability to the nation's economy. It is proved time and again that construction and housing sectors provide the largest backward and forward linkage advantages, rarely seen in any other segment of the industry.

This chapter deals with the input-output linkages in terms of the economic, financial, raw material products, service & labour interconnections that this sector provides to the economy. Apart from this the chapter, will also enumerate social and community benefits of homeownership.

8.2 Role of Construction in fulfilling Development Goals

The leading economic indicators of a developed nation are 1) High Income growth rate and price stability 2) high per capita income, 3) enthusiastic investment climate, 4) good infrastructure and connectivity, 5) minimum unemployment, 6) housing and other needs of the population are fulfilled, 7) a balance of payments surplus and healthy foreign exchange reserves. All governments seek to achieve this goal. The role of construction and housing sector in fulfilling the development goals is further elaborated below.

Nearly all industries and businesses happen to be the principal buyers of real estate. In addition to creating jobs and incomes for real estate professionals in this process, these industries generate tax revenues too for local, state and federal governments.

The Indian government since 1998 has announced mega projects of construction of highways ports and docks, airport in order to boost the level of rural and urban employment. Such schemes across the country help to improve the real estate prices in the connected towns, as
well as, the level of employment generation due to advantages accrued by improved connectivity.

Other schemes such as Integrated Rural Development Project (IRDP) Samast Gram Vikas Yojana, and National Rural Employment Guarantee Fund etc. are undertaken to improve the income and employment levels in the rural sector. Over fifty percent of the development projects launched by the government every year are construction related.

Apart from the roads and transport connectivity, other construction projects such as dam building, power and telecom, airports and ports also help to improve direct employment. The state governments collect revenue on all the real estate transactions by way of Stamp and Registration. In turn this revenue is diverted towards funding of infrastructure development projects.

8.3 Housing and Financial market Inter-linkages

As mentioned above the real estate industry is widespread in its reach. According to a study carried out by the Indian Institute of Management, Ahmedabad for the Housing and Urban Development Corporation (HUDCO), it was found that over 256 direct and indirect industries are dependent on this sector. In terms of its ability to create jobs, housing and construction sectors surpass the manufacturing sector. In India alone the construction sector employs over 340 million people. Construction is a service which has greater value addition capacity in changing the land use to maximize its potential is the most advantageous here as compared to agricultural or even industrial property. This industry is both capital and labour intensive. The Joint Center study of Maryland State cites data compiled by the National Association of Home Builders, which indicates that production of 1,000 new single-family homes, generates 2,448 jobs (ratio being 1:2.5) in construction and construction related industries. Cement, insulation, steel, wood, tiles, sanitary ware, faucets and fittings, electrical lighting, and furniture industry along with consumer durables (white goods), desktop computers, security, laundry and gardening services all receive a boost due to the creation of new homes. There is ample empirical evidence that a boost to housing can rejuvenate the economy during times of recession. Housing has maximum propensity to
generate income and demand for materials, equipment and services. Funds allocated to housing multiply the income and demand in other sectors. The construction of ‘Golden Quadrilateral’ highways in India has helped the India’s economic growth and modernization on the lines seen globally.

Zhu Xiao Di in his paper “The Role of Housing as a component of Housing Wealth” describes the importance of housing in the creation and distribution of household wealth. Housing plays multiple roles like ‘equalizer, accumulator, cultivator, and protector’.

Home purchases are capital purchases and therefore must be financed through mortgages. Thus the loan and mortgage financing institutions receive a boost due to home purchase. In fact it is known that home buying is very sensitive to interest fluctuations. It is a main contributor to the capital market of the economy thus it is a leading indicator of the business cycle. In India since the Ninth Five Year Plan and continuing into the Tenth Five Year Plan, the government has given the Indian population many housing related advantages for home purchase such as interest payment of upto Rs. 150,000 being waived from the personal income of the purchaser apart from the principal amount, affordability of loan by keeping interest rates low and advising banks to observe more leniency in the granting of loan advances to increase the gamut of people opting for home investment (Indian Budgets 1999-2006).

The Plan data (Tenth Plan) states that a 10% increase in investment in housing would lead to 10% increase in employment in the housing sector giving an employment elasticity of unity. For the entire economy the employment elasticity is less than half. The contribution of housing to economic development is generally measured in terms of Gross Fixed Capital Formation (GFCF), its share in Gross Domestic Product (GDP) and the share of income from housing. The Gross Fixed Capital Formation at constant prices grew at an annual rate of 3.6% in 1980’s. in the last decade it is over 7%. This proves the contribution of housing and construction in the gross capital formation in the country.

In a study conducted in San Diego (USA) in the recessionary period of year 2001, a very interesting fact came to light. The SD Union-Tribune estimated that 50% of new jobs in that
area since 2001 were related to the housing boom, and as the following chart indicates, growth in the construction and real estate industries significantly outpaced San Diego's overall job growth during the same period:

**Figure 8.1 : San Diego Job Growth**

Source: [http://piggington.com/node/90](http://piggington.com/node/90)

The developed countries invest about 5% of Gross Domestic Product in housing compared to a very negligible amount in India. Promotion of ownership of houses is an economic and political objective and is backed by the necessary policies to stimulate household savings and investment for housing. In the USA, “Housing Starts” and “Housing Completion” data is closely monitored on a quarterly basis as early indicators to understand the health of the economy.

In the year 2003 in the USA, the contribution of the financial services sector (which includes real estate, utilities, solid waste management, rental/leasing/professional services etc.) was to the tune of 75% of the growth in the Gross State Product (GSP) of USA. It is interesting to
note that in the economic slowdown of the USA beginning 2000–2002, the contribution of this sector remained high as compared to the manufacturing sector.\(^13\)

Housing goes through cyclical stages. Therefore some refer to very strong housing demand as a “housing bubble”. Unlike stock markets housing markets fluctuation is not a ‘bubble’, per se, because most people buy a house to live in, not to speculate. Of course, values of house prices rise and occasionally drop, but movements are generally marginal, not punctuated by big drops and rises. This lends tremendous stability to the housing market compared to other sectors.

Moreover, the long-term shifts in the housing market are driven by demographics, which means the personal/household incomes, educational and occupational profiles and age of buying/selling of housing. This characteristic of the housing market lends more strength and resilience unlike other goods and services.

8.4 Role of Housing in Social Development and Stability

For long, social scientists have recognized the importance of measuring the amount of family wealth as against family income in the understanding of a nation’s income and social security. In USA for instance, with a housing penetration of over two-thirds of the population, the share of home equity in the household income has been very high as compared to income from stocks except in the year 1998.

Figure 8.2: Stocks Surpassing Home Equity in Value

![Stocks Surpassing Home Equity in Value](source)

Source: Survey of Consumer Finances, 1998, Federal Reserve Board, USA

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As seen in figures 8.2 and 8.3 home equity contributes the most share as a percentage of the investment portfolio of household income. In fact in the recessionary period following the terrorist attack on the World Trade Centre USA in 2001, the same study found that those who owned homes were extended personal loans against their home equity, to overcome difficulties that arose from increased unemployment and the general economic slowdown.

**Figure 8.3 : Share of Home Equity in total stock**

![Home Equity Still Exceeds Stocks for Majority of Those Who Own Both](image)

Source: Survey of Consumer Finances, 1998, Federal Reserve Board, USA

In a study conducted by the National Association of Home Builders, USA in 2003, to assess performance of the housing sector during the recession-recovery of the American economy, it was found that the rate of residential fixed investment grew at an average annual rate of 7.4% since the year 2002. By contrast overall GDP had reduced to an average growth rate of only 2.7% in the same year.
Figure 8.4: Observed that primary residences and other real estate investments

In figure 8.4 above it is observed that primary residences and other real estate investments form around 49% of the total investments of an average American’s portfolio.

![Pie chart showing the distribution of household assets with primary residences at 40.2%, financial assets at 21.6%, other non-financial assets at 5.5%, and other residential RE at 5.1%.

Source: Survey of Consumer Finances, 1998, Federal Reserve Board, USA

As of 1998 about two thirds of American households owned their homes, most with mortgages, while less than half of all households owned stocks. Secondly, sixty percent of those who own both stocks and homes still have more value in home equity than in stocks.

It is interesting to note that between homeowners and renters the homeowners’ median net wealth was 20 times ahead of the renters. It was found that home ownership had particularly benefited the minorities and housing plays a special role in the growth of wealth of these low-income households. Housing can also play a role as a “cultivator” of household wealth. When people borrow against their home equity to finance investments, business, and education, each of these types of spending may “cultivate” the future growth of household net wealth. In a study in the US it was found that a sizeable number of people borrowed the additional money to remodel, creating a reinvestment in their homes that adds to their value. Some borrowers used the money for medical or education bills. The money spent on education is also a type of long-term investment, as it increases the household’s future income.

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Finally when people borrow on a fixed-rate mortgage it becomes the surest protection against increasing housing costs. Homeownership also can therefore play a role as a “protector” of household wealth. By fixing housing costs it can allow owners to save and invest more over time.

**Figure 8.5 : Disparity in Household Net Wealth between Home Owners and Renters**

<table>
<thead>
<tr>
<th></th>
<th>Owners Median Net Wealth (Dollars)</th>
<th>Renters Median Net Wealth (Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>132,130</td>
<td>4,200</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 35</td>
<td>40,649</td>
<td>2,600</td>
</tr>
<tr>
<td>35-64</td>
<td>145,100</td>
<td>5,480</td>
</tr>
<tr>
<td>65 and Over</td>
<td>169,750</td>
<td>6,220</td>
</tr>
<tr>
<td>Race / Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>148,920</td>
<td>5,800</td>
</tr>
<tr>
<td>Black</td>
<td>67,280</td>
<td>1,661</td>
</tr>
<tr>
<td>Hispanic</td>
<td>70,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Other</td>
<td>163,800</td>
<td>7,760</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under $20,000</td>
<td>70,100</td>
<td>1,000</td>
</tr>
<tr>
<td>$20,000-49,999</td>
<td>104,650</td>
<td>8,050</td>
</tr>
<tr>
<td>$50,000 and Over</td>
<td>238,500</td>
<td>51,300</td>
</tr>
</tbody>
</table>

**Source:** Survey of Consumer Finances, 1998, Federal Reserve Board, USA

### 8.4.1 Social Benefits of Home Ownership

The objectives of the National Homeownership Strategy of the USA states that home ownership helps to commit people to strengthening families and good citizenship, taking greater control of and responsibility over their living environment, and stabilizing and strengthening neighbourhood communities.

According Amartya Sen (1990), who first argued on assessing the need to developing a tool that would reflect the quality of lives led being of intrinsic importance, not the commodities, and not only income level per se. In fact the Gini Coefficient indicates the share of national wealth captured by the poorest people. The higher the Gini Coefficient the lower is the
national wealth of the country’s poorest people. For instance sub-Saharan Africa has the highest Gini Coefficient and has the poorest nations in the world unlike Sweden or Hungary, which have Gini Coefficients of 25 and 26.7 respectively, which indicates higher national income and wealth distribution to the poor. Incidentally, the HDI ranking of Sweden is number two, and Hungary number 31. The total population of Sweden is 900, 1774 while the homeless are only 8440 (as per 1999 data) persons. This is equivalent to .093 percent of the population. As a result of excellent housing penetration, though not statistically proven, one may conclude that there is improved access to health, education and wealth creation as compared to other countries with low HDI (India) where slums, pavement squatting, and homelessness is commonplace. The latter reason inhibits the ability of the bottommost rung of society to access health, education and income opportunity.

Mona N. Shah (2004) in the paper Upgradation of Housing and Amenities in Rural Areas argues that housing is a precursor to economic and social development of rural areas. By providing housing, other components of the Human Development Index namely school enrolment, health leading to higher life expectancy, and female literacy are cared for as the household enjoys greater stability and reaps the fruit of stable employment. India ranks 127th among 177 nations in the United Nation’s Human Development Index of 2005. India too as Figure 6 below shows India’s Tenth Plan priorities as Poverty Reduction using the two-pronged strategy of reducing income poverty and human poverty.
In a report brought out by the Institute of Real Estate Management (IREM) for The Federal Housing Administration in the USA that tested a hypothesis related to the social impacts of homeownership on the public especially its impact on self-esteem, perceived control, life satisfaction, residential satisfaction, health, socially desirable behaviours, neighbourhood stability and participation in voluntary and political organisations and activities.

The IREM Report strengthens the claim of public policy makers in favour of encouraging home ownership. On almost all counts mentioned above, research pointed to a greater neighbourhood stability and participation in voluntary and political activities. Homeownership was found to be strongly correlated to income, education, age, and stage in the family lifecycle, marital status, and race, presence of children and employment tenure and security (IREM Key Report: Risk Management in the Post 9/11 World).
In the same report a study on individual’s physical and psychological health pointed out to better hygiene and sanitation leading to better physical health. In the case of the United Kingdom in a study conducted by Nettleton & Burrows (1998) it was found that repayment of housing loan instalments on time led to better mental satisfaction if the homeowner. This study reinforces the home ownership doctrine as well as the satisfaction levels reached by non-defaulting homeowners.

8.4.2 Role of housing and construction sector during recession

In a working paper submitted to the Joint Center of Housing Studies Colton (2002), argues that the recessionary phase faced by the US economy was offset by the healthy off take of home loans and construction loans (project financing) that sustained the economy in the recessionary and the Great Depression periods. In the same paper Colton traces the development of a strong mortgage financing system under President Roosevelt who with the National Industrial Recovery Act launched a programme for financing low-cost housing and slum clearance. This was also designed to provide a form of employment to recover from the Depression while providing a stimulant to the depressed construction industry. Owner-occupied properties with a value up to $20,000 were eligible for loans to the tune of 80% of the appraised value. The maximum interest rate was 5 percent of the outstanding balance of the loan, and the loan was to be repaid in monthly instalments for terms up to fifteen years (these terms were later increased to twenty years).

The Home Owners Loan Corporation (HOLC) pioneered, on a national basis, a long-term mortgage program with moderate interest rates and what were, for that period, high loan-to-value ratios. It not only played a key role in refinancing homes and slowing down foreclosures, but also set a precedent and a pattern for the remainder of the century. The HOLC received 1.9 million applications for loan assistance from June 1933 to June 1935. It saved the homes of three-quarters of a million US families, provided relief to a range of hard-pressed mortgage lending institutions and a beleaguered mortgage finance market, and helped pave the way for the USA’s current system of housing finance. It established
precedents for a long-term fixed-rate mortgage, for a national system of mortgage lending, and for a federal role in providing support for housing finance.

After the establishment of the Federal National Mortgage Association (Fannie Mae) in 1938, an unbroken record of growth was created in US housing and construction development; a growth witnessed by no other country in the world.

8.5 Contribution of housing and construction to India’s Gross Domestic Product (GDP) and particularly during recessionary period of 1998-2003

The Indian experience also demonstrates the correlation between the increased contribution of housing and construction (i.e. infrastructure) in the boosting of the GDP during times of low growth rates experienced in other sectors such as agriculture, manufacturing and services. Since 1991, India’s economy has witnessed a number of challenges by way of 1) Oil Pool Crisis –1991 2) Foreign Exchange Crisis –1992, 3) The recession in the USA- 2001-03, 5) The drought of 2002, 4) The tsunami (Dec.’04), oil price rise in the world market and the excessive rains which caused floods and loss to property in the year 2005.

Given below are India’s GDP figures for the period 1990-91, 1995-2005

Table No 8.1 : % GDP GROWTH RATE

<table>
<thead>
<tr>
<th>YEAR</th>
<th>%GDP GROWTH RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>6</td>
</tr>
<tr>
<td>1995-96</td>
<td>7.5</td>
</tr>
<tr>
<td>1999-2000</td>
<td>6</td>
</tr>
<tr>
<td>2000-01</td>
<td>5.9</td>
</tr>
<tr>
<td>2001-02</td>
<td>5.8</td>
</tr>
<tr>
<td>2002-03</td>
<td>4</td>
</tr>
<tr>
<td>2003-04</td>
<td>8.5</td>
</tr>
<tr>
<td>2004-05</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Source: www. Indiabudget.nic.in (Ministry of Statistics and Programme Implementation website), 2006

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As seen above growth rates below 6% are recorded in the following years 1997-98, 1998-99, 2000-01, 2001-02, 2002-03. As seen in Table No 7.1. the total investment in infrastructure in corresponding periods too has been lower as compared to the investment when the growth rates were higher as witnessed in the years 1995-96, 1996-97, 2003 and 2005. Following is a table indicating the amount invested in infrastructure for the corresponding years shown above.

**Figure 8.7 : GDP Trend from 1992, 96, 2000-05**

![GDP Trend Chart]

<table>
<thead>
<tr>
<th>Year</th>
<th>% of GDP Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>510954</td>
</tr>
<tr>
<td>1995-96</td>
<td>1073271</td>
</tr>
<tr>
<td>1999-2000</td>
<td>1761838</td>
</tr>
<tr>
<td>2000-01</td>
<td>1902999</td>
</tr>
<tr>
<td>2001-02</td>
<td>2081474</td>
</tr>
<tr>
<td>2002-03</td>
<td>2254888</td>
</tr>
<tr>
<td>2003-04</td>
<td>2519785</td>
</tr>
<tr>
<td>2004-05</td>
<td>2830465</td>
</tr>
</tbody>
</table>

**Table No. : 8.2 : INFRASTRUCTURE EXPENDITURE (in Crores)**

<table>
<thead>
<tr>
<th>Year</th>
<th>INFRASTRUCTURE EXPENDITURE (in crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>510954</td>
</tr>
<tr>
<td>1995-96</td>
<td>1073271</td>
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</tr>
<tr>
<td>2004-05</td>
<td>2830465</td>
</tr>
</tbody>
</table>


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As can be seen from the Correlation graph plotted, one finds a definite correlation between the rate of infrastructure investment and the rate of growth of GDP. Using statistical analysis, one finds the correlation coefficient to be as high as 0.46. This means that 46% growth in the gross domestic product of a nation can be attributed to investment in infrastructure.
Thus it can be concluded that for all sectors to perform well, investment in infrastructure serves as a facilitator, and during recessionary periods it serves as a catalyst to induce the recovery in other sectors. This is possible due to the strong incumbent Multiplier Effects of infrastructure investment.

In contrast to the rate of infrastructure investment by India, a study of China’s GDP reflects the near ‘economic superpower’ status achieved by China in the last decade due to the creation of world-class infrastructure. China has maintained a consistent growth rate of over 7-10 percent since 1993 to 2005 (CSYB 1994-2005). According to a report by the Engineering News Record (ENR2003), the Chinese construction industry was the third largest in the world in year 2002 with a total value of US $ 404 billion. Investment in infrastructure in China is as high as 20% of its GDP (almost USD 260 billion). Compared to China, India's investment in infrastructure is less than 6% of its GDP (i.e. around USD 30 billion). This could be the reason for a lower rate of growth of India as compared to China.

8.6 Flow Chart depicting the interlinkages between individual and national development

National policies set the tone for the healthy development of housing and real estate markets. When the Central government takes up infrastructure as a policy objective it provides a conducive environment to the development of real estate. It is a well-known fact that when road, rail, bridges and dams are constructed and power stations built, the value of real estate in that area goes up. Land owners also receive a direct benefit of this value appreciation. Along with the development of infrastructure and the establishment of industrial and commercial centers, in turn boost the demand for housing as more and more people begin to move into this area in search of employment. This leads to more infrastructure being created at enhanced rates, better incomes, better standards of living, setting off a positive spiral. Thus a cycle of development is initiated.

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In case of enhanced housing opportunities, it is the role played by the national and state level policies that leads to the development of healthy land markets. In the paper “Effect of Land, Population and Financial Policies on Real estate development Mona N. Shah (2005) contends that highly developed countries have highly developed land and cadastres (a public register showing the details of ownership and value of land; made for the purpose of taxation). This leads to secure tenures and titles for the owners and eases real estate transactions. Thus the value of real estate improves. In the same paper it was observed that sound financial policies help to boost housing and real estate markets. As real estate is a capital purchase for both the individual as well as the corporation, the need for accurate information; quality of legal title, and an expectation of appreciation of the asset in the future, is very crucial. Unlike other asset types, real estate markets are more stable and less sensitive to market volatility. Also, they are slower to procure as well as dispose. The key drivers of developing strong, transparent and viable financial markets lie in the delicate exchanges of law, a variety of financial instruments, peoples’ sentiments, highly developed risk management mechanisms, and the nature of entrepreneurs and the regulators. It also means creating highly developed secondary markets by way of intermediaries. In advanced nations, financial market development underscores economic development.

Some more characteristics of healthy financial markets are developing robust asset securitization methods, multi-channel real estate financing, multi-tiered financial institution framework, institutions to access equity finance, establishment of real property funds, development of secondary markets, stepping up financial intermediaries, improvement of legal and regulatory systems and risk and asset management policies.

When strong land, legal and financial markets are operational, the development of real estate market is ensured. When more and more people opt for owning homes, strong economic multipliers occur. Strong stable communities also develop and overall community development takes place.
8.7 The Regressive and Progressive Cycle of Real Estate Development

The policies followed by governments determine the level of progress that will be made in the development of real estate markets. Policies related to developing strong legal tenure, boost to house purchase, improved access to home loans, integrated township development are necessary to boost the progressive cycle. By providing these precursors to development the government improves its ability to earn revenue through property tax, Stamp and Registration, development charges, and is then better able to divert this revenue into development projects of other areas.

On the other hand, lack of government interventions adversely affect the progress of this sector, as is evident in India through the four decades since 1950s-1980s. The current housing shortage in the country is to the tune of 42 million dwelling units and growing if not addressed urgently. Therefore in the Ninth and Tenth Five Year Plans housing has been given top priority and foreign direct investment in housing is being encouraged to cover this shortfall. The accompanying figure depicts this graphically.

8.8 Concluding Statements

This chapter seeks to prove the macro role of housing in an economy’s development, citing international cases. The backward and forward linkages in housing have been used and should continue to be used as an important intervention by governments seeking to come out faster from cyclical fluctuations of the economy.

Gini Coefficient

The Gini coefficient is a measure of inequality of a distribution. It is defined as a ratio with values between 0 and 1: the numerator is the area between the Lorenz curve of the distribution and the uniform (perfect) distribution line; the denominator is the area under the uniform distribution line. It was developed by the Italian statistician Corrado Gini and published in his 1912 paper "Variabilità e mutabilità" ("Variability and Mutability"). The Gini index is the Gini coefficient expressed as a percentage, and is equal to the Gini coefficient multiplied by 100. (The Gini coefficient is equal to half of the relative mean difference.)
The Gini coefficient is often used as an income inequality metric. (See that article for discussion of the social aspects of income inequality.) Here, 0 corresponds to perfect income equality (i.e. everyone has the same income) and 1 corresponds to perfect income inequality (i.e. one person has all the income, while everyone else has zero income).

The Gini coefficient can also be used to measure wealth inequality. This use requires that no one have a negative net wealth. It is also commonly used for the measurement of the discriminatory power of rating systems in credit risk management.
Figure 8.10: Flow chart depicting the interlinkages between housing real estate and total national economy in periods of boom and recession

Real Estate Industry

Residential

Non-Residential

Special purpose
Reserved land
Religious institution
Government

Trade Spaces (Land)

Commercial Offices

Industries

Agricultural
Land, Plots
Farm house

National Level factors

State level factors

Regional level factors

Local level factors

Individual level factors

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