

# Urban Land Prices and Their Impact on Housing Development – A Structural Equation Model Analysis

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## Abstract

The term "land" means different things to different people. It is both diverse and geographically specific. A farmer, for example, may think of land as something he harvests; a city dweller may see it as something that may be used for housing or factories. Economic fundamentals are recognized as determining factors for urban housing and land prices, but the relationship between housing and land prices has been contested. Place and location, housing planning policies, industrialization, transportation routes, trade and commerce, playgrounds and parks all have an impact on land use and land price in urban areas the Government policies, entertainment facilities.

The growth premium may easily account for half of the average land price in fast-growing cities, resulting in a considerable discrepancy between the price of a house near the border and the value of farmland rent. At two levels, many studies relating to land value trends and spatial variations, as well as the impact of environmental factors on land values, are investigated. One is the macro aspect of urban land value trends, while the other is the micro aspect of environmental factors' impact on land values and geographical variations. A parcel of land is a unique creation and a priceless offering to humanity and all other things on this earth.

Thus, depending on the viewpoint of the individual, a land is viewed from various angles. Using a structured equation model, this research article examines three important factors such as increases in urban land prices, housing development and enhancement, and urban land endorsement. On the whole, this study is current and relevant to society in the modern era.

**Keywords:** *Economic Fundamentals, Housing Development, Land Prices, Promotion of urban land, Environmental Factors, Farmland Rent and Structured Equation Model.*

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Date of Submission: 18-05-2022

Date of acceptance: 01-06-2022

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## I. Introduction

Land economics is one of the fields of economics that has just recently developed into a genre. Richard T. Ely was the first to recognize it when he began his undergraduate course on Landed Property at the University of Wisconsin in 1882. The United States Department of Agriculture created a separate section in 1919. In this discipline, the Economists created a solid foundation in 1920. In 1922, the first course materials dedicated to Land Economics were produced. Based on their views and interests, different people suggest different interpretations of the term "land." The solid section of the earth's surface is the most widely acknowledged. Land is defined as the ground, soil, or dirt on which people can walk, build a house, cultivate a garden, or grow a crop. These definitions of land are not to be confused with the more technical ideas used by lawyers and economics.

The most important resource for humanity is land. It is used in agricultural crafts and diverse biological materials for food consumption, medical purposes, and other minerals like as fiber and vitamins, among other things. In terms of the cultivation process, humans are the only ones who use land for agriculture, and they are very concerned about land for this reason. Land-resource issues are intertwined with land-reform efforts. People require ongoing land reform efforts that will result in a more equitable distribution of land rights. Other issues develop as a result of increased worldwide competition for certain fundamental resources, as well as our expanding demand for non-food items including textiles, building materials, minerals, and energy supplies. Food shortages and demands for land reform are unimportant to everyone in India. Some of these challenges are related to the specific contractor's business decisions, management decisions, and willingness to

use new areas.

## **II. Review of Literature**

**Northan (1979)** explains that the location impacts the price of urban land. A land's location is unquestionably determinant. The manufacturing and commerce hubs are built at this point. According to **Balchin and Keive (1985)**, a location's approachability and esurient are determined by financial factors such as travel costs to work, educational institutions, malls, and shops, as well as non-monetary factors such as amity and quietness, well-matched neighborhood and neighbors, fresh air, and other less tangible amenities. **Davis and Heathcore (2007)** described a house as a package containing a recyclable visible structure and a non-reproducible plot of land, concluding that economic fundamentals influence housing costs in relation to land value. According to **Davis and Palumbo (2008)**, suburban land living ethics have been estimated or valued in many nations since the mid-1980s. By the end of the year 2004, the price of housing land accounted for nearly half of the total market value of residential land. As reliable variables, the cost of land affects population density and the percentage of people who work from home.

According to **Pradeep Chaudhry (2016)**, an ever-increasing urban population, city congestion, and busy daily schedules are gradually forcing city people toward urban parks, gardens, and lakeshores during their leisure hours and morning/evening strolls, especially in developing countries. In most developing nations, studies including the quantification and appraisal of the recreational advantages given by urban green spaces are sparse. **Van Doorn, L., Arnold, A., Rapoport, E. (2019)**, stated that cities should focus on increasing housing options, according to the author. Integrated urban areas may accommodate a wide range of socioeconomic and demographic groupings. They can be produced using "good density" and high-quality placemaking ideas. **Awuah, Kwasi G.B., and Raymond T. Abdulai (2022)**, mentioned that the challenges of urban growth and administration in underdeveloped countries are well recognized. Population expansion and urbanisation, environmental challenges, and technological advancements are all examined in this article. It suggests that we gain a better grasp of the socioeconomic, cultural, and political forces that drive urbanization in emerging countries.

### **Research Gap and Statement of the Problem**

Every individual in today's competitive and ever-improving world requires refuge in the form of a habitation, i.e. an independent house. They are the stakeholders, and the entire nation is dependent on the growth of real estate, especially in metropolitan areas. People used to be terrified of staying in places outside of the city before the twentieth century. However, it has grown more official in recent years for them to purchase estates outside of the city. The current study attempts to analyze the concept of rising urban land prices in relation to housing development and enhancement, as well as urban area promotion. The result of housing building and enhancement in urban regions increases land prices and contributes to the promotion of urban areas, according to this article. It is examined in terms of aspects such as safety, investment, employment, and the expansion of healthcare, commercialization, and industrialization, among others.

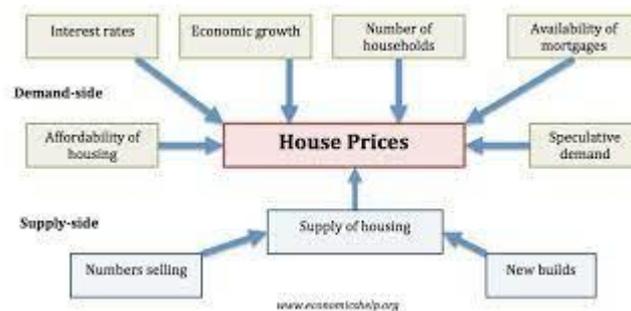
When considering Alonso's location theory, it is critical to consider his assumptions and their implications. Alonso's main assumptions are, perfect consumer awareness, a freely mobile housing market, all dwellings of comparable quality, a single market, and an employment center. People have always valued property and property rights as treasures. Land, among other things, has been a source of fascination for humans until this day. It is possible to suppose that land prices in metropolitan areas are determined by competitive demand for various land uses. The bigger the return from a given plot, the higher the rate. The factors that influence the pricing of urban residences are explored. They agreed on the variables to employ, but not on the approaches to take. Modifying and accusingly factors have an impact on the house price, according to their research.

### **Research Questions**

1. Do increasing land costs have a direct impact on housing development and improvement?
2. Do increasing land prices have a significant impact on the promotion of urban areas?
3. Does housing development and enhancement have a direct and immediate impact on the promotion of metropolitan areas?

### **Rapidly Increasing Land Values Have a Direct Impact on Housing Development**

The status of the economy, interest rates, real income, and demographic changes all have an impact on the housing sector. House prices will be dictated by available supply in addition to these demand-side factors.



This generally occurs when the economy is doing well, as more people are employed and salaries are rising. If more people can borrow money to buy houses, property prices tend to climb. The more loans banks and building societies are willing to offer, the more individuals will be able to purchase a home, and prices will increase. Because of the wealth impact, rising property prices often boost consumer spending and lead to better economic growth. A severe reduction in house values has a negative impact on consumer confidence, construction, and economic growth. Falling housing prices can aggravate an economic downturn.

### **Aspects Influencing Housing Supply and Demand**

In the housing market, determining the precise values attributed to supply and demand is a difficult task. This is largely due to the fact that building new homes or repairing old ones to resell takes time. Similarly, real estate is unlike other industries in that buying and selling homes and other properties takes a long time. As a result, real estate transactions can take a long time to complete, making it fairly expensive. Lower interest rates and borrowing costs are two factors that will influence house demand. People are more prepared to take on more debt when interest rates are low because they can afford more debt for the same monthly outlay. To put it another way, individuals may be able to afford a property since the amount of interest they must pay is less burdensome at low rates. As more buyers enter the market, housing demand rises in tandem. In a low-interest rate environment, prices may climb even higher if there is a restricted supply of housing inventory. Nevertheless, the housing supply is always fluctuating. When people relocate, inventory may rise because some are downsizing, others are trying to create more room for a growing family, and still others are buying their first house. Consequently, new home construction and development may expand, adding to the existing inventory. Housing inventory, on the other hand, diminishes following natural disasters such as floods and earthquakes, as well as when existing houses are demolished. Because land is a limited resource, the number of new developments is often limited.

### **Should Home Buying Prices Collapse**

Discrimination in mortgage lending is prohibited. There are actions you can take if you believe you've been discriminated against because of your color, religion, sex, marital status, use of public assistance, national origin, disability, or age. The property market slump was one of the key reasons of the Great Recession that followed the financial crisis in the mid-2000s. The law of supply and demand was to blame. Consumers had access to comparatively low borrowing rates in the run-up to the financial crisis. Banks were urged to offer lower mortgage rates and to ease their lending requirements. People who had previously been unable to purchase a home were now able to achieve their dreams of homeownership. Many of these people, known as sub-prime borrowers, were able to get a home with relatively modest down payments despite having bad credit.

During this time, speculative purchasers began to enter the market, driving increasing home demand while simultaneously reducing available supply. As a consequence of all of this, prices shot up. Because supply couldn't keep up, investors turned to the housing market to earn rapid money by buying and flipping houses in a short amount of time. However, the high pricing eventually sent consumers away, and the market began to shrink. Prices began to fall as demand fell. The oversupply of homes and subsequent rapid decrease in land values were the precursors to the real estate market's collapse. Because it is a transactional market that uses houses and properties, the housing sector and its economic variables are based on supply and demand. The interaction between buyers and sellers is governed by the law of supply and demand. When a town's housing stock is in high demand and short supply, for example, homeowners often benefit from a higher sale price. However, if there are many houses for sale and few purchasers, the sellers may receive less than their asking price.

### **The Influence of Urban Areas on Land Values**

There are several reasons to expect greater land values near metropolitan areas. Because many urban centers built up on unusually fertile soils, land near them is usually quite productive. Land close to cities has better access to markets and ports, resulting in lower transportation costs. As a result, these lands may be more profitable than comparable sites located further from the city core. Furthermore, farmland on the edge of town provides leisure possibilities and lifestyle facilities to the local populace. Land in close proximity to metropolitan centers is likewise more vulnerable to development pressures. Competing land use activities, such as commercial and residential usage, may bid up their values. It's hardly surprising, then, that existing research reveals that urban influence is a major determinant of land values. Urban pressures had a substantial impact on land values in Tamil Nadu, during a period of high volatility in urban real estate markets, as well as rising incomes and record-high commodity prices.

Property-related fraud is widespread in Tamil Nadu's Vellore district, particularly when it comes to land acquisitions. The ownership of a place by the vendor is established by paperwork. The buyer should double-check the land record at the local revenue department office in addition to having their paperwork certified by a professional lawyer. The seller's ownership is verified by title deeds, encumbrance certificates, site extracts and land tax payment bills, among other documents. An unprotected open land parcel is likely to be targeted by the land cartel. To keep them out, build a wall along the border. A nameplate on the front gate should include the plot owner's name and a warning about trespassing. To protect the land against unauthorized possession, hire a caretaker. If that isn't possible, pay frequent visits to the site or ask family or friends to do so for you. These visits would provide information to the neighbors about the true owner. Even if you have hired a caretaker, if the plot is in an already populated area, make friends with your neighbors and ask them to keep an eye on your land. As informal as it may be, this is a really effective technique for protecting your immovable asset.

### **Land Prices are Determined by Several Factors**

Land is a valuable asset, and investing in it is known to be profitable because it ensures better appreciation and higher long-term returns for investors. This is especially true when it comes to residential properties. Aside from structural attributes and location, land rates have a significant impact on the value of any property. In the last 20 years, the value of land has skyrocketed. As a result, anyone considering investing in land should be aware of the major factors that influence land pricing.

### **Location**

The price of land is heavily influenced by its location. The type of development that occurs in the area has an impact on the land price. The proximity of the plot to major roads, transportation links, upcoming highways, population centers, or an important landmark increases its value. Furthermore, land surrounded by greenery is more expensive than land surrounded by industries or factories. With the scarcity of land increasing, governments in many Indian states are developing land norms to facilitate the conversion of agricultural land to non-agricultural use.

### **Topography**

Land prices are influenced by geography, soil quality, climate, and the existence of ground water, among other factors. Land with poor soil or rocky terrain, for example, will be unable to support the constructions and hence will be less desirable.

### **Demand for land**

Simply said, everything that is tradable and available in large quantities has lower value than something that is available in smaller quantities. Property prices in key urban locations are greater than in the suburbs since such prime places are provided with all amenities and so attract investors and purchasers. Consequently, land pieces on the fringes of cities are plentiful and more affordable. Industrial development in a certain area has a direct impact on land values as well. Plots in areas with a lot of economic activity, such as markets or industries, attract a higher price.

### **Index of Floor Space**

The Floor Space Index (FSI), also called as the Floor Area Ratio (FAR), is an important determinant in land pricing. The FSI is determined by factors such as land size and road width. It indicates how much construction space is available on a property. The FAR is limited by the planning regulations and has an impact on the value of the land. If the FAR is increased by the planning authority, the plot's market value rises.

**Land usage and that in the future**

The government or local governments frequently impose restrictions on the type of development that can be carried out on the land. Land value is also determined by the approved land uses on the property. This is also an important consideration in land pricing. Industrial and institutional land uses usually command higher costs. Land prices have risen dramatically in urban India over the last decade, fivefold in urban areas and probably much more in some areas. This paper uses similar statistics to show that urban land prices are much higher than they should be in relation to income, and that their peaks are extremely high. Similarly, by providing a high standard, local prices in certain locations are extremely high. It claims that the current state of affairs may be explained by a combination of increased land scarcity, expanding money supply due to increased housing credit and rising incomes from white, black, and foreign sources and rising income and wealth inequality.

All of this indicates that this is no ordinary boom. As a consequence, some of the beneficial effects of urbanization include job development, technical and infrastructure advancements, increased transportation and communication, high-quality educational and medical facilities, and higher living standards. According to studies, a faster rate of urbanization could assist promote economic growth by raising demand for agricultural products among urban firms and individual consumers, which could help reduce poverty in rural areas. Towns are designed to improve the efficiency of interactions between people and businesses. In a summary, urban areas enable greater job-to-skill matching, specialisation, higher levels of human capital, and knowledge. The use of food, energy, water, and land by urban residents has an effect on the environment.

As a consequence, the contaminated environment has an impact on the urban population's health and quality of life. Urban dwellers have very different consumption habits than others who live in rural areas. Rapid urbanisation generates more jobs and a more diverse economy, which benefits the country's commercial sectors. A broad network of commodities and services has aided in the development of modern commercial institutions and exchanges that have aided in urban development.

**Research Design**

This study only considers people who built their homes in urban areas, mainly in the Villupuram district. The respondents were chosen at random for convenience, and 400 questionnaires were given, with 320 considered complete and used in this study.

**Research Instrument used**

The statements that explain the constructs were tested using 5-point scale responses from persons who took out bank loans to build houses, primarily in Villupuram's metropolitan region. Strongly agree, agree, neither agree nor disagree, disagree, and strongly disagree are all on the scale. (As 5,4,3,2, and 1).

**Increase in Urban Land Prices**

IULP<sub>1</sub> - Easy accessibility

IULP<sub>2</sub> – Prime location

IULP<sub>3</sub> – Market value and property price

IULP<sub>4</sub> – Neighbourhood amenities

IULP<sub>5</sub> – Present and future land use

**Housing Development and Enhancement**

HDE<sub>1</sub> - Safety

HDE<sub>2</sub> – Remove over congestion

HDE<sub>3</sub> – Social stability

HDE<sub>4</sub> – Avoid natural disasters, Investment

**Urban Area Promotion**

UBP<sub>1</sub> – Social benefits and services like employment, modernization etc.,

UBP<sub>2</sub> –Industrialization

UBP<sub>3</sub> – Commercialization

UBP<sub>4</sub> – Improvement in health care, good amenities

**Validity and Reliability of Research Instruments**

**Table 1: Final Reliability and Validity for Research Instruments**

Construct	Factor	Factor loading	Cronbach's Alpha Final	AVE	Composite Reliability
Increase in Urban Land Prices	IULP <sub>1</sub>	0.811	0.908	0.728	0.931
	IULP <sub>2</sub>	0.774			
	IULP <sub>3</sub>	0.92			
	IULP <sub>4</sub>	0.841			

	<b>IULP<sub>5</sub></b>	0.92			
<b>Housing Development and Enhancement</b>	<b>HDE<sub>1</sub></b>	0.792	0.858	0.702	0.912
	<b>HDE<sub>2</sub></b>	0.731			
	<b>HDE<sub>3</sub></b>	0.911			
	<b>HDE<sub>4</sub></b>	0.913			
<b>Urban Area Promotion</b>	<b>UAP<sub>1</sub></b>	0.756	0.837	0.673	0.89
	<b>UAP<sub>2</sub></b>	0.79			
	<b>UAP<sub>3</sub></b>	0.855			
	<b>UAP<sub>4</sub></b>	0.875			

The accompanying table demonstrates that all of the loads are over the threshold level of 0.6, indicating that the constructs are valid. The test's reliability is determined after the final data gathering. Cronbach's Alpha has a final value greater than 0.7, indicating that the variables used to measure the construct are reliable. The composite scores are more than 0.6, indicating that all of the constructions are consistent and reliable. High amounts of convergence can be seen in the average variance extract. The data is suitable for further analysis and model construction because all of the parameters meet the necessary value.

**Table 2: Discriminant Validity for Research Instruments**

Particulars	IULP	HDE	UAP
<b>IULP</b>	(0.824)		
<b>HDE</b>	0.241	(0.844)	
<b>UAP</b>	0.404	0.722	(0.810)

The values of squared correlations and AVE are shown in the table above. All of the numbers should be higher than the squared correlation values, which rule out any association. It can be concluded that there is no link between the constructs and discriminant validity. PLS 3 software is used to perform structural equation modeling. To find SE and T values, the complete bootstrapping option is used. The hypotheses are tested by setting the T value to 1.96, which is the 95 percent confidence level.

- H<sub>1</sub> – Promotion of urban areas has a substantial positive impact on housing development and improvement.
- H<sub>2</sub> – Increases in urban land prices have a major positive impact on the promotion of urban land.
- H<sub>3</sub> – Urban land price increases have a strong positive impact on housing development and upgrading.

**Table 3: Model Predictive accuracy**

	R square	R square adjusted
<b>HDE</b>	<b>0.520</b>	<b>0.510</b>
<b>UAP</b>	<b>0.160</b>	<b>0.162</b>

**Table 4: Model Fit summary**

MODEL	SRMR	NFI	d_ ULS	d_ G
Study model	.070	0.91	0.341	0.972
Recommended value	Less than 0.08	Greater than 0.9	0.449(upper limit at 95% confidence interval less than upper limit)	1.590(Upper limit at 95% confidence interval less than upper limit)

**Table 5: Results of Hypothesis testing**

Hypothesis	Path	Path Coefficients	Standard error	T	P	Decision
<b>H<sub>1</sub></b>	<b>UAP &gt; HDE</b>	0.732	0.035	20.94	0.000	H1 Accepted
<b>H<sub>2</sub></b>	<b>IULP &gt; UAP</b>	0.404	0.041	9.781	0.006	H2 Accepted
<b>H<sub>3</sub></b>	<b>IULP &gt; HDE</b>	-0.026	0.024	1.042	0.298	H3 Rejected

According to the above data, 18 percent of urban area promotion is funded, but 54 percent of housing development and construction is funded due to rising urban land values. The normal fit index in table 4 is 0.91, yet the Standardized Route Mean Square Residual value is 0.070. This model has a squared Euclidean distance

of 0.341 and a Geodesic distance of 0.972. The model is fit according to all of the good fit indices. T results show that housing development and enhancement has a favorable impact on urban area promotion, with a path coefficient of 0.734 indicating a significant impact. Increases in urban land prices have a direct positive impact on housing development and enhancement, but they do not have a direct impact on urban area promotion, but they do have an indirect impact on housing development and enhancement.

### III. Conclusion

This study focuses solely on the impact of rising urban land costs on housing construction and execution, as well as the promotion of urban areas. The interest rate has a positive impact on housing prices, which ultimately affects land prices, according to the study. This research is the first step in applying a simultaneous equations approach to explore the impact of the Urban land and housing prices. The interests of respondents impact housing development and enhancement, but they also influence urban area promotion indirectly. Only 18 percent of them are interested in promoting metropolitan areas. It reveals definitely that there are additional elements that influence the promotion of urban areas. As a consequence, a thorough investigation could be carried out to discover the other aspects that have a significant impact on the marketing of urban areas. In order to achieve positive results, an appropriate method must be developed, which will be extremely beneficial in achieving better outcomes.

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