An Analysis on the Price of Urban Land in Iran's Provinces during 2001 to 2011

Mohammad Ghanbari
Ph.D. Student of Geography and Urban Planning, Ferdowsi University of Mashhad, Mashhad, Iran
Mohammad Ajza Shokuhi*
Associate professor, Department of Geography, Ferdowsi University of Mashhad
Mohammad Rahim Rahnama
Professor, Department of Geography, Ferdowsi University of Mashhad, Mashhad, Iran
Omid Ali Kharazmi
Assistant Professor, Department of Geography, Ferdowsi University of Mashhad

Received: 2014/06/11 **Accepted: 2015/01/24**

Abstract: Attention to land, as one of the principal and renewable sources in urban sustainable development, is a necessary task since it is considered as one of the main sources of urban sustainable development. The purpose of this research is an analysis on the price of urban land in different provinces of Iran during 2001 to 2011. The research method is descriptive-analytical and library method was used for data collection. PASW, GeoDa, and GIS soft wares were used for data analysis. Research findings indicate random distribution of urban land price during 2001 to 2011 in different provinces. According to Enter regression test, it was specified that there is no significant relationship between the variables of urbanization percentage and the average of land area of urban buildings with the price of urban land in 2001, but there was a significant relationship between these variables in 2006 and 2011. However, there is a significant relationship between development level of provinces and the price of urban land in 2011 in some provinces at the level of 95 percent. After studying the changes in the average price of urban land of Iran's provinces during 2001 to 2011, it was specified that the average coefficient of variation of urban land price was equal to 827.73 and Bushehr, Khorasan Razavi, and Hamedan provinces had the highest coefficient of variation and Kordestan, Hormozgan, and Khuzestan provinces had the least.

Keywords: price of urban land, urbanization, province, area, Iran
JEL Classification: N95, L42, P25, C22

The Scientific-Research Quarterly Journal of Urban Economics and Management
ISSN: 2345-2870
Indexed in: ISC, Econbiz, SID, Noormags, Magiran, Ensani, Civilica, RICeST
www.Iueam.ir
Vol. 4, No.14
Spring 2016
Pages:81-102

* Corresponding Author: shokouhim@um.ac.ir

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1- Introduction

One of the consequences of industrial revolution is increasing growth of urbanization (Abedin Darkoosh, 2010) that is followed by many problems including lack of housing, poverty growth, reducing quality of life indexes, increasing unemployment, and increase in informal settlements and so on. Migration from villages to cities and living a large number of individuals and families in slums and suburbs, particularly in the third-world countries, indicate wide aspects of need to housing, urban land as well as planning for it (Shabbier Cheema, 2000). Since 1950s, extraordinary growth of cities, and increase in urban population have leaded to change the model and system of human settlements although it continues with different quality in the world (Taha, 2001). Access to suitable, adequate, and inexpensive land, as the necessary step for urban growth and development, is a common concern of all countries, particularly third world ones (Mirkatooli, 2010). Land has always been of paramount importance for humankind and his needs. Today, the importance has been increased because of urbanization expansion and development of built spaces (Sadeghian, 2000). Land is the basic element in forming the development and expansion of cities (Van der Molen, 2002); therefore, the quality and quantity of land supply has influential role in developing norms or abnormalities for development and expansion of cities (Hadili and Mehrzad, 2009). Many theorists believe that land is counted as national wealth; therefore, land market is not an ordinary one since it should be adjusted with demand. The value added of land is more and faster than other commodities; extra value of land is a fundamental factor of changing urban spaces (Bastie & Bernard, 1998). Land is a commodity for supply in the market and it is of great importance in terms of cost and value.In human-made products, including capital goods, price is the result of supply and demand. Meanwhile, supply is affected by the costs. However, as it was mentioned before, land, as a generality, is a complete supply, and revenue from land by its nature (developed) is determined exclusively by demand. Generally, land demand depends on factors such as population, marital status, the number of family members, culture, and social relations in a society (Abedin Darkoosh, 2010). On a large scale, land is considered as a "resource" and land use means use of resources. However, in urban scale, instead of assessing land in terms of production or mineral soil, the ability of using on the ground has been emphasized more in order to do different activities (Bahreini, 2007).

Limited land supply against increasing demand of urban population leads to increase its price rapidly and it makes it difficult to implement municipal projects and to be provided by urban residents (Zanganeh, 2009). It is necessary to pay attention to land as a main and nonrenewable source in urban sustainable development since land is regarded as the main source of urban sustainable development. According to this perspective, land is a public wealth, a suitable ground for citizens' activities, and a tool to

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achieve human desires and aspirations (Hekmatniya, 2010). Since 1971, Iran's cities have experienced the impact of oil dollars. Investment in land opened an important place among economically beneficial factors, speculation began, and cities developed without considering that infrastructures should be in accordance with them and regulations and comprehensive plans should be regarded (Mojtahedzadeh, 2007). Given the significant profitability created for investors in this sector, financial capital moved toward land and housing market and consequently, capital withdrawal of manufacturing sector increased; therefore, arrival of the stakes may be considered as one of the reasons for increase in land price bubble in Iran's cities. However, it was not the same in different provinces. There are high price differences in some of the provinces compared to the others. Given these differences in provinces, it is necessary to study how land price changed in them. The purpose of this research is to analyze urban land price in different provinces during 2001 to 2011 and to study the relationship between the variables of urbanization percentage and the average area of urban land in provinces with urban land price.

2- Literature Review

Different studies and researches have been done about the issue of urban land. The following are the results of some of them:

a. Foreign Researches

Yazgi & Dokmeci (2007) in an article entitled "an analysis of land and housing price in metropolitan areas of Istanbul" studied spatial distribution of land and housing price in metropolitan areas of Istanbul. They considered land and housing price as dependent variable, and factors such as land and housing situation to national and regional roads, distance to seaside, distance to the city center, residential density, and the value of integrated access as independent variables in determining land and housing price. Finally, they concluded that residential density in the areas, distance to seaside, and housing situation to the roads have great influence in determining land and housing price.

Agunbiade et.al. (2014) in an article entitled "land management for housing: an attitude for assessment" concluded that assessment framework of land should be expanded and developed to integrated assessment matrix for land management. Considerable issues of this matrix include deep assessment of relationship among agencies and brokers, coordinate activities, management contact and relationship, cooperative management, and formal integration of organizations.

Previous studies indicate that no research has been done about the analysis of urban land price nationally, and its relationship with other variables including land area and urbanization percentage in different provinces. Furthermore, the important role of land area on urban land price has been considered in one of the previous studies. The variable of urbanization percentage was selected because of more need to urban land the role of this variable on urban land prices in different provinces and years. However, another important reason is access to

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accurate and valid information of these variables.

b. Iranian Researches

Shams and Palizban (2010) in an article entitled "studying the impacts of economic policies based on oil revenue on housing market in Iran" concluded that increase in liquidity, because of rise in global price of oil and lack of investment in production sectors, has been leaded to inflation. In such conditions, the general tendency of people has been increases to invest in durable goods such as land and housing with economic efficiency more than inflation rate, and leads to form a bubble price in land and housing sector in Iran (Shams and Palizban, 2010).

Pilehvar et.al (2011) in an article studied "the impact of political decisions on unsustainability and structural changes of urban land and housing because of political approach (case study: city of Bojnurd)". The result indicates significant changes in land and housing price in the city of Bojnurd. A comparative study, before and after becoming province, indicates increasing 61 times of land value and increasing 5 times of housing purchase, leading to change the model of urban growth.

Samedi (2012) in his M.Sc. thesis entitled "analyzing and modeling the role of urban land in spatial-locational development, case study: three cities of Mashhad" concluded that residents' economic and social status and area of land plots have the most impact in land price among the indexes of urban land features. However, the results of AMOS software indicate direct and great impact of purchase and sale to 0.64 on neighborhoods' development level of this urban area.

3- Theoretical Principles

The definition of the concept of urban land and the most important theories related to it will be noted in this part:

Urban land

Land is the starting point of any urban development. Limited and relatively fixed supplies of land against too many demands lead to uncontrolled increase in its price. People need land for living, occupation, and using services in different parts of cities and housing market is dependent on land market (Herington, 1984). Generally, land is provided by preparing bare, established, some agricultural lands and orchards around, or building new cities with distance from metropolises. If the cost of changing bare land to urban land is calculated, expensive and valuable commodity called urban land will be cleared well (Yazdani, 2003). Urban land is one that is used for uses except from agricultural one. Urban land has been specified in relation with infrastructure, transport, and urban facilities. Generally, urban land is used for residential, commercial, industrial, business, recreational, transport, and service uses (Morsi, 2003).

The Features and Value of Urban Land

Given the importance and complexity of urban land issue and its role in urban development, five important and fundamental features have been considered for it as follows:

Relative Stability of Land Supply: Traditional economists believe that land

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supply is fixed. Comparing with capital (as an independent source) and labor force, land is a production factor with less flexibility and fixed supply rather than other goods.

Not Paying Cost for Its Creation: While man is able to increase his ownership, create capital, and improve his skills, he is not able to build land in general; therefore, land has been existed before and human has not paid any costs for it.

Dissimilarity: Places are different from each other for land users in a way that economically, it can be categorized into marginal land not so useful, average lands, and central lands with very useful uses.

The Law of Diminishing Returns: David Ricardo and his followers believed that land is not the same as other production factors. Land is a thing with the law of diminishing returns that after application of laborer and capital in the specific area of land, first, average outputs and finally, all outputs of the product will be diminished following the increase in capital and laborer.

Economic Rent or Rent of Scarcity of Land: David Ricardo considered supply and demand as determinant factors of land rent. In his opinion, different types of lands, including urban land, are partly fixed in supply and demand function determines rent (Mirkatooli et.al, 2012; Mahmoodinejad, 2006). In addition to mentioned features, following issues can be named as specific and general characteristics of land:

- Land area is limited
- Physically, land is not destroyed, but its appearance may be changed
-Land is not movable
- Land is often used for long-term investment
- No one can live without land i.e. life cannot be continued without occupying space and each activity requires space
- Land is immortal. In addition to different uses, it is possible to save it both for individuals and society (Razaviyan, 2002)

Henry George believes that land value always originates from two components:

a. Natural value of land

b. The value that is created because of land improvement through construction

The value of a piece of unused land only originates from demand for fixed value of land; therefore, since value of urban land is windfall, tax on the value of land cannot have negative impact on producing behavior. Since tax on value of land does not reduce its amount and it does not reduce demand for land because of productive uses of land; therefore, it is believed that one percent tax on land value is fair because it leads to the benefits of this God given wealth will be available to the public and it will not have any negative effect on production (Mehrayi and Maharati, 2008).

The Theory of Urban Land Supply

One of the most important theories in microeconomics is supply and demand. In the supply and demand market of land, it is supposed that land, as supplying commodity, is limited as it cannot be produced, demand determines its price. Urban economy experts take advantage of this process to determine balance and

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imbalance in urban land market. Generally, increase in general level of prices, including inflation in land sector, is caused by a shortage of supply or increase in demand. According to economists, inflation is caused either by "elasticity of demand" and "supply pressure" or a combination of them (Stig, 2007).

Theory of Urban Land Demand

Demand is good or service that an individual or people need and ask it in a specific course of time. Demand function indicates a price that a consumer or applicant pays. In other words, price in theory of consumer's behavior indicates his/her willingness to pay (WTP) and it is expected that demand for goods to be increased by reducing price. In fact, demand law represents the principle that there is an inverse relationship between the price of commodity and the amount of goods that buyers are willing and able to buy in a certain period in stable condition and other factors (Farajipoor, 2001). When a consumer wants a piece of land, he considered a certain amount of land for himself. With the enlargement of land, its final population and utility is reduced for consumer and the price that he is willing to pay is reduced; therefore, the price of land has inverse relationship with the amount of demand (Dalalpoor Mohammadi, 2006).

Theory of Urban Land Market

Whenever a price that is offered by an applicant is more than estimated retail price for it, but agreement is reached between the applicants and suppliers over price, exchange is carried out and its market is created. If the supply and demand of land is plotted in a coordinate, the intersection of two graphs represents the price and amount of traded land in market (Milze and Hamilton, 1996).

Theory of Economic Rent

Rent means a tenant's regular payment to a landlord for the use of property or land, pay someone for the use of (something, typically property, land, or a car), and (of an owner) allow someone to use (something) in return for payment. Rent is a reward that is awarded to use the power of the immortal land (regardless of the erosion of agricultural lands and reducing or completion of underground mineral reserves that it is supposedly very long-term issue) to owner of that land or someone who have the right to dominate and manipulate according to the nature of society's legal system. Rent refers to the price of goods that its supply is fixed such as land, building, and labor force. Since supply of land is fixed and existing changes of building or housing is so slow that it cannot meet its demand. Work force becomes professional when suitable alternative cannot be found simply. Using goods that have a constant supply is important commercially and economically. Without receiving rent, land and building may be devoted to consumers who have relatively less advantage. Thus, it is necessary to have economic rent for allocation of fixed resources to appropriate uses, leading to be used only by a consumer that takes the maximum profit and not all potential consumers (Meratniya, 2000).

4- Research Method

In terms of purpose, this research is applied, and research method is descriptive-analytical. Data were collected via library

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method and refer to Central Bank of Islamic Republic of Iran. GIS was used to indicate spatial distribution of urban land price in different provinces of Iran (statistical population) in 2001, 2006, and 2011. However, spatial correlation, relationship among variables of urban land price, urbanization rate, average of land area of residential units, and development level in different provinces of Iran were calculated by using Moran coefficient and GeoDa software. In order to investigate the relationship among variables, PASW and Enter multiple regression test were used.

5- Research Findings

According to the last census in 2011, the country's population was 75149669 people. Iran has 31 provinces based on political divisions. Population growth was 1.29 percent while the growth rate of urban population was 2.14. Urbanization rate was 71.4 percent, rural population equals with 28.5 percent, and 0.1 percent was non-resident population. The country's area is 1628771 square kilometers (www.amar.org.ir). According to the law, any place that has a municipality is known as city. There were 1331 cities in Iran in 2011. It should be mentioned that the research analysis is based on political divisions before Alborz became province (i.e. 30 provinces) (Interior Ministry, 2012) since CBI did not announce urban land in Alborz Province separately and the information related to this province has been mentioned in the form of Tehran province in each studied period i.e. 2001, 2006, and 2011. The information will be analyzed in this study are related to average land price of urban buildings in Iran provinces (land price of urban buildings represents urban land price) during 2001 to 2011. Given high volume of statistical data and information during these ten years, it was decided to study and analyze land price of urban buildings in 2001, 2006, and 2011.

An Analysis of Urban Land Price in Iran's Provinces in 2001

Studying land price of urban buildings in 2001, it was specified that the average price of land for urban buildings in the country was 583.3 thousand Rials. Urban land price was higher than country average in the provinces of Tehran, Kordestan, and Hormozgan respectively, and it was at its lowest figure in the provinces of Bushehr, Kohkilooyeh and Boyer Ahmad, and Sistan and Baluchistan.

Table1. The average price of one square meter of urban land (thousand Rials) in Iran provinces in 2011 and percentage difference with national average

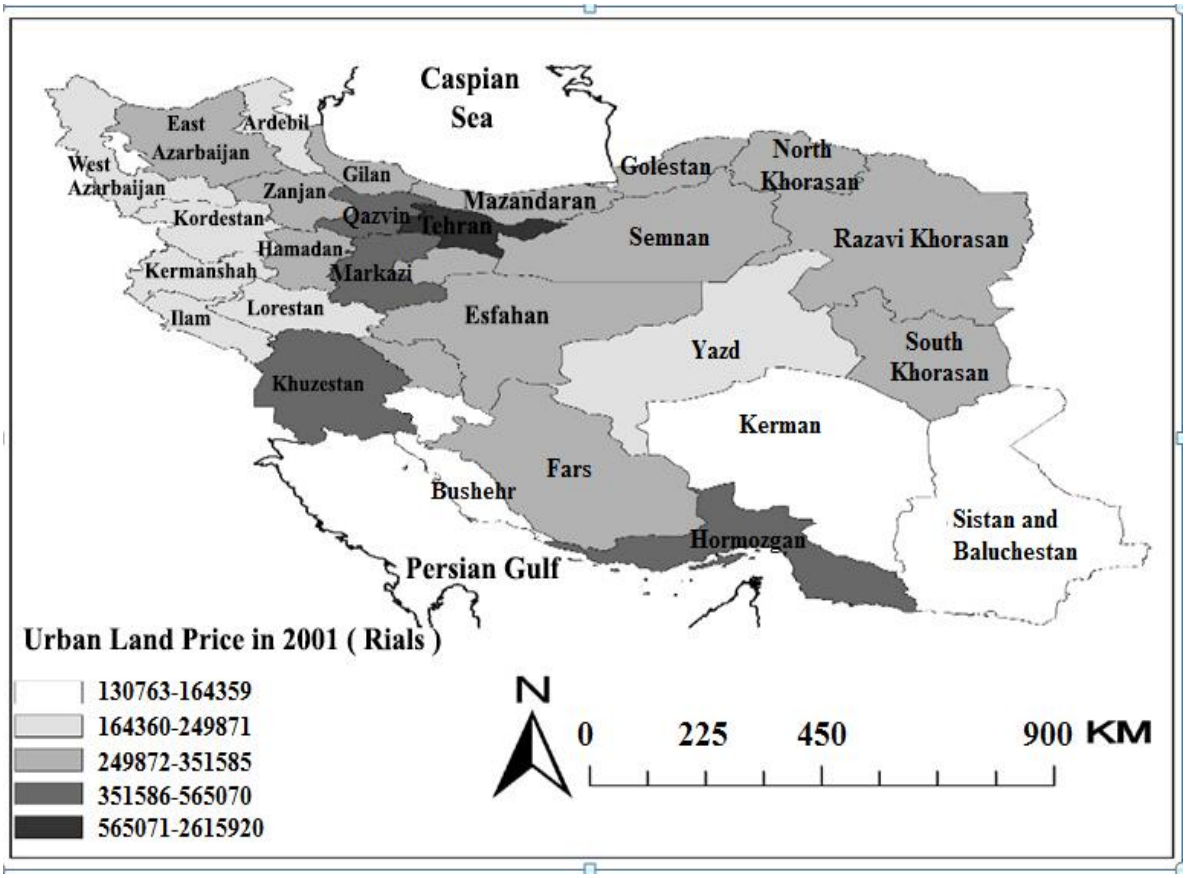
Provinces	East Azerbaijan	West Azerbaijan	Ardabil	Isfahan	Ilam	Bushehr	Tehran	Chahar Mahal	South Khorasan	Razavi Khorasan
Price	6.346	6.205	217	3.271	3.169	4.137	5.2599	5.275	6.323	6.323
Difference Percentage	-40.5	-64.7	-62.7	-53.4	-70.9	-76.4	345.6	-52.7	-44.5	-44.5
Provinces	North Khorasan	Khuzestan	Zanjan	Semnan	Sistan	Fars	Qazvin	Qom	Kurdistan	Kerman
Price	6.323	7.429	3.328	5.179	3.149	336	1.484	5.304	8.805	2.194
Difference Percentage	-44.5	-26.3	-59.1	-69.2	-74.3	-42.3	-17.3	-47.7	38.1	-66.6
Provinces	Kermanshah	Kohkilooyeh	Golestan	Gilan	Lorestan	Mazandaran	Markazi	Hormozgan	Hamedan	Yazd
Price	8.246	5.144	2.266	1.428	3.198	1.371	325	2.656	7.242	1.201
Difference Percentage	-57.6	-75.2	-54.3	-36.6	-65.9	-36.3	-44.2	12.48	-58.3	-65.5

Reference: (Central Bank of Islamic Republic of Iran, 2012)

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In this period, considering that North and South Khorasan Provinces did not exist then, the price related to Great Khorasan province was regarded for all three provinces of Khorasan including Razavi, North, and South. As it can be seen in Table1, Tehran province had the highest land price of urban buildings in 2001 with significant difference rather than other ones and least price is related to Bushehr province. In this year, urban land price was less than the country's average price in most provinces of Iran. The price was higher only in Kordestan, Hormozgan, and Tehran provinces. Map1 shows average price of urban land in Iran's provinces in 2001.



Map1. Average price of urban land in Iran's provinces in 2001
Reference: (CBI, 2012)

There are different models to measure autocorrelation. One the most important of them is Moran & Gary coefficients (Rahnama and Zabihi, 2011). These two models are similar to each other; they have only slight difference based on mathematical definition and the scale of amounts. Most analysts agree with Moran index more since its distribution of characteristics is more desirable. It estimates the difference of each area compared to the other instead of emphasizing on standard deviation (Hayati, 2012). Considering that Moran coefficient is calculated between the values of -1 to +1, and +1 indicates perfect clustering model (polar), zero represents

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pattern of random agglomeration and -1 shows random pattern. As this coefficient is higher, it indicates high accumulation, and as it is lower, it represents more distribution. Moran coefficient was used to investigate the spatial autocorrelation of land price of urban buildings in different provinces. Moran coefficient for land prices of urban buildings in 2001 is equal to -0.06. It can be said that land price of urban buildings in different provinces is almost random in this year.

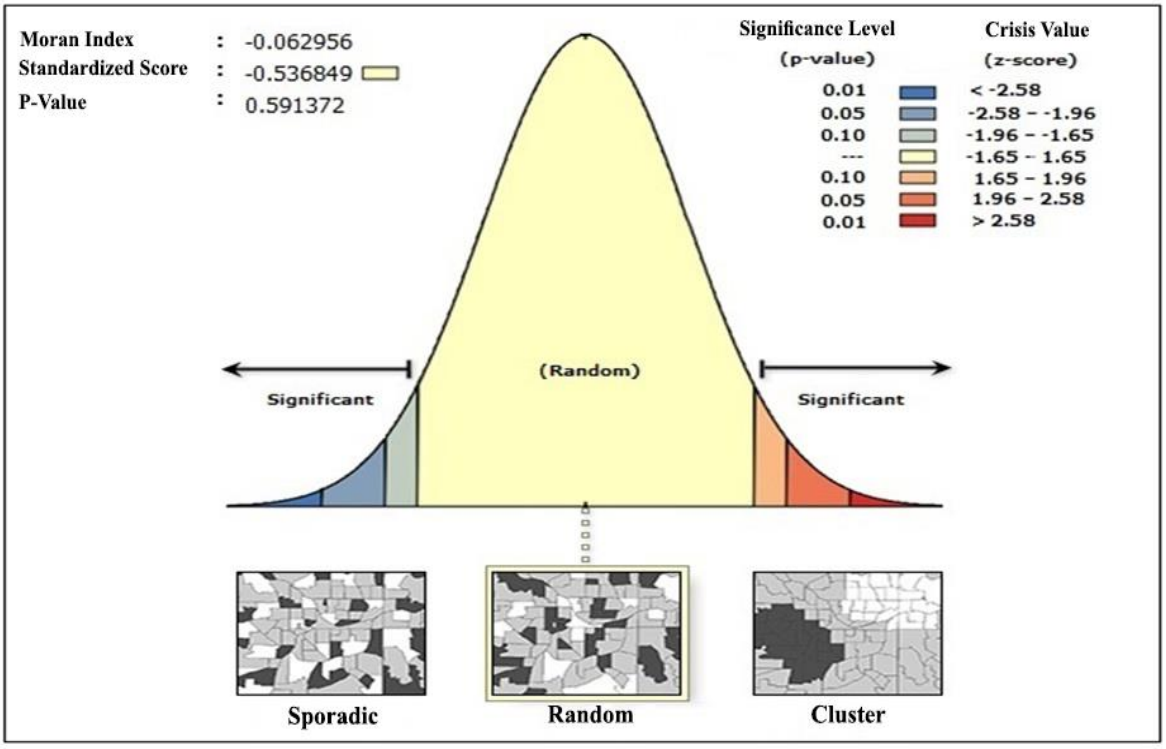


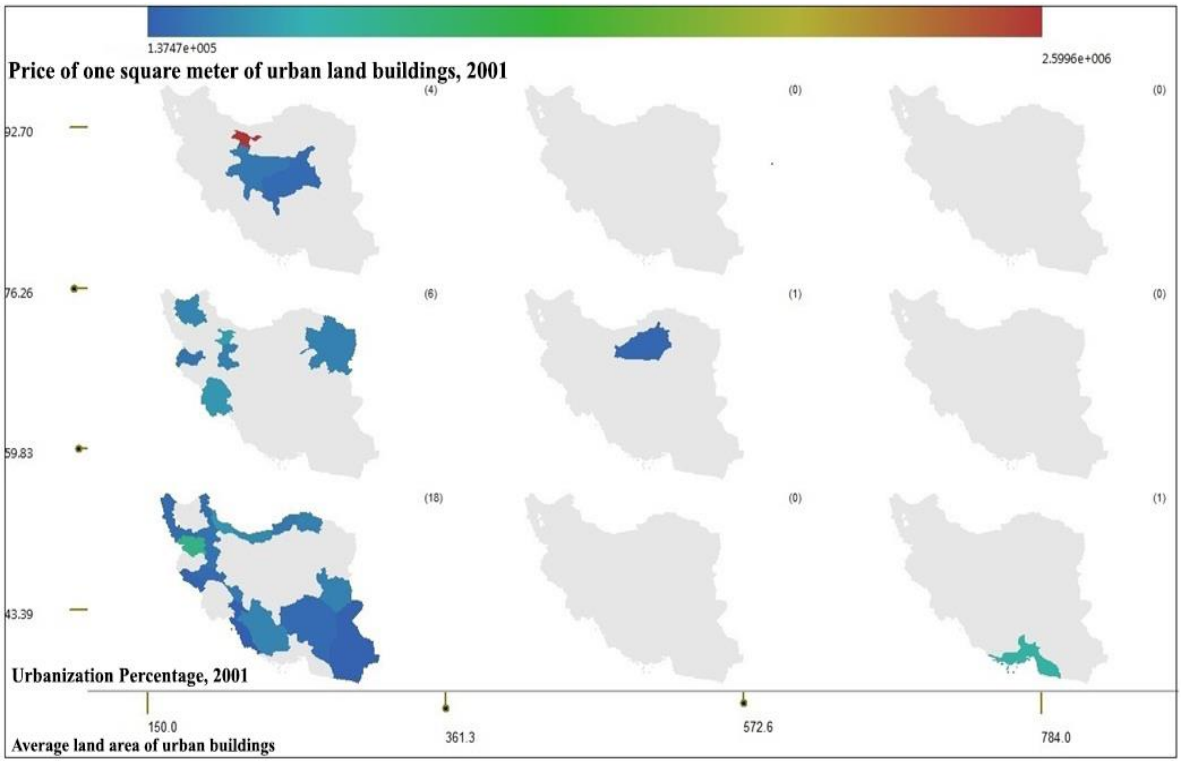
Figure1. The results of Moran coefficient about spatial autocorrelation of one square meter of urban land price in 2001

Reference :(Autocorrelation test outcome and researchers' calculations)

In addition to Moran univariate analysis, it is possible to use two or more variables for their analysis of the spatial autocorrelation among different variables. With regard to software capability of GeoDa, in order to investigate spatial relationship among land price variables of urban buildings, urbanization percentage, and land area average of urban buildings in 2001, this software was used.

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Shape2. Spatial correlation among the variables of price, area of urban land, and urbanization percentage in 2001 (including Tehran)

Reference: (GeoDa software output and researchers' findings)

In shape2, the average price of urban land has been specified by spectrum at the top of the map, and each province has a color corresponding to the same price in maps considering average price of land. In other words, blue color represents low price, green represents average, and red shows high price. The stated prices (low, average, and high) have been announced according to urban land price in the year of study. The average of land area of urban buildings is in horizontal axis and urbanization percentage is in vertical axis. As it can be seen in figure2, considering price, only Tehran province is high. Given the significant difference of Tehran province rather other provinces, the situation of other provinces has been also influenced. After Tehran province, Kurdistan has the highest price of urban land. In order to better comparison of Iran provinces, they were calculated without considering Tehran as it can be seen in figure3.

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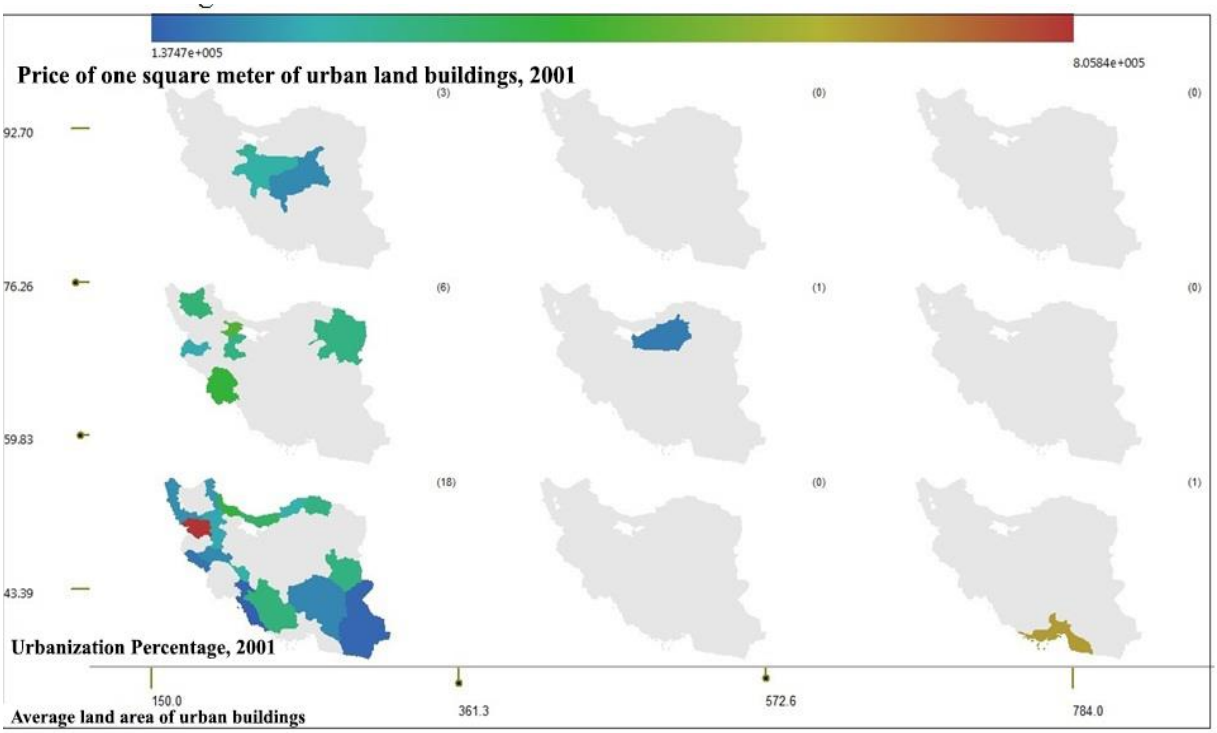


Figure3. Spatial correlation among variables of price, area of urban land, and urbanization percentage in 2001 (without including Tehran)
Reference: (GeoDa software output plotted by researchers)

The situation of urban land area variables and urbanization percentage in this research is based on their status in the year of study. In other words, when a province is among those with low urbanization, it represents the urbanization status of that province in the year of study compared to other ones. As it can be seen in figure3, most provinces of Iran are among those ones with low urbanization and average of urban land area and urban land price is low in most of them. The provinces of Fars, North and South Khorasan, Mazandaran, and Gilan have average price of land. The highest urban land price, without including Tehran province) is related to the province of Kurdistan that its urbanization arte and average of urban land area is low in this province. Urban land price and urbanization percentage are mostly average in the provinces of Khorasan Razavi, East Aserbaijan, Qazvin, Markazi, Kermanshah, and Khuzestan, but the average of urban land area is low. The provinces of Yazd, Isfahan, and Qom are in the group of those with high urbanization and low urban land area. Land price in the provinces of Qom and Isfahan is at average level, and it is low in the province of Yazd. Semnan province is at average level considering urbanization percentage and urban land area and urban land price is low in this province. Despite the average of urban land area is high in the province of Hormozgan and urbanization percentage is low, urban land price is high compared to other provinces.

The relationship and spatial autocorrelation of urbanization percentage variables and average of land area of

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urban buildings with urban land price in 2001 were addressed in the previous section. In the following, the relationship among these variables will be studied based on statistical analysis by using Enter multiple regression test.

Table2. The results of multiple regression test among the variables of urbanization percentage and average of land area with urban land price in 2001

Model	Sum of Squares	Degrees of Freedom	Mean of Squares	F	Significance Level
Regression	1.034	2	5.173	2.979	0.068
Remained	4.687	27	1.736		
Total	5.721	29			

Reference: (PASW software output and researchers' calculations)

Considering the results of multiple regression analysis, there is not any significant relationship among independent variables, including urbanization percentage and land area average of urban buildings in 2001, and dependent variable (urban land price in 2001) since significance level in this test is more than 0.5. In other words, urban land price in 2011 was not influenced significantly by the variables of urbanization percentage and urban land area.

Analysis of Urban Land Price of Iran Provinces in 2006

The average price of urban land in the country was 2363.1 thousand Rials in 2006. It was higher than average in 4 provinces and 26 ones were less than average as well. The highest land prices of urban buildings were for Tehran, Mazandaran, and Golestan, and the least ones were related to Qazvin, Kerman, and Kohkiluyeh and Boyer Ahmad respectively.

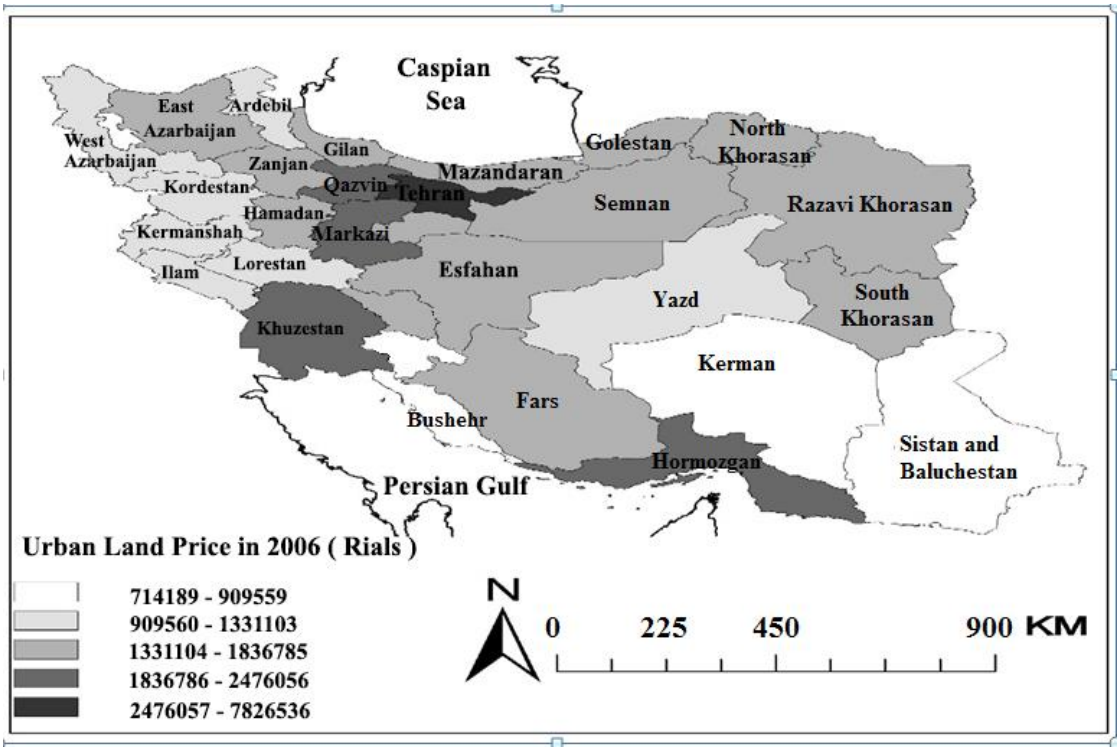
Table3. Average price of one square meter urban land (thousand Rials) in Iran provinces in 2006 and their difference percentage with country's average

Province	East Azerbaijan	West Azerbaijan	Ardabil	Isfahan	Ilam	Bushehr	Tehran	Chaharmahal	South Khorasan	Khorasan Razavi
Price	8.2297	5.1406	3.1490	5.2192	4.994	4.1137	5.7826	5.909	5.1806	6.1653
Difference Percentage	-2.7	-40.4	-36.9	-7.2	-57.9	-51.8	231.1	61.5	-23.5	-30
Province	North Khorasan	Khuzestan	Zanjan	Semnan	Sistan	Fars	Qazvin	Qom	Kurdistan	Kerman
Price	1.1091	5.2067	4.1050	3.1381	6.983	8.1417	1.714	7.2343	7.861	9.763
Difference Percentage	-53.8	-12.5	-55.5	-41.5	-58.3	-40	-69.7	-0.8	-63.5	-67.6
Province	Kermanshah	Kohkilooyeh	Golestan	Gilan	Lorestan	Mazandaran	Markazi	Hormozgan	Hamedan	Yazd
Price	8.1230	1.774	4.2438	7.1836	7.971	2476	1755	9.2365	4.1612	1.1331
Difference Percentage	-47.9	-67.2	3.1	-22.2	-58.8	4.7	-25.7	0.1	-31.7	-43.6

Reference: (CBI, 2012)

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Map2. Average price of urban land in Iran provinces in 2006

Reference: (CBI, 2012)

Studying urban land price during 2001 to 2006, it was specified that the highest percentage of urban land price changes were related to Golsetan, Bushehr, and Isfahan provinces, and Kurdistan, Qazvin, and Tehran experienced the lowest rate of changes.

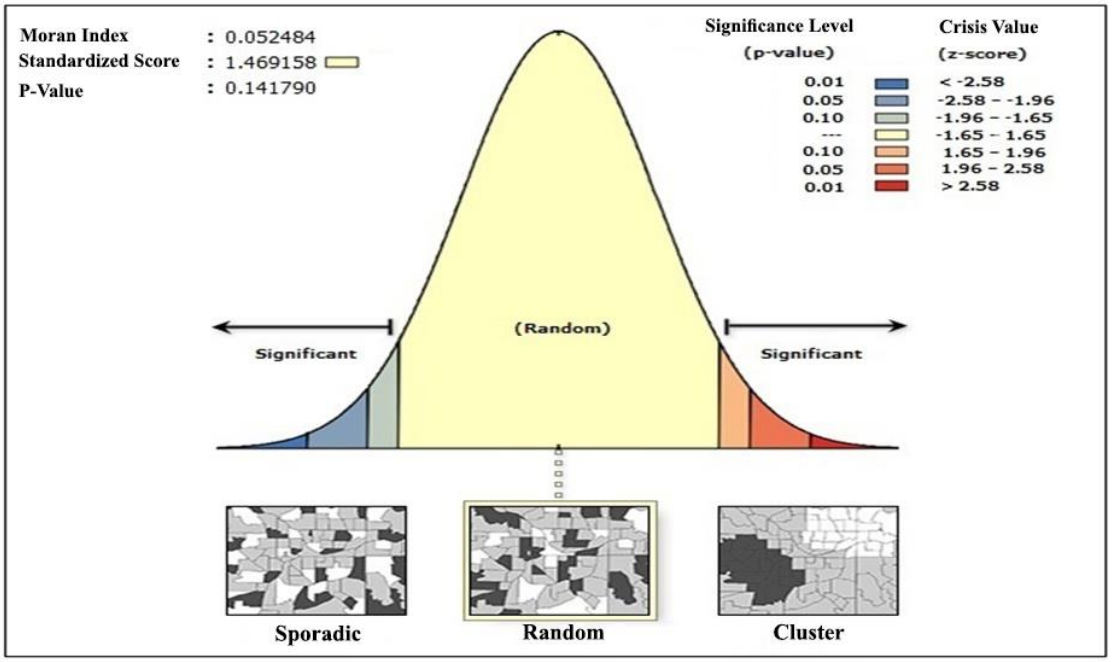


Figure4. The results of Moran coefficient about spatial autocorrelation for price of one square meter of urban land in 2006

Reference: (Autocorrelation test output and researchers' calculations)

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Given that Moran coefficient is 0.05 for the variable of land price of urban buildings in 2006, it can be concluded that the distribution of urban land price is random distribution pattern since Moran coefficient is close to zero.

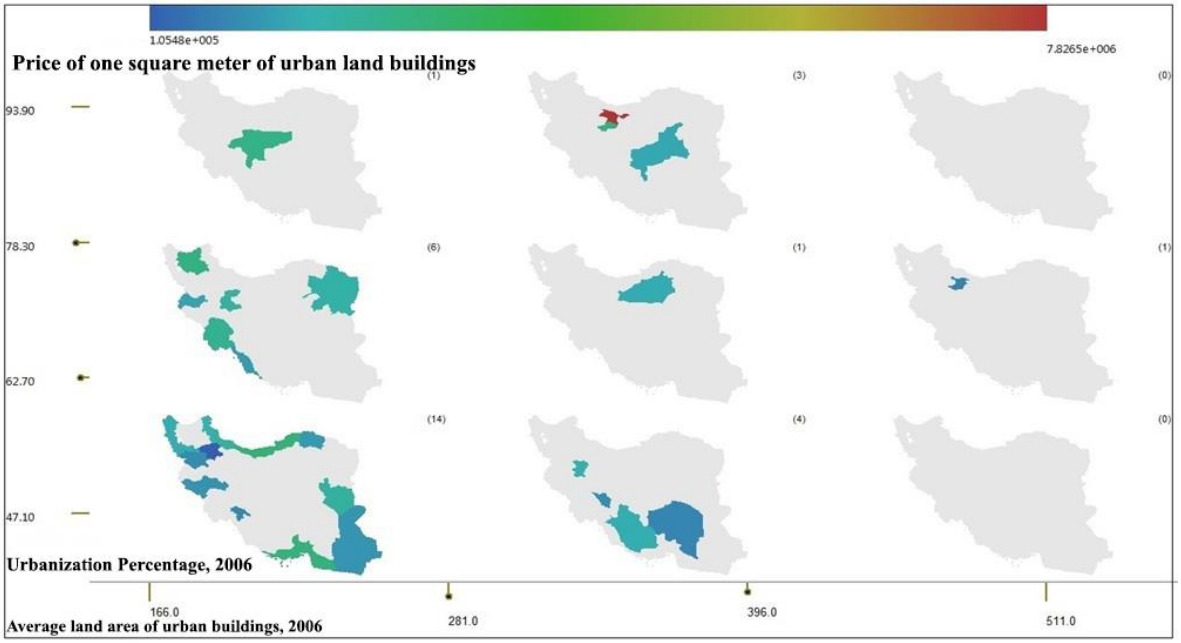


Figure5. Spatial autocorrelation among the variables of price, area of urban land, and urbanization percentage in 2006 (including Tehran)
Reference: (GeoDa software output plotted by reserachers)

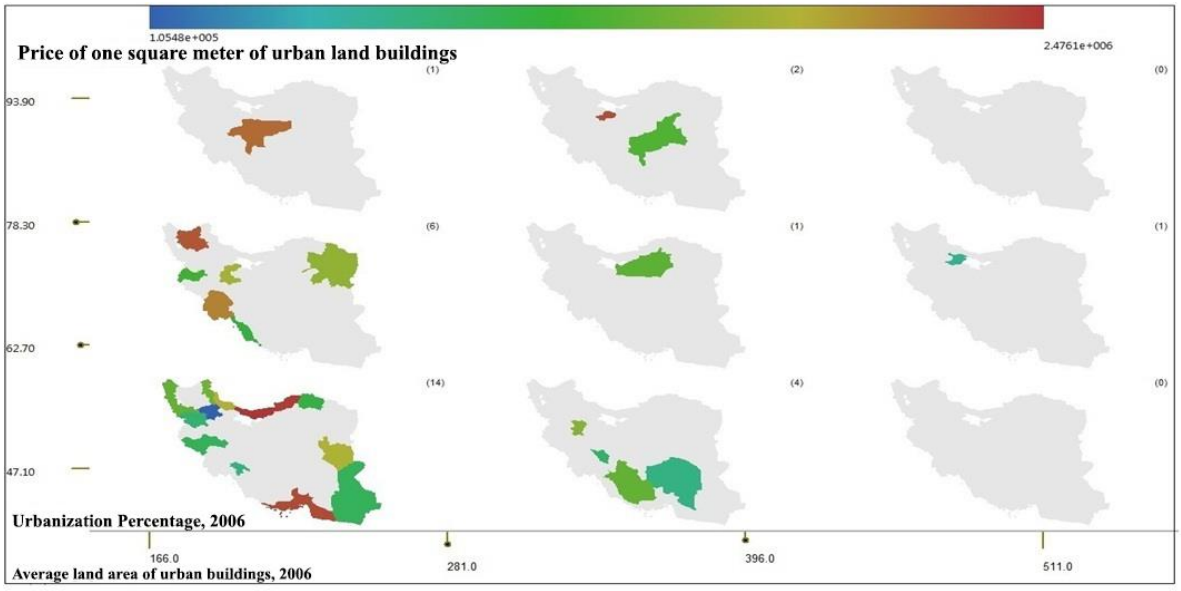


Figure6. Spatial autocorrelation among the variables of price, area of urban land, and urbanization percentage in 2006 (without including Tehran)
Reference: (GeoDa software output plotted by reserachers)

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Considering the significant difference of urban land price in the province of Tehran and outlining spatial distribution of prices in other provinces, two maps were designed. As it can be seen in figure7, there are 14 provinces with low area and urbanization percentage. However, urban land price in the provinces of Hormozgan, Golestan, Mazandaran, south Khorasan, and Gilan is high; other provinces have average or low prices. 6 provinces have average urbanization and low urban land area; the provinces of East Azerbaijan, Khuzestan, Khorasan Razavi, and Markazi had the highest prices and provinces of Bushehr and Kermanshah had average prices. Isfahan province has high urbanization percentage and low area of urban land; urban land price in this province is higher compared to other provinces. Seven provinces have average area of urban land. Urbanization percentage of Fars, Hamedan, Kerman, and Chahar Mahal and Bakhtiyari provinces is low, and urban land price is average to low respectively. Urban land price and urbanization percentage are average in the province of Semnan. Urban land price is high in the province of Qom, and average in Yazd. However, urbanization rate is high in these two provinces. Urbanization rate is average in the province of Qazvin, urban land area is high, and urban land price is low as well.

The results of Enter multiple regression test among studied variables indicate a significant relationship among these variables in 2006 since the significance level is lower than 0.05 among the variables of urbanization percentage, average area of urban land, and urban land price.

Table4. The results of multiple regression test among the variables of urbanization percentage, average area of land, and urban land price in 20065

Model	Sum of squares	Degree of freedom	Mean of squares	F	Significance level
Regression	1.177	2	5.883	4.425	0.022
Remained	3.590	27	1.330		
Total	4.767	29			

Reference: (PASW software output and researchers' calculations)

In other words, predictive variables, independent variables of urbanization rate and average area of urban land, could predict significantly urban land price.

Table5. The impact of independent variables (urbanization percentage and average area of urban land) on dependent variable (urban land price) in 2006

Title	Unstandardized coefficients		Standardized coefficients	T coefficient	Significance level
	B coefficient	Error of standard deviation	Beta coefficient		
Urbanization	50385.70	18341.79	0.523	2.965	0.006
Average area of urban land	-2231.75	3070.43	-0.128	0.727	0.474

Reference: (PASW software output and researchers' calculations)

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Considering the results of coefficients and amount of Beta, it can be said that the variable of urbanization rate predicted urban land price positively and average area of urban land negatively as well. In other words, as urbanization rate increase so does urban land price, and as area decreases, urban land price increases. However, given the significance level of each variable, it can be said that urbanization rate predicted significantly and average area of urban land could predict insignificantly urban land price of Iran provinces in 2006.

Analysis of urban land price of Iran provinces in 2011

The average price of urban land was 5417.7 thousand Rials in the country. Only, the prices in two provinces were higher than average and 28 others were less than the average. The highest land prices of urban buildings belonged to the provinces of Tehran, Khorasan Razavi, and East Azerbaijan, and the least ones were devoted to Sistan and Baluchestan, Yazd, and Khuzestan respectively.

Table6. The average price of one square meter of urban land (thousand Rials) in Iran provinces in 2011 and their difference percentage with country's average

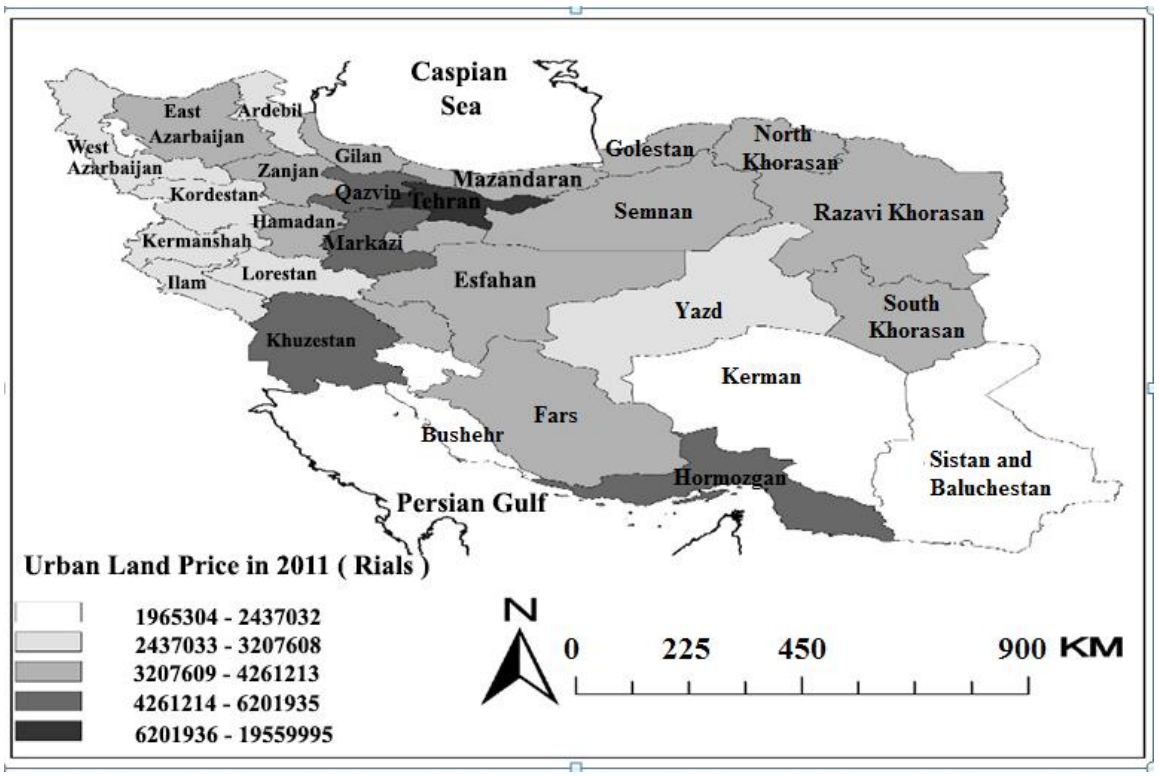
Province	East Azerbaijan	West Azerbaijan	Ardabil	Isfahan	Ilam	Bushehr	Tahran	Chahar Mahal	South Khorasan	Khorasan Razavi
Price	8.5220	9.3337	9.2840	3.3557	3.3133	1.3654	9.19559	2.3084	8.3560	9.6201
Difference Percentage	-3.6	-38.3	-47.5	-43.3	-42.1	-32.5	261	-43	-34.2	14.4
Province	North Khorasan	Khuzestan	Zanjan	Semnan	Sistan	Fars	Qazvin	Qom	Kurdistan	Kerman
Price	2408	5.2211	3374	6.3207	3.1965	3.2985	6.3338	6.3616	4.2397	6.2287
Difference Percentage	-55.5	-59.1	-37.7	-40.7	-63.7	-44.8	-38.3	-33.2	-55.7	-57.7
Province	Kermanshah	Kohkilooyeh	Golestan	Gilan	Lorestan	Mazandaran	Markazi	Hormozgan	Hamedan	Yazd
Price	2437	1.2358	3401	2.3451	6.2321	2.4261	5.3115	1.3126	7.4649	8.2005
Difference Percentage	-55-	-56.4	-37.2	-36.2	-57.1	-21.3	-42.4	-42.2	-14.1	62.9

Reference: (CBI, 2012)

Studying urban land price during 2006 to 2011, it was specified that the highest percentage of changes in urban land price belonged to Qazvin, Khorasan Razavi, and Chahar Mahal and Bakhtiyari provinces respectively, and the lowest belonged to the provinces of Khuzestan, hormozgan, and Golestan.

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Map3. The average price of urban land of Iran provinces in 2011

Reference: (CBI, 2012)

Since Moran coefficient for the variable of urban land price in 2011 tends highly to zero (equal to -0.013), it indicates random distribution of this variable in Iran provinces like 2001 and 2006.

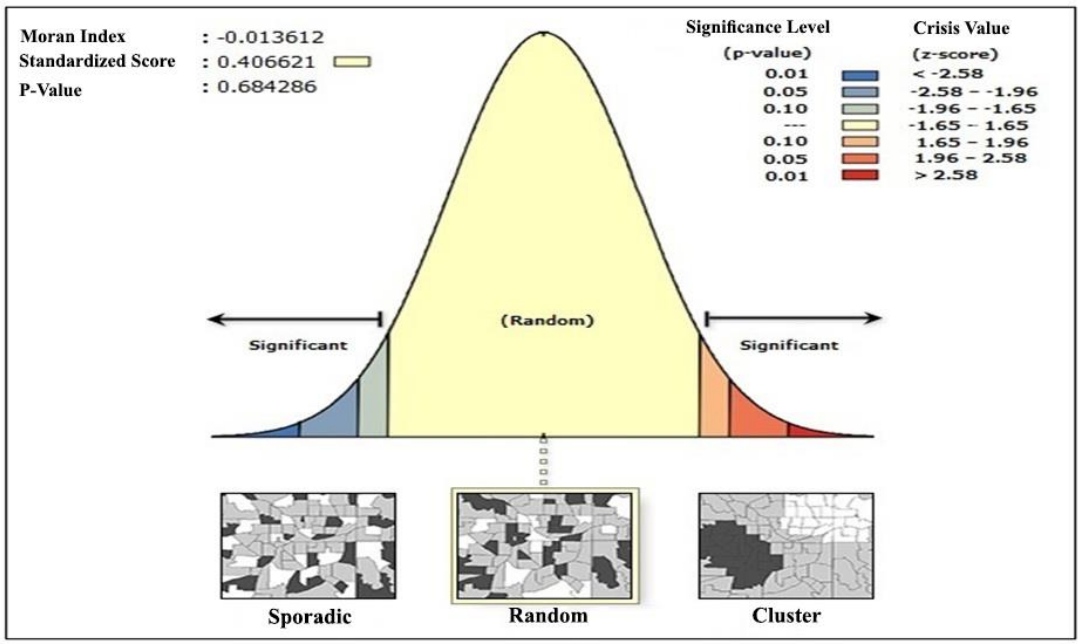


Figure7. The results of Moran coefficient about spatial autocorrelation of price for one square meter of urban land in 2011

Reference: (GeoDa software output plotted by researchers)

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Like previous studied periods, the province of Tehran had the highest urban land price. Urbanization rate was also very high, and area of urban land was at average level in this province.

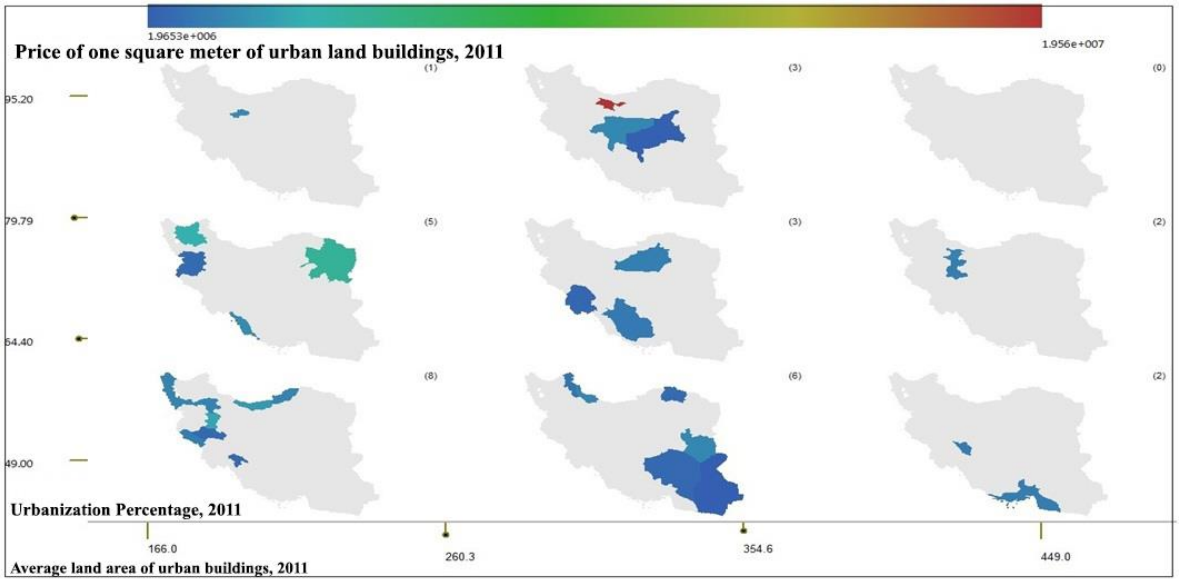


Figure8. Spatial autocorrelation among the variables of price, urban land area, and urbanization rate in 2011 (including Tehran)
Reference: (GeoDa software output plotted by the reserachers)

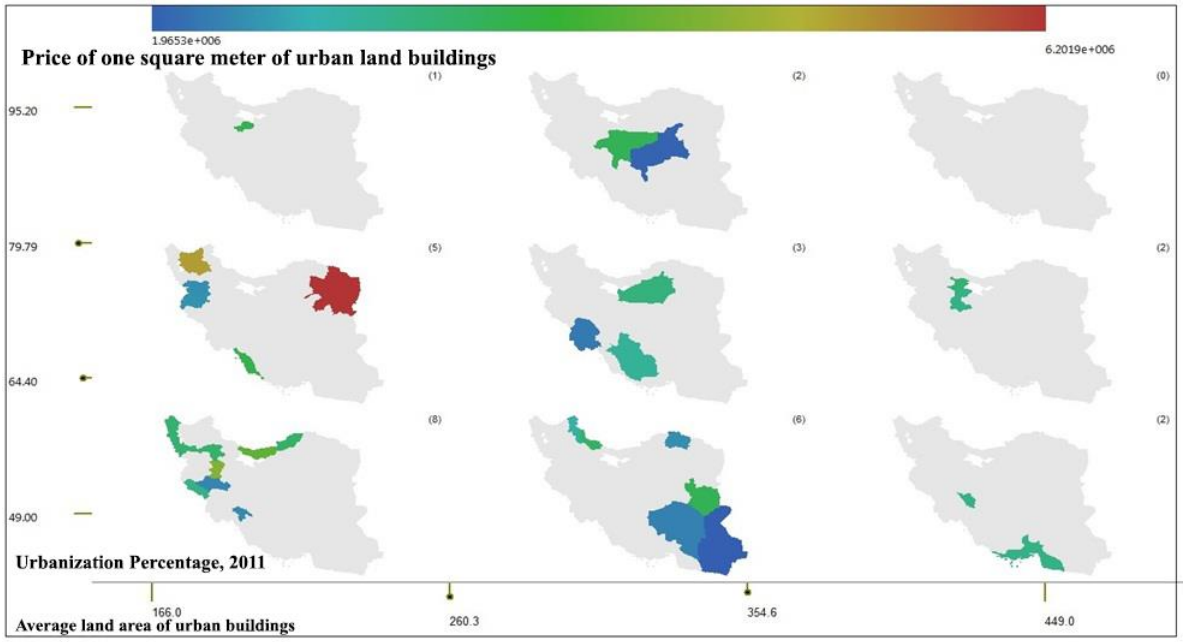


Figure9. Spatial autocorrelation among the variables of price, urban land area, and urbanization rate in 2011 (without including Tehran)
Reference: (GeoDa software output plotted by the reserachers)

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The distribution of studied variables in 2011 among different provinces is more rather previous periods. Urbanization rate and urban land area of Hamedan, Mazandaran, Golestan, Zanjan, West Azerbaijan, Ilam, Lorestan, and Kohkilooyeh and Boyer Ahmad provinces are lower than others, and urban land price is descending respectively (from average to low price). The highest urban land price belonged to the provinces of Khorasan Razavi and East Azerbaijan, but urbanization rate is average in these two provinces and Bushehr, Kurdistan, and Kermanshah as well, and urban land area is low in them. Despite high urbanization rate and low area of urban land in Qom, land price is at average level. In spite of low urbanization rate and average area of urban land in the provinces of Sistan and Baluchistan, Kerman, North Khorasan, Ardabil, Gilan, and south Khorasan, urban land price is from low to average respectively. Urbanization percentage, area and price of urban land are at average level in the provinces of Semnan and Fars. The provinces of Yazd and Isfahan had the highest urbanization rate and they are at average level considering urban land area. Land price is average in the province of Isfahan and low in Semnan. Urban land price is at average level in the provinces of Hormozgan, Chahar Mahal and Bakhtiyari, Qazvin, and Markazi and urban land area are relatively high compared to other provinces.

Since significance level is less than 0.05 based on Enter multiple regression test among the variables of urbanization rate, average area of urban land and urban land price in 2011, it can be said that there is a significant relationship among them.

Table7. The results of multiple regression test among the variables of urbanization rate, average area of land and urban land price in 2011

Model	Sum of squares	Degree of freedom	Mean of squares	F	Significance level
Regression	5.796	2	5.883	3.472	0.046
Remained	2.254	27	1.330		
Total	2.834	29			

Reference: (PASW software output and researchers' calculations)

Considering the results of coefficients and amount of Beta, it can be said that the variable of urbanization rate predicted positively and the variable of average area of urban land predicted negatively urban land price as the results of 2006. In other words, as urbanization rate increases, so does urban land price, and when area decreases, urban land price increases. However, considering significance level of each variable, it can be said that urbanization rate could significantly and average area of urban land insignificantly predict urban land price of Iran provinces in 2011.

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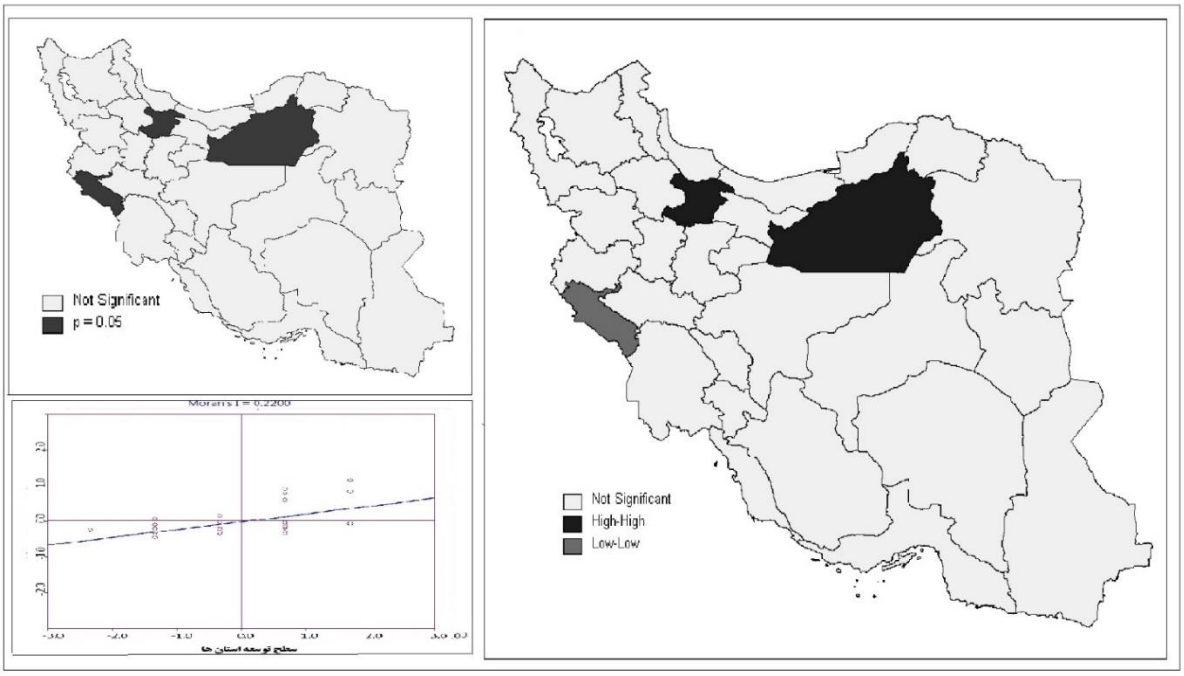
Table8. The coefficient of effectiveness of independent variables (urbanization rate and average area of urban land) on dependent variable (urban land price) in 2011

Title	Unstandardized coefficients		Standardized coefficients	T	Significance level
	B coefficient	Error of standard deviation	Beta coefficient		
Urbanization	113347.97	7673.91	0.436	2.537	0.017
Average area of urban land	-5008.30	44671.90	-0.112	-0.653	0.520

Reference: (PASW software output and researchers' calculations)

6- Conclusion and Suggestion

Using GeoDa software, spatial autocorrelation was analyzed between the variables of the price of one square meter of urban land and development level of provinces in 2011. Moran coefficient was 0.22 between these variables indicating random distribution toward cluster distribution. The slope of Moran regression was positive; indicating that there is a relationship between development level of provinces and urban land price in 2011, the strength of this relationship is low and it is true only in some provinces. It should be mentioned that the development status of Iran provinces was done according to the announcement of Interior Ministry. As development level increase, so does land price in the provinces of Qazvin, Qom, Semnan. As development level decreases, so does land price in the province of Ilam. The significance level of this relationship is 95 percent for the mentioned provinces, but there is no significant relationship between average price of urban land and development level of other provinces.



Map4. Spatial autocorrelation between the variables of development level of provinces and urban land price in 2011

Reference: (CBI, 2012)

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After studying the process of changes in the average price of urban land in Iran provinces during 2001 to 2011, it was specified that the average coefficient of variations of urban land price was 828.73 in the country. The highest coefficients belonged to the provinces of Bushehr, Khorasan Razavi, and Hamedan respectively and the least ones devoted to the provinces of Kurdistan, Hormozgan, and Khuzestan respectively. Generally, it can be said that spatial distribution of urban land price had random pattern in Iran provinces during 2001 to 2011 and the variables of urbanization rate and average area of urban land did not affect urban land price greatly. Some of the most important reasons of increasing urban land price and housing during previous years, particularly during 2011 to 2011, are liquidity growth, increase in the volume of money in the community, weaknesses in the fields of investment in industry, agriculture, and service sectors, weakness of the country's financial markets, inability of capital market to attract funds, the role of housing as a household's properties, influential role of housing dealers, and lack of speculation control. Finally, it is recommended to study other effective factors on urban land price in Iran with other models and scientific methods for future studies in order to specify the impact of other factors and to avoid policies and measures forming false prices in urban land and consequently in housing.

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