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Does news influence housing prices? The case of Tashkent

Numerous studies are devoted to factors influencing the pricing of housing abroad. However, not enough attention is paid to this issue in Uzbekistan. The study was designed to fill this gap, according to the results of which, the impact of news on the acquisition of houses without registration was not revealed.

Along the way of canceling registration

According to the decree of the President of the Republic of Uzbekistan "On further measures to create a system for processing and issuing a biometric passport of a citizen of the Republic of Uzbekistan for traveling abroad and modernizing the biometric passport system of the Republic of Uzbekistan" dated December 26, 2018, No. PP-4079, by 2021 on the territory of the republic personalized identification cards will be introduced - ID-cards. This, in turn, will lead to the abandonment of the registration system by introducing an ID card.

During his message to the Oliy Majlis on January 25 this year, President Shavkat Mirziyoyev instructed the parliament and government to study international experience by April 1 and develop specific proposals for reforming the "propiska" (registration) system. In this regard, on February 11 of this year, the reform of the registration institute was announced, and already from April 1, the purchase of real estate in Tashkent and the Tashkent region was allowed, regardless of the permanent registration.

The current study provides a comparative analysis of housing prices in Tashkent based on weekly complex data on housing prices from March 2019 to March 2020. For this, a hedonic pricing model was applied, which determines housing prices based on both external and main internal factors and characteristics of apartments. The repair of roads, as well as news about the reform of the institution of registration were considered as external factors that affect the price of apartments. The internal factors affecting the cost of housing were such characteristics as area,

height of the living buildings, floor level of the selling apartments, the number of rooms, the material used for construction of apartment and the location by districts.

To investigate the impact of news on housing prices we use data from several sources. First, the raw data for **housing prices** uses panel data from the website of a well-known local advertisement publication "Private Sector- The Property" (Частный Сектор- Недвижимость, 2020), which publishes weekly data starting from 2013 based on advertisements placed by real sellers of the local properties. This data source was chosen because of the free and open access for both the sellers and buyers, whilst hardcopy of the newspaper is also affordable for both parties. "Private Sector- The Property" is the largest publication in Tashkent which every week publishes lists of apartments, and advertisements are republished during three months (12 times). Lists are scattered across six categories: one-room, two-rooms, three-rooms, four-rooms, five-rooms and six-rooms of the selling apartments. Thus, the data sample used for estimation and analysis did not constitute significant bias and it was expected to capture the most of the transactions. Therefore, the sample size consisting of 6500 observations before data cleaning was assumed to be reliable. After cleaning data, the sample size decreased up to 6261 since all selling apartments with zero selling price, zero floor level in the building, floor level of the selling apartment exceeding the number of floors in that building and all apartments outside the city were dropped.

The data for the second group of determinants were collected from two sources: the data about news on cancelling registration in order to acquire apartment in the capital of the republic from the well known website "Gazeta.uz", and news about the roads being repaired in all districts of the Tashkent from 2019 to 2020 was taken from the Tashkent City Regional Road Service.

Literature review

Literature that scrutinizes the impact of news on housing prices considers announcements of a proposed apartment complexes, shopping centers development, proposed wind firm development, announcement of the government decision on airport expansion and new tax regulation (Sirpal, 1994; Tang, 2016; Knittel et al., 2016; Laposa and Mueller, 2010; McMillen, 2004; Machin and Gibbons, 2005; etc.).

Sirpal (1994) studies the impact of announcements of proposed shopping centers construction programs on the values of surrounding apartments. He conjectures that new shopping centers will have simultaneously positive and negative effects depending on externalities generated by it, where negative externalities will overweight positive ones. However, the results indicate that the impact of the positive externalities (increased level of convenience, possibility of entertainment,

and availability of goods and services) are greater on apartment price in comparison with negative externalities (increased level of noise, air-pollution, traffic and congestion). In other words, apartments located nearer to the shopping centers may have higher values than those houses which are far away (Sirpal, 1994).

Tang (2016) investigates an association between housing prices and news on tax regulation for transportation roads by exploiting evidence from the London Congestion Charge, United Kingdom. The study finds that the introduction of the congestion tax for transportation roads, which is a marginal willingness to pay of homeowners in order to enjoy better air quality, to travel on safer roads and to avoid noisiness of the traffic, greatly mitigates negative traffic externalities and improves traffic conditions. Moreover, Tang finds that after announcement of the congestion tax the housing transaction prices increase by 3.68 percent in Congestion Charge Zone in comparison with untreated houses within one kilometer away from this zone (2016).

The research carried out by Knittel et al. (2016) analyzes the impact of news on increasing the number of automobiles on housing prices. They find that the increased automobile fumes will negatively influence on surrounded housing prices due to the fact that the quality of the air has a positive effect on housing selling price. The empirical results show that news on rising quantity of automobile lead to increasing automobile fumes, which in turn can worsen the air quality and it makes a neighborhood more unattractive and thus decreases housing values (Knittel et al., 2016). Similar conclusions are also presented by Mohring (1961), Palmquist (1992), Boarnet and Chalermpong (2001), Chay et al. (2005) and Ommeren et al. (2011) who also demonstrate that announcements on increasing the number of transports are associated with relatively cheap apartments due to the fact that greater traffic makes roads unsafe and could decrease the permanent availability of the parking spaces which could negatively influence home prices.

In similar fashion, a meta-analysis of Nelson (2008) and Bateman et al. (2001) determine that news on doubling number of transports and transportation roads is coincided with 0.3-0.6 percent and 0.5-3 percent diminution in house selling prices, respectively. Machin and Gibbons (2005) measure accessibility of the public transportations by comparing the housing transaction prices next to the railways and bus stations before and after the announcements on construction of a new station. Their results suggest that the level of toxic air pollutants such as CO_2, NO and others would increase by 11-20 percent relative to the levels before the construction. They conclude that house prices and explanatory variable are negatively correlated due to the air-pollution and displacement of traffic.

Li (2016) investigates the impact of news on proposed railways construction programs in Beijing on housing prices. He finds that home holders are willing to pay significant premium for apartments located next to railways in more congestion areas, as reflected in higher house selling prices. Also, Hu (2016) analyzes the impact of announcements on new metropolitan on housing prices in Beijing by employing difference-in-difference approach which compares housing prices before and after announcement and conclude that new underground lines are a positive externality in more transit-oriented and centralized cities and metropolitan stations tend to have more positive effects on house selling prices. In addition, Hu (2016) indicates that houses near underground stations are more likely to experience changes in purpose (office, store etc.) which is associated with increase in demand for house and further in its price.

Cohen and Coughlin (2008) study the impact of announcement on expansion of Atlanta airport on surrounded housing prices. The scholars identify that expansion of the airport will increase aircraft noise and air-pollution on surrounding 2003 housing prices by comparing various spatial econometric models and estimation methods in a hedonic price framework. Finally, Cohen and Coughlin (2008) identify that the selling price of houses located in an area in which noise disrupts normal activities (measured by a day–night sound level of 70–75 decibels) is 20.8 percent less than houses located where noise does not disrupt normal activities (defined by a day–night sound level below 65 decibels), the price elasticity is minus 0.15 with respect to distance. Ultimately, Cohen and Coughlin (2008) conclude that airport expansion decreases housing prices.

Almost similar research was carried by McMillen (2004) who studies the impact of news regarding proposed O'Hare Airport expansion in Chicago on the house values from 1996-2001. He finds that surrounded apartments' prices decreases by 10 percent after announcement since households may logically expect increase in flights leading to increased aircraft noise which further would cause a large drop in property price. In addition, McMillen (2004) finds that each additional mile from airport noise increases house price by approximately 8 percent, while all positive externalities such as new employment places, mitigation of air traffic delays are found to be statistically insignificant.

Laposa and Mueller (2010) use data on 2910 apartments located in Maxwell Ranch to examine the announcement effect of a proposed wind farm development on an 11 000-acre ranch in Maxwell Ranch, Northern Colorado. They build their research based on home valuation impacts due to externalities such as underground storage tanks and high voltage transmission lines. Laposa and Mueller (2010) find that the announcement in March 2007 is associated with the

beginning of the apartment value shifts downward, and still illustrates insignificant and minimal impacts to surrounding apartment prices.

To the best of our knowledge no research investigates the impact of announcements on housing prices in Tashkent. The current research paper is going to contribute toward filling this gap and to obtain informative results of greatest importance for providing an understanding of the main determinants of housing price, which contribute to the formation of housing transaction price.

## Methodology and data description

Descriptive statistics

The average area of apartments sold for the period from March 2019 to March of this year was 64 square meters. Since there are no skyscrapers in Tashkent, the maximum height of the living buildings is equal to 18 floors, accordingly the floor level of the selling apartments varies depending on building height. Floor level and building height are two quite different concepts which should not be mixed up. A building height refers to the vertical dimension of the living building, whereas floor level refers to the vertical location of the apartment. The minimum number of rooms in apartments for sale was 1 (often found in the Sergeli district), and the maximum number was 6. The analysis showed that, on average, in Tashkent two and three room apartments are sold more often. The sales of the largest apartments both in terms of the number of rooms and the size of the area were observed in Yunusabad district (Figure 1).

The average cost of housing in Tashkent per square meter was USD 639.4. In terms of districts for the analyzed period, the highest average cost of housing per square meter was found in Yunusabad and Shaykhantakhur districts, 699 and 694 US dollars, respectively. The lowest average prices per square meter were recorded in Bektemir and Sergeli districts, 405 and 411 US dollars, respectively. Prices in areas such as Mirabad, Mirzo-Ulugbek, Chilanzar, Almazar, Uchtepa, Yakkasaray and Yashnabad varied between these two extremes.

Mirzo-Ulugbek and Yunusabad districts became the leaders in the number of advertisements for the sale of apartments, their number was over 23% and 17%, respectively. The smallest number of advertisements was observed in Bektemir (0.30%) and Uchtepa (0.56%) districts.

Figure 1. Distribution of prices per sq. meter
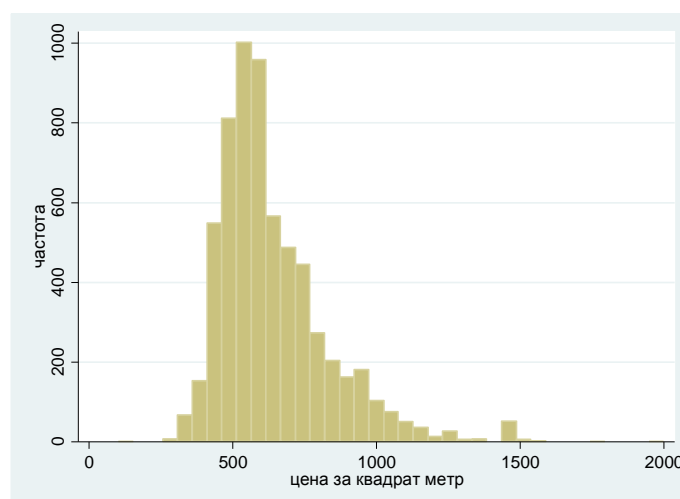
Results of the analysis

According to the calculations, an increase in area by one square meter increases the price of an apartment by 1.3%. The height of the living buildings also has a positive effect on the cost of housing, increasing it by 4.6%. The number of rooms again increases the price of apartments by 26.3%, while the excessive number of rooms already decreases the price by 3.7%. This factor is due to the fact that the area of apartments in Uzbekistan is not so large. And large families try to redesign one room apartment to two, two room apartment to three and so on. Therefore, to a certain extent, a large number of rooms increase the cost, and then, due to the excessive number of rooms, the price will begin to fall. Also, its location on the upper floors has a negative impact on the price of an apartment. That is, the higher the floor on which the apartment is located, the lower its price (2.6% cheaper). Further, if the house is made of brick, then the cost of housing increases by 14.3%, since the majority prefer brick houses, where the heat remains longer during the winter's cold weather. The results also showed the negative impact of road maintenance, reducing the cost of housing by 6.1%. At the same time, the analysis showed that the news on permission to but houses without registration did not affect the price of apartments in any way.

Main conclusions

The fact that permission to purchase housing without a residence permit did not affect the prices of apartments in any way may be due to the fact that people from regions without a residence permit do not have sufficient funds to purchase real estate in the capital. And those who have the opportunity to purchase housing already have apartments registered for another person in Tashkent or do not need houses at all.

And the fact that, starting from April 1, 14,851 purchase and sale housing agreements were registered, of which 70% were transactions of citizens with registration in other regions, was most likely the result of the re-registration of housing. It is worth noting here that before the

abolition of registration for the purchase of housing, the purchase of apartments was carried out with the help of relatives or close people, through the registration of housing for those who had a permanent registration in the capital. Together with the adoption of the decree of the head of state, such citizens first of all re-registered housing in their own name, which was reflected in a large number of contracts.

In general, such variables as the area of the apartment, the height of the living buildings, the number of rooms, and the material used to build the apartments (brick) had a positive effect on the cost of apartments. While ongoing road repairs, the excessive number of rooms had a negative impact on the cost of apartments.