

Unemployment and Homeownership in Turkey: A Preliminary Analysis*

Türkiye'de İşsizlik ve Konut Sahipliği: Bir Ön Analiz

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ABSTRACT

Using individual-level data, this paper aims to explore the link between homeownership and unemployment in Turkey. The Oswald hypothesis states that high homeownership is detrimental to labor market outcomes by restricting the geographical mobility of job searchers. Micro-evidence, however, indicates that homeowners have relatively favorable labor market outcomes. In contrast with the existing micro literature, the findings of this study are in favor of the Oswald hypothesis for the positive link between homeownership and unemployment probability.

Keywords: Oswald hypothesis, unemployment, homeownership, Turkey

ÖZ

Birey düzeyindeki verileri kullanarak, bu makale Türkiye'de ev sahibi olma ve işsizlik arasındaki bağlantıyı incelemeyi amaçlamaktadır. Oswald hipotezi, yüksek ev sahipliğinin, iş arayanların coğrafi hareketliliğini kısıtlayarak işgücü piyasası çıktıları üzerinde olumsuz olduğunu belirtir. Bununla birlikte, mikro bulgular, ev sahiplerinin nispeten olumlu işgücü piyasası sonuçlarına sahip olduğunu göstermektedir. Mevcut mikro literatürün aksine, bu çalışmanın bulguları, ev sahibi olma ve işsizlik olasılığı arasındaki pozitif bağlantı için Oswald hipotezinden yanadır.

Anahtar Kelimeler: Oswald hipotezi, işsizlik oranı, konut sahipliği, Türkiye

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1. Introduction

The global financial crisis of 2008-2009 highlighted the interconnections between the housing market and the labor market in the economy. The most common finding on the link between these two markets is the positive association between homeownership and unemployment. The homeownership rate in this context refers to the owner-occupied rate which is the share of the population that resides in a dwelling they own. The underlying explanation is that homeowners are less mobile relative to renters due to the costs of moving. Therefore, they are reluctant to relocate for job reasons when unemployed. Oswald (1996) documented this relationship for a number of developed nations. Findings in the work of Oswald (1996) indicate that a 10 percent rise in homeownership is associated with a 2 percent increase in the unemployment rate in a sample of OECD countries between 1960 and 1990.

This paper aims to provide a descriptive analysis of the relationship between homeownership and unemployment. This topic is of interest to Turkey on two levels. First, the share of households residing on their own property declined from 67.3 percent in 2011 to 55.5 percent in 2021. Second, at the time of writing this paper, homeownership rates in countries with income levels close to Turkey are quite high. For example, the homeownership rates in Romania, Hungary, and Poland are 97, 88 and 79 percent in 2020, respectively. Clearly, there are additional factors behind homeownership in addition to income level. Taking into consideration the benefits of homeownership such as wealth accumulation, community engagement, and the building of social capital, this paper takes the first step in examining the link between homeownership and unemployment at the individual level in Turkey.

By drawing on data from the 2013 wave of Life Satisfaction Surveys, this paper estimates the relationship between the probability of unemployment and homeownership at the individual level. Findings indicate that homeowners are, on average, 0.7 percentage points more likely to be unemployed than renters. While this finding, in line with the Oswald hypothesis, may be arising from the reduced mobility of owners, the identification of the exact mechanism is left for future research.

The remainder of this paper is structured as follows: Section 2 reviews the related research. Section 3 describes the dataset and the empirical methodology. Section 4 presents the findings, and Section 5 makes some conclusive remarks.

2. Related Research

Theoretically, higher homeownership rates in a region may be associated with inferior labor market outcomes by constraining the mobility of individuals. If the demand for labor in a region declines, due to the costs of moving homeowners in that region will be less motivated to move to regions with better job prospects. Clearly, the cost of moving will be higher for owners due to the high search and transaction costs associated with both choosing and selling homes. In equilibrium, this will lead to a higher structural unemployment rate. Oswald (1996) attributed the rise in joblessness in a number of industrialized countries including the United States, the United Kingdom, Italy, Sweden, and France in the period between 1960 and 1990 in part to the rise in homeownership and the fall in the private rental market. This result in Oswald (1996) has been tested for different countries at the macro and micro levels. At the macro level, several studies based on regional or cross-country data provide supportive evidence for the positive correlation between homeownership and the rate of unemployment. Using state-level data from the US for the period between 1970 and 1990 and also controlling for the aging of the population, Green and Hendershott (2001) found no significant association between the share of homeowners and the unemployment rate. However, the results confirmed the Oswald hypothesis for the middle age group (35-64) which may be explained by the fact that young households may find it easier to relocate for job reasons as they have not accumulated enough wealth and have not become attached to their neighborhoods. The link between employment and homeownership was also weak for older households as their members may have left the labor force. Using regional data from Germany, Lerbs (2011) documented supportive evidence for the Oswald hypothesis for the period between 1998 and 2006. Findings in the work of Lerbs (2011) identified a positive but weak relationship between homeownership and unemployment.

Blanchflower and Oswald (2013) explored U.S. state-level data from the period between 1985-2011 and found that the detrimental effects of high levels of homeownership on unemployment are not immediate but arrive with a time lag of about five years. The authors, however, did not argue that homeowners are disproportionately more unemployed, but they proposed that the housing market may create spillovers. These spillovers may manifest in three ways. First, higher homeownership leads to lower labor mobility. Second, high homeownership may also create externalities such as longer commutes as states with a less mobile workforce will have greater traffic congestion. Third, high homeownership areas may have lower job creation and entrepreneurial action as homeowners might press for laws and restrictions on land

development in their neighborhood – the so-called NIMBY (not-in-my-backyard) pressures as suggested in Oswald (1999)³.

Horsewood and Dol (2013) explored panel data from European Union countries to study the association between housing and the labor market. By distinguishing between medium-term and long-term unemployment and controlling for both labor market variables and housing variables, the authors documented evidence that high household mortgage indebtedness is linked with higher unemployment rates. This finding suggests that while countries with higher homeownership rates will have high unemployment rates, the mechanism may be working through indebtedness impairing mobility. This may give rise to different labor market outcomes for outright and mortgaged homeowners.

Based on data from the British Household Panel Survey, Battu et al. (2008) examined the relationship between housing tenure and individuals' job mobility. While their findings provided supportive evidence for the underlying idea that the positive association between unemployment and homeownership is caused by the lower mobility of unemployed homeowners in the United Kingdom, their results indicated no support for the hypothesis that homeownership prolongs joblessness duration. Using Danish microdata, Munch et al. (2008) documented supportive evidence for the positive link between homeownership and job duration which can be explained by lower transition rates of employed homeowners into new nonlocal jobs. Accordingly, employed homeowners are offered higher wages as firms tend to invest in firm-specific human capital. In this case, the probability of switching jobs in the local labor market will be lower for the homeowners.

Borg and Brandén (2018) investigated the impact of both individual housing tenure and regional homeownership rate on the probability of being unemployed at the individual level in Sweden. Their findings showed that both homeowners and renters are more likely to be unemployed in high homeownership regions. In addition, the authors offered an additional explanation for the detrimental effects of high homeownership on labor market outcomes. The authors argued that high homeownership regions are also characterized by small labor markets which generate poor matches between workers and firms, and this leads to higher unemployment rates.

³ Oswald (1999) highlighted two spillover effects of high homeownership. One is that high homeownership areas tend to have more regulations and restrictions on land development that repress entrepreneurship. The second one is that in an economy with low mobility, workers tend to accept jobs that they are not well-suited to. The resulting inefficiency is harmful to everyone by raising the costs of production and lowering real wages.

A number of papers explored the microdata foundations of the Oswald hypothesis by building a search model. Munch et al. (2006) built a search theoretic model of the labor market. Their model predicts that while homeowners are less likely to move for job reasons, they are more likely to find local jobs as they reduce their reservation wages in the local labor market. The net impact of homeownership on unemployment duration, therefore, depends on which of these two effects dominates. Findings based on Danish micro data indicated that the likelihood of homeowners finding jobs that require relocation is lower, and they are more likely to find local jobs. Therefore, the net effect of homeownership on unemployment duration is negative. Caliendo et al. (2015) found also that unemployed homeowners in Germany do not adjust their search intensity or job search methods. By linking the labor and housing market through mobility, Head and Lloyd-Ellis (2012) constructed a model where homeowners can relocate if they can sell their houses. Consequently, how quickly households can sell their houses depends on the local labor market conditions. Similar results were found by Güler and Taşkın (2018). To analyze the effect of local labor market conditions on unemployment, the authors developed a search-theoretic model of the labor and housing markets. They characterized the housing market by allowing for two types of individuals: owners and renters who face the same labor market prospects. There are also frictions in the housing market in the sense that it is costly for owners to move to other locations, and for renters, finding housing is a lengthy process. Their model predicts that homeowners are indeed less mobile and stay unemployed longer, and hence lower their reservation wages for local jobs. Using data from the United States, the authors confirmed the predictions of their model: the probability of exiting unemployment is lower for homeowners in states with higher unemployment rates.

It should be noted that homeownership is potentially endogenous. One could argue that more driven individuals are both more likely to become homeowners and be in employment at any point in time. A number of papers addressed the potential endogeneity of the homeownership variable. Coulson and Fisher (2009) developed search models to explain the link between homeownership and labor market outcomes both at the aggregate and micro levels. Taking into account the endogeneity of homeownership, the authors provided empirical evidence consistent with lower unemployment probabilities and lower wages for homeowners at the micro level. Using a panel of forty-two Belgian districts, Isebaert et al. (2015) tested the Oswald hypothesis. To address the endogeneity of homeownership, the authors employed instrumental variable techniques. Results in the work of Isebaert et al. (2015) support the negative link between employment and homeownership. Laamanen (2017) analyzed the effect of homeownership on

unemployment in Finland. By taking into account the endogeneity of the regional homeownership rate, Laamanen (2017) found that homeownership generates externalities in addition to its direct effects on individuals. These externalities may arise from reductions in consumption spending of individuals that debt-financed their homes. Furthermore, there may be increased job competition in a locality as individuals that purchase homes will supply more labor and this increase in labor supply may displace other workers from their jobs. Hence, Laamanen (2017) reconciled the discrepancies between the results from the aggregate and micro-level studies by these two types of externalities of homeownership in the labor market. Similarly, Wolf and Caruana-Galizia (2015) also addressed the endogeneity of regional homeownership by using an instrumental variable. Their findings suggest that homeownership decreases labor mobility and positively affects unemployment at the regional level in Germany. Broulíková et al. (2020) used the privatization of public housing in Central and Eastern Europe after the fall of the Iron Curtain as an exogenous shock that randomly assigned housing to individuals. While the findings did not support the adverse effects of homeownership on mobility, analyses controlling for individual heterogeneity did not confirm the negative link between homeownership and unemployment.

Lastly, using Dutch data, Van Vuuren (2017) explored the link between homeownership and unemployment duration in a structural model by taking into consideration the selection into homeownership and the risk of losing a home during a jobless spell. Analyses in the work of Van Vuuren (2017) provide no support for the link between homeownership and individual labor market outcomes. Reduced-form estimations do, however, indicate relatively shorter unemployment spells for homeowners.

For the Turkish case, a number of papers are relevant. By using aggregate data for the period between 1994 and 2011, Erdem and Erol (2013) examined the relationship between unemployment and homeownership. Results in the work of Erdem and Erol (2013) indicate a negative but statistically insignificant relationship between unemployment and homeownership in urban and rural areas and Turkey as a whole. Aydede (2016) explored the relationship between unemployment duration and residential mobility in Turkey, using data from the Survey of Income and Living Conditions 2011. By taking into account the prevalence of squatters in the urban housing market, estimation results implied significantly longer unemployment durations for homeowners. Using quarterly data for the period between 2010 and 2020, Karadağ (2021) found a positive link between mortgage loans, housing sales, and unemployment.

Findings in the work of Karadağ (2021) imply that a rise in mortgage loans and housing sales leads to a rise in unemployment rates.

3. *Data and Empirical Methodology*

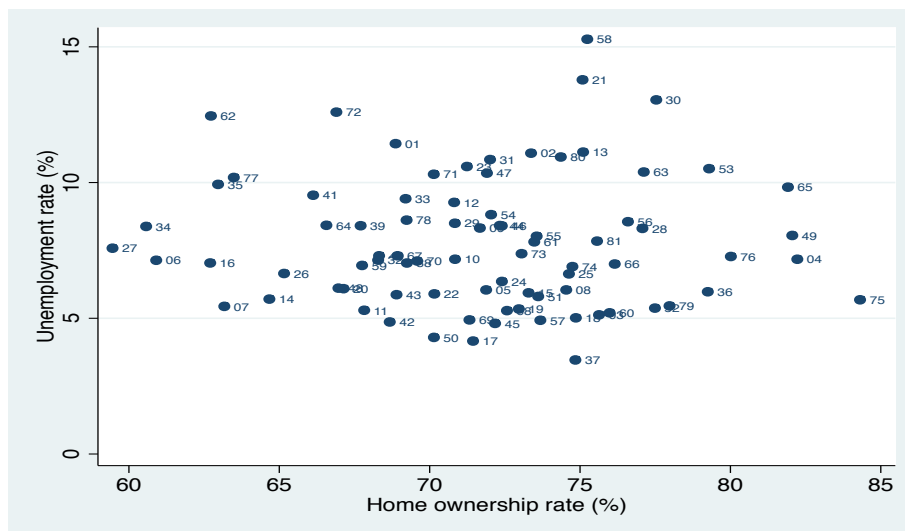
This paper utilizes two different datasets to explore the link between homeownership and the unemployment rate. The first dataset is from the 2013 wave of Life Satisfaction Surveys (LSS) conducted by Turkstat. The LSS are annual surveys that are designed to be representative of the population. The primary aim of the LSS is to collect information on the satisfaction of individuals with several dimensions of their lives such as marriage, health, job, and household income, as well as the public services such as the judiciary system and the health system. The datasets come in two samples: household and individual. The individual sample contains data on age, gender, marital status, educational attainment as well as labor market status. Survey respondents are asked if they worked in the previous week even without pay. Individuals reporting not having worked are further asked about the reason. Individuals that report not having worked in the previous week because they could not find a job are coded as unemployed which serves as the dependent variable in this paper. The household sample contains information on household size, monthly household income as well as housing tenure. Of particular interest for this study is the survey question regarding housing tenure. The questionnaire specifies four types of ownership statuses: owner, renter, lodging, and “non-owner but pays no rent”. While the lodgings are state-owned or employer-provided accommodations, the “non-owner but pay no rent” status refers to those types of housing units that are owned by parents or relatives and for which the tenants pay either no rent or an amount well below the market rate. The 2013 LSS interviewed 103,312 households with 196,203 members between January 1 and December 31. The working sample includes about 37,313 observations of men between 25-64 years old that are either homeowners or renters.⁴ An important advantage of the LSS data is the availability of the location of residence at the province level for the 2013 wave. Households’ residence at the province level is not available in other waves of the survey.

The empirical part of this paper starts with the analysis at the province level using data from the Population and Housing Census 2011. The Population and Housing Census 2011 aims to

⁴ The relationship between homeownership and unemployment is undeniably important for both women and men. Nevertheless, examining the labor market behavior of women requires addressing the sample selection problem. In addition, labor market status of married women is likely to be influenced by the labor market status of their spouses. For these reasons, this is left for future studies.

collect information that was not available in the Address-Based Population Census, such as household characteristics, labor force status, migration, and housing characteristics. The Population and Housing Census was not repeated after 2011 which prevents the use of more recent data. Figure 1 presents a scatterplot of the unemployment rate and the share of homeownership at the province level. For brevity, the license plate numbers of the provinces are used to label the points. The scatterplot does not show a systematic relationship nor the variables are significantly correlated (the correlation coefficient is -0.015 with a significance level of 0.89). Homeownership rates range between 59.5 percent (Gaziantep) and 84.3 percent (Ardahan). Unemployment rates range between 3.5 percent (Kastamonu) and 15.3 percent (Sivas). Considering that the average homeownership rate in Turkey was 67.3 percent in 2011, the variation in the unemployment rate of provinces with about 67 percent homeownership rates is rather high, ranging from 5.3 percent in Bilecik to 12.6 percent in Batman. Unemployment rates are in general lower in the west and higher in the east. These are consistent with the heterogeneity in regional unemployment dynamics in Turkey (Gürsel and Acar, 2012). There is also evidence for low levels of labor mobility from high-unemployment regions toward low-unemployment regions (Yüceol, 2007).

Figure 1

Homeownership and Unemployment Rate

Source: Population and Housing Census (2011)

After visually inspecting the cross-sectional correlation, we turn to the role of homeownership in unemployment probability at the individual level. The following probit model estimates an individual i 's unemployment probability:

$$U_i^* = \alpha \text{homeowner}_i + \beta' X_i + \varepsilon_i, \varepsilon_i \sim N(0,1) \quad (1)$$

$U_i = 1$ if $U_i^* > 0$, and $U_i = 0$ otherwise

where U_i is the binary variable that reflects whether individual i is unemployed. The variable homeowner_i captures the tenure status of the individual i and equals 1 for homeowners and zero for renters. For the purposes of this study, those individuals that report residing in lodgings and that are “nonowner and nonpayers” are excluded from the sample. Vector X consists of additional individual characteristics such as age, gender, marital status, educational attainment, household size and monthly household income. Finally, ε_i is the error term.

Assuming the homeownership variable is exogenous may be questionable. For example, there may be a positive selection in the sense that more competent and productive individuals have a greater likelihood of affording a house and are more likely to find jobs when unemployed. In this case, at any given point in time, the likelihood of observing a homeowner in unemployment will be lower. Appropriate instruments for the potentially endogenous homeownership variable are rare. Due to a lack of an appropriate instrument in the dataset, the current paper leaves this issue for future studies.

Table 1 presents the descriptive statistics of the variables used in the estimations. The homeownership rate is 68.3 percent and the unemployment rate in the sample is 10.3 percent while the corresponding official statistics are 60 percent and 9.7 percent, respectively. While 57 percent of the sample have less than a high school education, 36 percent of the sample report a monthly household income of 1,081TL (the gross minimum wage in the first six months of 2013 was 978.60TL).

Table 1
Descriptive Statistics

Variables	Mean	Std. Dev.	Min	Max
Unemployed	0.10	0.30	0	1
Homeowner (dummy)	0.68	0.46	0	1
Age	40.42	9.80	25	64
Married	0.86	0.35	0	1
<i>Education</i>				
Illiterate	0.02	0.13	0	1
Literate but no schooling	0.02	0.14	0	1
Elementary or secondary school	0.53	0.50	0	1
High school	0.28	0.45	0	1
University or more	0.15	0.36	0	1
Household size	4.03	1.93	1	29
<i>Monthly household income</i>				
Household income: below 1,081 TL	0.36	0.48	0	1
Household income: 1,081-1,550 TL	0.16	0.37	0	1
Household income: 1,551-2,170 TL	0.17	0.37	0	1
Household income: 2,171-3,180 TL	0.16	0.37	0	1
Household income: 3,181+ TL	0.14	0.35	0	1
Number of observations	37,313			

Source: LSS 2013

4. *Main Findings*

Table 2 presents the average marginal effects from estimating equation (1). Standard errors are clustered at the province level to account for non-independence across observations in the same province. In the first column, the positive and statistically significant average marginal effect of the homeownership variable implies that the unconditional probability of unemployment is 3.7 percentage points higher for owners than renters. In the second column, additional controls are introduced. This time the average marginal effect of the binary homeownership variable decreases to 0.7 percentage points. The average marginal effect reflects the difference between the average unemployment probabilities of two hypothetical populations. This difference can be calculated in three steps. In the first step, the first average is calculated by setting the homeownership variable to one for all observations in the sample while all the remaining explanatory variables take on their own values. The second average is calculated by repeating the first step while setting the ownership variable to zero. In the last step, the second average is subtracted from the first average.

The estimation results imply that homeowners are on average 0.7 percentage points more likely to be unemployed than renters. This is in line with the results in Karadağ (2021) which document that a one percentage point increase in housing sales results in a 0.59 percentage point rise in the unemployment rate. The remaining variables have significant average marginal effects with the expected signs. Unemployment probability falls with age, but this effect is weaker as age increases. Findings also indicate that married men are less likely to be unemployed. Unemployment likelihood decreases with education and this effect is strongest for high school educated individuals. The average marginal effect of the household size variable is positive and statistically significant.

Table 2
Probability of Unemployment

	(1)	(2)
Homeowner	0.037** (0.008)	0.007+ (0.004)
Age		-0.009** (0.001)
Age squared		0.012** (0.002)
Married		-0.130** (0.005)
No school		-0.039** (0.011)
Less than high school		-0.084** (0.009)
High school		-0.096** (0.010)
University or more		-0.056** (0.011)
Household size		0.018** (0.001)
Household income: 1,081-1,550 TL		-0.093** (0.007)
Household income: 1,551-2,170 TL		-0.132** (0.008)
Household income: 2,171-3,180 TL		-0.163** (0.010)
Household income: 3,181+ TL		-0.218** (0.011)
Observations	37,313	37,313
Chi squared	38108	2273499
Degrees of freedom	1	13
P value	0.000	0.000
Log likelihood	-1.24e+04	-9951044
Pseudo R2	0.004	0.199

Note: Robust standard errors clustered at the province level in parentheses. Base categories are renter, unmarried, illiterate, and household income less than 1,080TL. +, *, and ** denote 10%, 5%, and 1% levels of significance, respectively.

To examine whether there is a threshold household income for the link between homeownership and unemployment probability, Table 3 presents the estimation results by monthly household income brackets. Findings indicate that while the link between unemployment and homeownership is positive at all income levels, the average marginal effect is statistically significant only for households with income greater than 3,181TL.

Table 3
Probability of unemployment and homeownership by household income

	Household income				
	below 1,550 TL	1,081-1,550 TL	1,551-2,170 TL	2,171-3,180 TL	3,181+ TL
Homeowner	0.006 (0.009)	0.004 (0.008)	0.005 (0.006)	0.009 (0.006)	0.007+ (0.004)
Age	-0.012** (0.003)	-0.004+ (0.002)	-0.009** (0.002)	-0.006** (0.002)	-0.005** (0.001)
Age squared	0.016** (0.004)	0.007* (0.003)	0.011** (0.002)	0.007** (0.002)	0.005** (0.001)
Married	-0.214** (0.012)	-0.126** (0.010)	-0.087** (0.009)	-0.048** (0.007)	-0.027** (0.004)
No school	-0.058** (0.019)	-0.051 (0.034)	-0.056+ (0.031)	-0.059+ (0.034)	0.096** (0.020)
Less than high school	-0.152** (0.018)	-0.054+ (0.031)	-0.047* (0.018)	-0.084** (0.026)	0.082** (0.010)
High school	-0.176** (0.021)	-0.065* (0.031)	-0.059** (0.019)	-0.089** (0.025)	0.086** (0.011)
University or more	-0.064+ (0.033)	0.001 (0.031)	-0.026 (0.020)	-0.084** (0.024)	0.086** (0.010)
Household size	0.032** (0.003)	0.018** (0.002)	0.011** (0.002)	0.006** (0.001)	0.005** (0.001)
Observations	13,507	6,112	6,316	6,037	5,341
Chi squared	521.766	427.796	370.710	298.484	671.698
Degrees of freedom	9	9	9	9	9
P value	0.000	0.000	0.000	0.000	0.000
Log likelihood	-6339.947	-1407.315	-1055.955	-779.508	-330.541
Pseudo R2	0.081	0.143	0.158	0.112	0.220

Note: Robust standard errors clustered at the province level in parentheses. Base categories are renter, unmarried and illiterate. +, *, and ** denote 10%, 5%, and 1% levels of significance, respectively.

5. Concluding Remarks

This paper aims to provide a preliminary analysis of the link between unemployment and homeownership in Turkey. Although the province-level correlations do not support a positive link between homeownership and unemployment, estimations based on microdata suggest that the probability of being unemployed is higher for homeowners than renters. While this finding

is consistent with the Oswald hypothesis, further examination of the exact linkage between housing and labor markets would provide useful insights both for researchers and policymakers.

This paper has two shortcomings that constitute future avenues of research. First, housing tenure is a choice variable and potentially endogenous, requiring a suitable instrumental variable to address the endogeneity. Second, there may also be unobserved heterogeneity due to ability and motivation, which should also be addressed using panel data. Third, based on the findings from these preliminary analyses, exploring the link between unemployment and homeownership in highly populated cities would be an interesting direction for prospective studies.

At the time of writing this paper, the homeownership rates in Turkey have been on the decline since 2010. This decline started in 2014 when the homeownership rate falls from 59.3 percent to 58.5 percent in 2015. After 2015, homeownership rates declined continuously. While housing prices increased sharply in 2020 and 2021 by 62 percent in real terms, the increase in incomes fell behind (Gürsel et al., 2022). This is expected to further depress the demand for housing. Keeping in mind that households' housing demand derives from accommodation needs as well as the store-of-value function of housing during inflationary episodes, the link between homeownership and unemployment both at the individual and regional levels remains to be an important area of research for further studies.

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