



Munich Personal RePEc Archive

The effect of rental prices on student mobility

Gökçe, Merve Betül

Bogazici University

30 November 2024

Online at <https://mpra.ub.uni-muenchen.de/122834/>
MPRA Paper No. 122834, posted 04 Dec 2024 23:17 UTC

The Effect of Rental Prices on Student Mobility*

Merve Betül Gökçe#

November 30, 2024

* I would like to thank Abdurrahman Aydemir, Selcen Çakır, Murat Demirci, Arhan Ertan, Murat Kırdar, and Umut Kuzubaş, as well as the participants at the International Conference of Middle East Economics Association in İstanbul, the 31st Turkish Economic Association Annual Conference, and the Computational Social Sciences Conference at Koç University, for their valuable comments and suggestions. The usual disclaimer applies.

Department of International Trade, Boğaziçi University, Bebek, İstanbul 34342 Turkey. E-mail: betul.gokce@bogazici.edu.tr

Abstract

Between 2020 and 2023, Turkey experienced a significant rise in housing prices, with inflation-adjusted rents more than doubled in some regions, marking it a standout case of global house price inflation. This study exploits the regional and temporal variation in rental prices as a natural experiment. It employs a difference-in-differences framework to explore the impact on students' educational mobility within a developing country, where annually, one million high school graduates face the critical decision to stay local or relocate to another province for university education. Using a comprehensive panel dataset covering all higher education programs in Turkey, combined with rental price indices for all 81 provinces, the analysis reveals that rising rental prices significantly reduce inter-provincial student mobility. A 100 TL increase in rental prices (adjusted to 2023 levels) reduces the openness rate (out-of-province enrollment) of public university programs by 3.5 percentage points (a 4.4% relative decline). The negative effect is concentrated in programs with lower entry scores, where the openness rate declines by 18%, while high-entry-score programs remain unaffected. This heterogeneity across program competitiveness suggests that rising accommodation expenses disproportionately restrict the geographical mobility of students with lower academic performance. The analysis of private university programs further supports this conclusion, showing that rental price increases significantly reduce mobility in tuition-based programs while leaving full-scholarship programs, typically attended by high-scoring students, unaffected.

Keywords: Student mobility, educational migration, rental price, housing shock, accommodation cost.

1. Introduction

The Turkish housing market experienced an extraordinary surge in rental prices from 2020 to 2023, making it a global outlier in nominal housing price inflation¹. Inflation-adjusted rents more than doubled in some regions, far exceeding the national inflation rate. Figure 1 illustrates a significant decline in the ratio of minimum wage to average rent across three major provinces from 2019 to 2023, with the ratio dropping below 1 in both Istanbul and Izmir, underscoring the severity of housing affordability challenges². Meanwhile, nearly one million students in Turkey are placed into universities yearly based on their national university entrance exam results. During this placement process, these students face a critical decision: to remain in their home province or relocate for higher education. In major cities, where public dormitory capacity is often insufficient, the sharp rise in rental prices has become a significant challenge. This study examines how this surge in rental costs influences high school graduates' decisions about where to pursue university education.

Understanding how the geographical mobility of students is affected is important for several reasons. First, efficient student-university matching is essential for optimizing educational outcomes. High housing costs can create barriers for high school graduates in selecting the university best suited to their abilities and aspirations, reducing match efficiency (Prakhov & Sergienko, 2020). Second, student mobility within higher education is pivotal in shaping regional development. Students' decisions about where to study—and potentially where to work afterward—can significantly impact local economies, often fostering a brain drain from less affluent to wealthier regions. Universities act as catalysts for selective migration, drawing talent toward more developed areas and influencing the geographical distribution of human capital³.

Existing studies on student mobility have extensively investigated various determinants, yet the role of housing prices in influencing students' choice of study location has been relatively

¹ Analyzed by the real estate consultancy firm Knight Frank (2023), Turkey led the increase in housing prices across 56 surveyed countries, with housing costs soaring by 96% compared to the previous year.

² Table A1 shows that the consumer price index surged from 419.2 in 2019 to 1479.8 in 2023. Concurrently, the homeownership rate in Turkey declined from 58.8% in 2019 to 56.2% in 2023, while the proportion of the population living in rented accommodations rose from 25.6% to 27.8%.

³ The relationship between skill-selective migration and regional development has been explored in previous studies, including those by Fratesi & Percoco (2014), Fratesi & Riggi (2007), and Kanbur & Rapoport (2005).

underexplored. While some studies incorporate housing costs into their analysis, they prioritize factors like education quality and regional job opportunities over accommodation expenses. Furthermore, the housing markets in these studies tend to be stable, lacking the exogenous shocks necessary for robust identification strategies. Additionally, the bulk of this research focuses on developed countries, leaving a significant knowledge gap regarding the dynamics in developing nations. This study addresses these gaps by utilizing the unique context of the Turkish housing market. The recent extraordinary surge in rental prices across Turkey, marked by substantial regional and temporal variation, offers a natural experiment to examine the effect of rental prices on student mobility.

For this analysis, I compiled a unique panel dataset covering all higher education programs in Turkey from 2019 to 2023, utilizing the Higher Education Council's Atlas. This marks the first time comprehensive program-level enrollment data from the Council has been used for such an analysis. Alongside detailed program information, the dataset includes the province where each enrolled student graduated high school. Using this information, I calculate the openness rate for each program, which is defined as the proportion of students who originate from provinces other than the program's location. To assess the impact of rental prices on student mobility, I integrate this dataset with rental price index data from all 81 provinces based on asking rents from Turkey's largest online real estate platform. The analysis estimates the effect of inflation-adjusted rental prices on openness rates using a difference-in-differences framework, leveraging the significant regional and temporal variation in rental prices across Turkey. Notably, the unprecedented scale of the rental price increases during this period provides a rare and powerful setting for identifying their effect, as these shocks far exceed typical variations observed in most contexts.

To ensure identification, I address potential concerns about endogeneity and omitted variables. First, I demonstrate that changes in the number of students relative to provincial populations are negligible, minimizing concerns about reverse causality. Second, I control for other potential cost-of-living factors, including non-rental consumer price index. Public programs in Turkey are tuition-free; however, I conducted a separate analysis controlling for tuition costs for private programs, where tuition fees could also influence student mobility. Additionally, the panel structure allows me to track individual programs over multiple years, including program-level

fixed effects to control for unobserved, time-invariant characteristics specific to each program, thereby isolating the effect of rental prices.

The findings demonstrate a significant impact of rising rental prices on student mobility within Turkey's higher education system. A 100 TL increase in the rental price index (in 2023 prices), akin to the sharp increases observed in Istanbul and Muğla from 2019 to 2023, reduces the openness rate for public university programs by 3.5 percentage points based on the most rigorous specification. Given an average openness rate of 68.9 for public universities, this represents a 4.4% relative decline.

The results reveal considerable heterogeneity in how rental prices affect programs with different levels of competitiveness. To analyze this, I divided public university programs into quartiles based on their entry scores, reflecting the score of the last student admitted to each program. For programs in the lowest quartile, a 100 TL increase in rental prices, expressed in 2023 prices, results in an 18% reduction in openness rates, indicating a strong negative effect. In contrast, rental price increases have no precisely estimated impact on programs in the upper three quartiles, including those with high entry scores. These findings suggest that the negative effects of rising rental costs are concentrated in programs that attract students with lower academic performance, while more competitive or prestigious programs remain unaffected. This has critical implications for the composition of student populations across universities in Turkey. The mobility of lower-achieving students to high-cost provinces, particularly major urban centers, is significantly constrained. As a result, educational opportunities in high-cost provinces may become increasingly exclusive to academically stronger students.

The analysis further investigates private university programs separately. Full-scholarship programs, which primarily attract students with high entry scores, show no significant impact of rental price increases, aligning with the results observed for high-score public programs. In contrast, for private programs requiring tuition payments, even after controlling for tuition fees, a 100 TL increase in rental prices (adjusted to 2023 prices) leads to a 10.2 percentage point decline in the openness rate.

The outline of this article is as follows: Section 2 reviews the existing literature, while Section 3 provides background information on Turkey's higher education system. Section 4 details the data, and presents descriptive statistics. Section 5 outlines the estimation methodology. Sections 6 and 7 discuss the main results and robustness checks, respectively. Finally, Section 8 concludes with a discussion of the findings.

2. Related Literature

Since Tuckman's foundational work in 1970, extensive research has explored the determinants of student mobility among high school graduates transitioning to higher education (Tuckman, 1970)⁴. Early studies focused on interstate mobility in the U.S., analyzing student flows using aggregate state- or institution-level data (Mchugh & Morgan, 1984; Mixon & Hsing, 1994a, 1994b). Over time, studies expanded to investigate individual-level factors influencing students' decisions to relocate for education (Faggian & Franklin, 2014; Ishitani, 2011; Winters, 2012). While the U.S. served as the initial context, subsequent studies on the geographical mobility of students have predominantly centered on developed countries, especially in Europe⁵. In contrast, studies on interregional student mobility in developing countries remain sparse, with only a few examples from India (Jha & Kumar, 2017), Brazil (Pelegri et al., 2023), and China (Cui et al., 2024).

According to the theoretical framework established by these studies, the decision to migrate for education involves a cost-benefit analysis of both push and pull factors. Financial costs, such as transportation and accommodation, are weighed against benefits, such as educational and cultural opportunities. Migration choices are motivated by long-term educational and career gains (investment) and immediate personal benefits (consumption). These studies often examine characteristics of both origin and destination regions—such as economic, geographic, and

⁴ Both "student migration" and "student mobility" are used in the literature. However, I prefer to use "mobility" as it better captures the temporary or flexible nature of students' movement for educational purposes, without implying a permanent relocation.

⁵ Some examples of these studies include work in the U.K. (Belfield & Morris, 1999; Wakeling & Jefferies, 2012), Ireland (Cullinan & Duggan, 2016; Flannery & Cullinan, 2014), Germany (Dwenger et al., 2012; Gareis & Broekel, 2022; Hübner, 2012), the Netherlands (Raab et al., 2018; Sá et al., 2004, 2006), Portugal (Lourenço & Sá, 2019), Greece (Psycharis et al., 2019), and Russia (Prakhov & Bocharova, 2019). Italy, in particular, has a substantial body of research on interprovincial student mobility (Bacci & Bertaccini, 2021; Ballarino et al., 2022; Bratti & Verzillo, 2019; Cattaneo et al., 2017; Ciriaci, 2014; D'Agostino et al., 2019; Genova & Boscaino, 2024; Giambona et al., 2017; Rizzi et al., 2021; Türk, 2019). There are also studies focusing on international migration rather than within-state mobility (Abbott & Silles, 2016; Wei, 2013).

educational factors—by modeling student flows through a gravity model. Most research controls for institutional quality, local labor market conditions, and amenities in the destination area, all of which are found to encourage student inflows. On the other hand, financial considerations, like tuition fees and enrollment costs, tend to have negative effects on migration.

To date, no study has focused specifically on housing costs as a factor in student mobility. Although some research that primarily examines educational factors includes living costs in their models, they have not isolated rent from other expenses. For instance, Beine et al. (2014) analyzed the location choices of international students across OECD countries, incorporating living expenses (the total cost of rent and food for an academic year) along with fees, institution quality, and wages. Their findings suggest that high living costs in a destination country deter student migration. Similarly, Prakhov & Bocharova (2019), using survey data on Russian students from 2011 to 2014, found that lower living costs in a student’s home region encourage them to stay.

While these studies consider living costs in general, only a few studies incorporate housing costs, specifically rent, into their models, though their primary focus is not on accommodation expenses. For example, Sá et al. (2004) use regional data on Dutch high school graduates to explore university entrance determinants, considering rent alongside various factors. The study finds that higher apartment rents deter student mobility. Dotti et al. (2014) focus on science and technology students in Italy, incorporating house prices in both origin and destination regions as proxies for living costs. Using regional student flow data for 2008, they report a significant negative coefficient for destination region house prices, although origin region house prices are not precisely estimated. Genova & Boscaïno (2024), examining first-year students from Sicily in 2014 and 2017, find that higher average rents in Italian provinces reduce incoming student numbers despite the primary focus on social ties and economic opportunities. Dotzel (2017) analyzes 2012 data from U.S. state-to-institution migration, with rent as a control variable, and finds that high rents in origin states encourage out-migration. In contrast, rent levels at university locations do not show significant effects. Notably, these studies indicate that rent can deter student mobility, as shown by negative coefficient estimates; however, the statistical significance and magnitude of the effect remain unclear.

Another critical gap in the student mobility literature is the limited exploration of heterogeneous responses to cost factors. Specifically, questions such as "Which universities (or students) are more affected by costs, and why?" remain largely unexamined despite the potential implications for student composition across regions. For instance, [Dwenger et al. \(2012\)](#) examine the impact of tuition fees on different applicant sub-groups in Germany, finding that students with high academic performance are more willing to pay fees. Similarly, [Pigini and Staffolani \(2016\)](#) use survey data from Italy to analyze the effects of cost on student composition. Their results show that reducing the cost of higher education increases enrollment among economically disadvantaged students and those with weaker academic backgrounds. These findings suggest that cost sensitivity varies among student groups, warranting further investigation. Addressing this gap, this study also explores the heterogeneous effects of rental costs across different programs.

This study makes several unique contributions to the literature on student mobility. First, this is the first study to focus specifically on the effect of housing costs on student mobility. Most prior studies do not account for housing costs. Although a few include housing prices, they treat them as one of many control variables, often prioritizing factors like educational quality and job opportunities over accommodation expenses.

Second, this study leverages a natural experiment to examine the effect of rental prices on student mobility, an approach rarely used in the student migration literature. One notable exception is [Dwenger et al. \(2012\)](#), who applied a difference-in-differences strategy to assess the impact of tuition fee introductions in several German states on university applicants using administrative data. Similarly, this study employs a difference-in-differences approach to isolate the effect of rental prices from other factors. While existing studies generally examine stable housing markets, lacking the exogenous shocks needed for causal solid inference, the recent, dramatic surge in rental prices across Turkey—characterized by significant regional and temporal variation—offers an ideal setting to measure the impact of rental costs on student mobility.

Third, most existing studies focus on developed countries, leaving a gap in understanding mobility dynamics in developing contexts. This study is the first to examine student mobility in Turkey,

providing evidence from a middle-income country and addressing a significant gap in the literature⁶.

This study introduces a novel dataset, marking the first time such comprehensive program-level enrollment data from Turkey's Higher Education Council has been used for analysis. Using the full population of first-year enrollment data in Turkey, this study offers insights into nationwide student mobility in a country where over a million students enter university annually. Unlike studies that rely on survey data or focus on specific student groups, this analysis captures overall enrollment patterns on a national scale. In addition, program-level data enables a more detailed analysis than studies based on regional or institution-level data. Next, unlike cross-sectional studies limited to a single year, this study uses panel data to track individual programs across multiple years impacted by rental price shocks, allowing for using program-level fixed effects to isolate the effect of rental prices.

3. Background Information

In Turkey, admission to undergraduate study programs is based on a national selection examination. The Council of Higher Education administers a centralized university entrance exam annually. Candidates are centrally placed into programs across all 81 provinces of Turkey based on their scores and preferences.

Turkey has both public and private universities. Public university education is free, while private universities require tuition fees. However, some programs at private universities offer full scholarships to students based on their performance in the national university entrance exam, covering tuition fees entirely. The majority of students are enrolled in public universities. In 2019, the starting year of this analysis, 301,731 first-year students were enrolled in public universities, while 36,880 students (11% of all enrollments) attended private universities. Over the next five years, these numbers increased for both types of universities due to the opening of new institutions

⁶ There is only a report prepared by Higher Education Council of Turkey, using data for only 2021, presenting descriptive statistics of inter-regional student flow (YÖK, 2022).

and expanded quotas. By 2023, 374,167 first-year students were enrolled in public universities, and 92,579 (20% of all enrollments) attended private universities.

Regarding the distribution of universities and students across provinces, each of Turkey's 81 provinces has at least one public university. The three largest cities host the highest numbers of students; in 2023, 9% of public university enrollments were in Istanbul, and 23% were in İstanbul, Ankara, and İzmir combined. Private universities, however, are predominantly located in major cities: as of 2023, 69% of private enrollments are in Istanbul, with 91% concentrated in the three largest cities (İstanbul, Ankara, and İzmir).

In Turkey, most students attend high school in the province where their family resides⁷. As a result, for most students, the province where they completed high school aligns with their family's place of residence. When deciding on a university education, students face a choice: either move to another city and incur additional living expenses or attend a university in their family's city and continue living with their family. For those who choose the latter, students typically stay with their families, eliminating the need for accommodation expenses.

I will briefly outline the housing options for higher education students in Turkey, particularly those relocating from their family's city for university studies. The first alternative is to stay in dormitories. As seen in panel A of Table A2, the most common option is the public dormitories managed by the Ministry of Youth and Sports' Credit and Dormitories Institution, mainly because these dormitories have larger capacities and are significantly more affordable than other alternatives. However, the capacity of public dormitories can meet only a small fraction of the total demand. Additionally, issues like overcrowded rooms and concerns about hygiene and security are prevalent (Eşidir, 2017).

In addition to public dormitories, some are operated by municipalities, while others are affiliated with public and private universities. However, despite their high demand due to their proximity to campuses, these facilities offer only limited capacity. Furthermore, private dormitories present a

⁷ Based on National Education Statistics 2022-2023 (Ministry of Education, 2023), the number of high school students staying in private dormitories is 24,340, and those in school dormitories is 112,749. These figures suggest that the rate of students attending high school outside their home province is likely very low, estimated at around 2%.

higher standard of living but come at a cost comparable to renting a small apartment, making them an expensive option^{8,9}.

Accommodation expenses are the largest component of student living costs. According to the Student Living Costs Survey by the Istanbul Planning Agency (IPA, 2024), housing is the most significant expense for students in Istanbul. For those in private dorms, rent comprises an average of 71% of monthly expenses, while for students sharing an apartment with two others, it accounts for about 50% of monthly costs. As illustrated in panel B of Table A2, the amount of education loans and study grants provided by the government is significantly low, making them insufficient for covering the costs of renting an apartment or staying in private dormitories.

4. Data

For the analysis, I compiled a five-year panel dataset (2019-2023) covering all higher education programs from the Higher Education Council's Atlas (YÖKAtlas, 2024)¹⁰. Each program is categorized under a specific faculty, and faculties collectively form a university. This dataset provides essential information for each program, including its faculty, university, and province location; program quotas and actual enrollment numbers; and the province of origin for enrolled students based on their high school graduation location—a key variable for this study. The dataset also includes the entrance exam rank and score of the last student admitted, indicating the competitiveness of each program. Additionally, universities are classified as public or private, with further details on scholarship options in private universities, specifying whether programs offer full scholarships, partial scholarships, or require full tuition. In private universities, departments often offer these three options, listed separately in the catalog and treated as distinct programs in this analysis.

⁸ Websites listing private dormitories indicate that the average cost of private dormitory accommodation can rival that of renting a small apartment. For example, see Yurtlarburada (2024).

⁹ Another option, especially for students moving from smaller towns to larger cities for their university education, is staying with relatives if they have any in these major cities. Although no nationwide data is available on this practice, Filiz & Çemrek (2007), based on their survey, suggest that staying with relatives is the least preferred option compared to dormitory living or renting an apartment. Their findings indicate that this option is less popular due to students' desire for independence and a more immersive university experience, which includes living independently or with peers.

¹⁰ For the data collection process, I utilized Python's Pandas library to crawl the required information from the Higher Education Council's Atlas available at <https://yokatlas.yok.gov.tr/>. The data before 2019 is unavailable on the official website or web archive.

I focus on undergraduate programs that span 4, 5, and 6 years, excluding 2-year programs. I also exclude open and distance learning programs to concentrate on traditional, in-person education. Furthermore, I leave out programs from universities in Cyprus. Following the major earthquake in February 2023, which affected the southeastern region of Turkey, I also excluded the ten affected provinces from the 2023 data.

For private universities, I manually collected tuition fee data from their official websites for 2019-2023. Since program-level data collection is highly time-consuming, I focused on psychology programs, which nearly all private universities offer. I assumed that the tuition fee for a psychology program in a given year represents that university's overall tuition fee level, treating it as university-level tuition data.

The other essential data source for this study is the rental price index provided by Sahibinden, Turkey's largest online real estate listing platform (Sahibinden, 2024). Sahibinden calculates and reports the rental price index monthly, segmented by all 81 provinces, using asking rents published on the platform. I use the rental index data from July each year to reflect the prices immediately preceding the university preference period in August. The index represents the nominal median square meter rental price of residential properties in each province, excluding offices, land, and sales listings. I adjusted these rental price indices from nominal to real terms using the Consumer Price Index (CPI) provided by TURKSTAT at the NUTS2 level (26 regions) (TURKSTAT, 2024).¹¹ . This adjustment accounts for inflation by converting all prices to their 2023 values.

The rental price index reflects the prices of newly listed properties, not those paid by existing tenants. Although this often means higher prices, asking rent data is more relevant for this analysis^{12,13}. Students moving to a new city typically search for new accommodations, making asking rents a better indicator of the costs they face.

¹¹ TURKSTAT reported CPI data for 26 NUTS2 regions prior to 2023. However, in 2023, only a nationwide CPI was published. To account for this, I assumed the regional distribution in 2023 remained the same as in 2022.

¹² A conventional source of rental housing data in Turkey is TURKSTAT's Income and Living Conditions Survey. However, it is only representative at the 26 NUTS2 regional level, not the provincial level needed for inter-provincial mobility analysis.

¹³ Using asking rents addresses the limitations of conventional housing data, which often underestimate actual market conditions and affordability challenges in tight rental markets. Boeing et al. (2023) highlight significant differences

One potential concern with the index data from asking rents is that it might not accurately represent smaller cities, where fewer listings could lead to skewed results. To address this, I utilized additional information from Hepsimlak.com, Turkey's second-largest real estate listing platform (Hepsimlak, 2024)¹⁴. Hepsimlak.com provides rental price indices and the total number of listings per province. Using this data, I find a strong correlation between the total number of listings and the total population across all 81 provinces for 2023, providing evidence that this concern is unfounded ($r(78) = +.94, p = .000$).

Another potential concern with online listings is the possibility of duplicate postings, which could artificially inflate rental prices if high-quality properties were listed multiple times. To address this, I considered the policy introduced by the Ministry of Trade in November 2023, requiring individuals posting real estate ads to verify their accounts using Turkish national identification numbers (Ministry of Trade, 2024). This policy ensures that each listing is unique. To assess whether this change impacted the number of listings or the rental price index, I analyzed month-by-month data from Hepsimlak.com. Figure A1 shows no significant decrease in the number of listings or effect on the rental price index after the policy's implementation. This analysis indicates that duplicate listings did not distort rental price calculations.

One final data used in this study is the non-rental consumer price index, which accounts for living expenses other than housing costs. I calculated the non-rental consumer price index at the NUTS2 level using TURKSTAT's reports by expenditure groups, excluding the rent component from the total index and adjusting for the item weights (TURKSTAT, 2024).

Figure 2 illustrates a series of maps depicting the inflation-adjusted rental price index increase across Turkey's 81 provinces, highlighting the geographical distribution and temporal trends of rental prices. No significant changes were observed from 2019 to 2020. However, in 2021, notable increases began primarily in Muğla and İstanbul. By 2022, this upward trend expanded to

between transacted and spot market data due to factors such as publication lags, market lags, subsidies, rent control, and length-of-stay discounts.

¹⁴ There is also a strong correlation between the rental price indices calculated by Sahibinden.com and Hepsimlak.com at the provincial level annually (2019–2023: $r(301) = +.99, p = .000$).

provinces in western Anatolia, and by 2023, the increases were widespread across Turkey, most markedly in the western regions and coastal areas, as indicated by the darkest shades of red.

Table A3 quantitatively presents the substantial rise in rental price indices from 2019 to 2023 across all 81 provinces, with all prices adjusted to 2023 levels. The most significant increases, in terms of level, were observed in Muğla (100.8 TL), Istanbul (91.1 TL), and Antalya (80.8 TL). Additionally, the two provinces hosting the most students after Istanbul, Ankara (70.3 TL) and Izmir (67.3 TL), experienced significant increases. The smallest increases, and even some decreases, were observed in less populous provinces in the Eastern Black Sea and Eastern Anatolia regions. Notable examples include Şırnak (-1.4 TL), Gümüşhane (-3.6 TL), and Bayburt (2.7 TL). Regarding the rate of increase, rental prices in major cities like Istanbul, Ankara, and Izmir have more than doubled. In contrast, some provinces have experienced little to no change, highlighting the varying degrees of rental price rise across the country.

Panel A of Table 1 presents the openness rate of higher education programs over the years, indicating the proportion of students who graduated high school in provinces other than where their university program is located. The openness rate in public programs was 71% in 2019, declining to 68% by 2022. I categorized private programs based on scholarship status: private programs with a full scholarship and private programs with tuition payments. On average, the openness rate in public programs (70%) is significantly higher than in private programs with a full scholarship (approximately 45%) and private programs with tuition payments (around 33%).

Panel C of Table 1 shows that the number of public university students increased from 301,545 in 2019 to 355,665 in 2022. This growth is primarily due to the introduction of new programs (as seen in Panel B) and the expansion of enrollment capacity in existing programs. A decline in the number of public programs and enrollments is observed in 2023 due to the exclusion of data from the ten provinces affected by the earthquake that year, as these southeastern provinces host public universities. Over the same five years, private universities experience significant growth in student numbers. Full scholarship program enrollment increased from 6,969 to 15,427, while tuition-based programs grew from 29,076 to 73,593.

5. Empirical Specification

I estimate the following baseline equation,

$$y_{ijt} = \alpha + \beta R_{jt} + \gamma Z_{rt} + \delta_t + \delta_j + u_{ijt}, \quad (1)$$

where y_{ijt} denotes the ratio of openness rate for program i in province j in year t , expressed as a percentage between 0 and 100. This rate indicates the proportion of students from outside the program's province (e.g., students attending a program in İstanbul who graduated high school outside İstanbul). R_{jt} is the rental price index (in 2023 prices) in province j , in year t . The key parameter of interest is β , which quantifies the effect of a 1 TL increase in the rental price index on the openness rate of the higher education programs. Z_{rt} is the non-rental consumer price index for each NUTS-2 region, denoted by r . δ_t stands for the year dummies, and δ_j for the province dummies. u_{ijt} stands for the error term.

In addition, I estimate extended versions of equation (1). The second specification includes university fixed effects, the third adds faculty fixed effects¹⁵, and the fourth incorporates program fixed effects. Faculty fixed effects implicitly account for university-level characteristics, while program fixed effects implicitly control for university and faculty characteristics. Finally, I add an interaction of five regions¹⁶ with time trends on top of the third and fourth specifications.

The model assumes that rental price changes are exogenous to student mobility decisions¹⁷. One potential concern is simultaneity bias, i.e., changes in the number of students in a province could affect the demand for housing and, in turn, impact rental prices. To address this, Table A4 shows first-year enrollments in 2019 and 2023 alongside 2023 provincial populations. The change in

¹⁵ Faculty categories are as follows: Medicine, Dentistry, Pharmacy, Veterinary Medicine, Nursing, Health Sciences, Law, Education, Economics and Administrative Sciences, Theology, Engineering, Fine Arts, Arts and Sciences, Agriculture, Tourism, Maritime Studies, Aviation, Sports Sciences, and Schools of Applied Sciences.

¹⁶ The five regions correspond to the NUTS-1 classification and are utilized as follows: West (NUTS-1 regions 1 to 4), Central (NUTS-1 regions 5 and 7), South (NUTS-1 region 6), North (NUTS-1 regions 8 and 9), and East (NUTS-1 regions 10 to 12). This regional division aligns with the classification used in the Turkish Demographic and Health Surveys.

¹⁷ The significant rise in housing costs stems from a mix of factors largely unrelated to student mobility. These include a housing supply shortage driven by challenges in the construction sector, heightened demand fueled by low-interest rate policies, the appeal of real estate as an investment amid currency devaluation, increased property purchases by foreigners, and the displacement of thousands following the February 2023 earthquakes in 10 provinces. Collectively, these factors represent an exogenous shock to the housing market.

enrollments relative to population averages is minimal, averaging around 0.2% and peaking at just 0.7%. Such a small change is negligible and unlikely to impact rental prices meaningfully.

The estimation strategy addresses potential confounding factors to isolate the effect of rental prices. First, the model includes the non-rental consumer price index as a control variable to account for variations in other living expenses and reduce the risk of omitted variable bias. Second, tuition fees are controlled for in the analysis of private university programs requiring tuition payments, as these costs could independently influence student mobility decisions. Finally, program-level fixed effects are incorporated to control for time-invariant characteristics and program-specific unobserved heterogeneities.

6. Main Results

Table 2 presents the OLS estimates of the impact of the rental price index on the openness rate for public university programs. Column 1 estimates the baseline equation (1), whereas column 2 adds university fixed effects. Column 3 introduces faculty-level fixed effects, and column 4 incorporates program-level fixed effects. Column 5 extends the specification in column 3 by including an interaction between five regions and linear time trends, while column 6 builds on column 4 with the same interaction term for regional trends.

The OLS estimates reveal a consistent negative impact of rental prices on student mobility, with statistical significance across all examined specifications. In the baseline specification (column 1), a 1 TL increase in the rental price index (in 2023 prices) is associated with a 0.035 percentage point decline in the openness rate. This effect becomes slightly larger when university fixed effects (column 2) and faculty fixed effects (column 3) are added, with coefficients of -0.059 and -0.057, respectively. In column 4, introducing program fixed effects reduces the coefficient to -0.030, accounting for unobserved program-specific heterogeneity. The results remain robust with the addition of regional time trends; the coefficients in columns 5 and 6 are -0.053 and -0.032, showing only slight deviations from those in columns 3 and 4, respectively. Given this consistency, I will report the first four specifications in the subsequent sections.

The results in Table 2 demonstrate that higher rental prices discourage students from other provinces from enrolling in public programs. For example, a 100 TL surge in the rental price index (in 2023 prices), similar to the increases observed in Istanbul and Muğla from 2019 to 2023, leads to a 3.5 percentage point decline in the openness rate based on specification 4. With an average openness rate of 68.9 for public universities, this represents a 4.4% relative decrease. As rental prices rise, fewer students from outside the province are likely to enroll in these programs.

Next, I examine how rental prices affect the openness rate across programs with varying levels of competitiveness. Program competitiveness is measured using entry scores, which represent the score of the last student admitted to the program based on university entrance exam results. I categorize all public university programs by their entry scores. To address potential endogeneity, I based the categories on each program's entry score in its first year in the dataset, 2019 for existing programs and the opening year for new programs. This approach ensures that rental price increases, which could influence program demand and entry scores, do not bias the categorization. All programs admit students based on one of four score types: equal weight, quantitative, verbal, or language. I divided programs into quartiles within each score type, classifying the first quartile as low, the second as lower-middle, the third as upper-middle, and the fourth as high-score programs.

Table 3 presents the estimation results for public university programs segmented by these four entry score categories. For programs with low entry scores, the rental price index consistently has a negative effect on the openness rate, precisely estimated across all specifications. In the specification with program fixed effects (column 4), a 1 TL increase in the rental price index reduces the openness rate by 0.115 percentage points. For context, in a case where rental prices increase by 100 TL (in 2023 prices), this effect translates to an 11.5 percentage point decline—three times larger than the main result in Table 2. Given that the mean openness rate for low-entry-score programs is 65.1, this decline represents an 18% reduction, indicating a strong effect. On the other hand, for programs with lower-middle, upper-middle, and high entry scores, the rental price index coefficients remain small and statistically insignificant across all specifications.

The heterogeneity analysis across program score categories in Table 3 reveals that rental price increases have a strong negative effect on the openness rate of low-score programs. In contrast, no negative effect is precisely estimated for programs with higher entry scores. This indicates that the

impact is concentrated in programs that typically attract students with lower academic performance, while more competitive or prestigious programs remain unaffected by rising rental prices. This pattern is consistent with the findings of Dwenger et al. (2012), who show that higher-performing students are more willing to bear additional tuition fees, highlighting the lower cost sensitivity of students with stronger academic backgrounds. Since I cannot directly control for student characteristics, I cannot empirically investigate the underlying reasons for this result. However, based on the literature, I suggest two potential explanations.

The first explanation is that programs with lower entry scores often carry a higher risk of post-graduation unemployment and tend to lead to lower wages for their graduates. As a result, students may be more reluctant to bear high accommodation costs for education that offers lower potential returns. The perceived future benefits influence the decision to invest in higher education. Programs seen as less competitive or offering limited returns may not justify the higher cost of living, particularly in regions experiencing sharp rental price increases. This may explain why the effect of rental prices on student mobility is stronger for low-entry-score programs, where the perceived return on investment is lower.

The second explanation is that existing studies suggest a positive correlation between academic performance and parental income (Rolfe & Yang Hansen, 2020). Students with higher scores are likely to come from wealthier families, making them less sensitive to increases in rental prices. Supporting this idea, Callender and Jackson (2008) find that students from lower social classes tend to be more debt-averse than their peers from higher social classes. They argue that low-income students are more likely to perceive higher education costs as a debt rather than an investment. Considering this, financial constraints and a greater aversion to taking on costs may disproportionately affect students from lower-income families, who are more likely to apply to low-entry-score programs, given the correlation between academic success and family background.

One implication of this finding is the selection of students based on academic success, which has potential consequences for the composition of student populations across universities in Turkey. If students with high academic performance (more able) are the only ones able to relocate to expensive provinces, universities in provinces with lower rental prices may predominantly attract

“less able” students. This finding reflects a broader discourse in the literature about the interplay between internal migration and housing costs. Elevated housing prices are shown to deter less skilled individuals and favor more skilled or affluent migrants, as highlighted by Zhou and Chi-Man Hui (2022), who found that higher housing prices filter migrants based on education levels and earning potential. Similarly, this study suggests that increased rental costs create a positive selection among students migrating for higher education, where only those with higher academic achievements—or indirectly, potentially higher future earnings—can afford to study in cities with high accommodation costs.

The primary focus of this study is public university programs, which constitute nearly 80% of total enrollments and benefit from broader geographic variation across all 81 provinces. In contrast, 91% of private university programs are concentrated in Istanbul, İzmir, and Ankara, meaning that the variation used in estimating their effects primarily stems from rental price changes in these three provinces. Additionally, private programs are smaller in size and, as tuition-based programs, are subject to distinct dynamics related to tuition fees. Due to these differences, I analyze private university programs separately.

In private universities, students with high university entrance exam scores are admitted to full scholarship programs, while students with lower scores enroll by paying tuition fees. Table 4 presents the estimation results for private university programs, divided into those offering full scholarships and those requiring tuition payments. The first panel shows the effects of rental price increases on full scholarship programs. While the coefficients are negative across all specifications, they are statistically insignificant in columns 2-4. Given that full-scholarship programs typically admit students with high scores, the lack of precisely estimated effects aligns with the earlier findings that rising rental prices do not impact high-score programs.

The second panel of Table 4 focuses on programs requiring tuition payments. The rental price index consistently shows a statistically significant negative effect on the openness rate across all specifications. In the most precise specification with program fixed effects (column 8), a 100 TL increase in the rental price index leads to a 9.7 percentage point decline in the openness rate. One potential concern is that increases in tuition fees could confound the effect of rental prices. To address this, I include tuition fees as a control variable in columns 9-12. After controlling for

tuition fees, the coefficients remain negative and precisely estimated, with a slight increase in magnitude. For instance, in column 12, a 100 TL increase in rental prices results in a 10.2 percentage point decline in the openness rate.

7. Robustness Checks

7.1. Alternative Samples with Selected Years

The main analysis in Table 2 excludes data from 2020 due to the pandemic's potential impact on students' decision-making. During the fall of 2020 and spring of 2021, education in Turkey was fully online, eliminating the need for students to relocate or physically attend classes. While excluding 2020 is reasonable given the pandemic's effects, one could argue that students making choices in 2020 were aware that online education would likely be temporary and anticipated returning to in-person education in subsequent years. Therefore, the temporary shift to online learning might not have significantly influenced their decisions. To address this, I repeated the analysis, including data from 2020.

Columns 1-4 of Table A5 present the results, including all years from 2019 to 2023. While the first and fourth specifications are not precisely estimated, there is still evidence of a negative effect. The second and third specifications show statistically significant negative coefficients, confirming the robustness of the findings. However, the coefficients are smaller compared to the main results. The weaker effects observed when the pandemic year is included suggest that decisions made in 2020 were less influenced by rental prices. This could be because students who might typically avoid certain programs due to high living costs chose them during the pandemic, knowing that physical relocation was not immediately required.

In 2023, the largest increase in rental prices was observed alongside a devastating earthquake. While the main analysis in Table 2 excludes programs in the ten provinces directly affected by the earthquake from the 2023 data, one might argue that the earthquake could have caused internal migration, indirectly influencing student mobility. To address this, I conducted an additional analysis focusing solely on 2021 and 2022, excluding both the pandemic and 2023, using the most stable years with minimal external shocks. Columns 5-8 of Table A5 present the results of this analysis, showing consistently negative and precisely estimated coefficients. These findings

confirm two key points: first, the estimated effects on student mobility are not driven by the earthquake; second, the observed impact is not solely attributable to the exceptional rental price increases in 2023, the year with the largest shock.

7.2. Alternative Samples with Regional Exclusions

The Eastern Anatolia and Black Sea regions of Turkey differ significantly from Western and Central Anatolia in several aspects: they have lower population density, less industrial development, fewer job opportunities, and a smaller number of universities. Columns 1-4 of Table A6 exclude programs in Eastern Anatolia (NUTS1 regions 10, 11, 12), while Columns 5-8 further exclude the Black Sea region (NUTS1 regions 8, 9, 10, 11, 12). The results consistently demonstrate a strong negative impact of rental prices on student mobility, though some estimates with program fixed effects are marginally insignificant. This indicates that excluding less-developed regions does not alter the main finding that rental prices negatively affect student mobility.

I further examine student mobility directed specifically toward Turkey’s three largest provinces—Istanbul, Ankara, and Izmir—which collectively host nearly half of all higher education programs. Columns 9-12 of Table A6 focus solely on migration to these provinces. The results reveal a strong and significant negative effect of rental prices on student mobility in the three largest provinces, with coefficients larger than those observed in the main analysis, which includes all programs in Turkey. For instance, column 12 shows a 12 percentage point decrease in the openness rate for every 100 TL increase in the rental price index—four times larger than the main result in Table 2, though marginally insignificant. This indicates that rising rental prices have a disproportionately greater impact on student flows to major urban centers.

7.3. Alternative Samples Adjusting for Program Size

Higher education programs in Turkey vary significantly in size, with enrollments ranging from as few as ten students to over 400. In smaller programs, minor changes in the number of incoming students can disproportionately affect the openness rate, while larger programs require substantial changes to produce a similar effect. To address this, I conduct additional tests to minimize the influence of small programs on the results.

In Columns 1-4 of Table A7, the original analysis from Table 2 is re-estimated using regressions weighted by the average student enrollment per program. While statistical significance is lost in column 4, negative and precisely estimated effects persist across other specifications, confirming the overall pattern. Columns 5-8 exclude programs with an average enrollment of fewer than ten students. The results remain robust, with coefficient magnitudes closely matching those in Table 2. Columns 9-12 further tighten the sample by excluding programs with fewer than 20 enrolled students, slightly strengthening the findings. These three analyses presented in Table A7 collectively demonstrate that the influence of small-sized programs does not distort the findings. By either assigning them lower weights or excluding them altogether, the results remain consistent and robust.

7.4. Alternative Sample with Balanced Panel Data

Since the start of the analysis period in 2019, numerous programs have been introduced, while a small number of programs that initially accepted students were later discontinued. As shown in Panel A of Table 1, the number of public programs increased from 4,731 in 2019 to 5,364 in 2023. This dynamic has resulted in an unbalanced panel, as not all programs are observable across all years.

To address potential compositional effects caused by programs newly added to or dropped from the dataset, I limited the analysis to programs consistently observable from 2019 to 2023. The balanced panel analysis, presented in Table A8, gives results closely aligned with the main findings in Table 2, both in magnitude and direction. Although statistical significance is marginally lost in columns 1 and 4, the results remain robust when restricted to existing programs.

7.5. Controlling for the Gap Years Before Starting University

Most students enroll in a university program directly after completing high school. However, some take one or more gap years before enrolling in a university program, during which they may relocate to another province. To account for this, I include an additional control variable: the proportion of students in each program who begin university immediately after high school graduation, without any gap years. The estimation results presented in Table A9, which include the control variable, "the ratio of new high school graduates," for each program, align closely with

the primary results. This consistency suggests that the effects observed are not significantly altered by students who delay their entry into university.

7.6. Alternative Definitions for the Dependent Variable

In some cases, students from nearby provinces commute daily rather than relocate for university due to the scarcity and high cost of student housing. This commuting behavior could lead to underestimating the negative impact of rental prices on student mobility. To address this, I conduct robustness checks using alternative definitions of the openness rate. In columns 1-4 of Table A10, the analysis recalculates the openness rate to include only students relocating from non-adjacent provinces, excluding those who commute from neighboring areas. Additionally, I refine the definition further by considering a maximum feasible commuting distance of 100 km. Columns 5-8 present results for students moving to provinces more than 100 km away from their province of origin. Both analyses yield results consistent with the primary findings in Table 2, with slightly larger coefficients. These two analyses presented in Table A10 indicate that the primary findings remain robust after excluding daily commuting scenarios.

8. Conclusion

Understanding how rental prices influence student mobility is crucial because these decisions not only affect the efficiency of student-university matching—shaping educational outcomes—but also have significant implications for regional development and the distribution of human capital across the country. This study leverages a natural experiment created by the sharp rise in housing prices across Turkey from 2020 to 2023 to explore its impact on the inter-provincial mobility of high school graduates towards university. Combining rental price indices from all 81 provinces with a five-year comprehensive panel data set of all higher education programs, the analysis reveals that rising rental prices significantly reduce student mobility. A 100 TL increase in the rental price index (adjusted to 2023 prices) reduces the openness rate (out-of-province student enrollment) for public university programs by 3.5 percentage points (a 4.4% decline). The findings highlight substantial heterogeneity across programs. Rental price increases have a pronounced negative impact on programs with lower entry scores, reducing openness rates by 18%. In contrast, programs with higher entry scores remain unaffected. For private university programs, rental price

increases significantly reduce mobility for tuition-based programs, while full-scholarship programs remain unaffected. This aligns with the findings for high-score public programs, as full-scholarship programs also tend to attract students with higher entry scores.

This pattern underscores that the negative impact of rising rental costs is concentrated in programs drawing students with lower academic performance, while competitive or prestigious programs remain insulated. This finding is consistent with Dwenger et al. (2012), who show that higher-performing students are less sensitive to cost increases. Two explanations emerge from the literature. First, low-score programs often lead to higher unemployment risks and lower wages, deterring students from incurring high accommodation costs for limited returns. Second, academic performance correlates with parental income, meaning students with higher scores, often from wealthier families, are less affected by rental price increases. Supporting this, Callender and Jackson (2008) find that lower-income students are more debt-averse, making them disproportionately impacted by rising costs.

This finding has several critical implications. First, it restricts access for lower-achieving and potentially lower-income students to education in developed urban centers, limiting their chances of securing high-paying jobs in these regions. For youth in smaller cities, educational mobility often serves as a pathway for internal migration later in life. Given these individuals' significant economic returns to migration, this restriction poses a critical disadvantage for academically weaker students. Second, it exacerbates regional disparities by concentrating human capital in wealthier provinces. If only high-achieving students can afford to relocate to expensive areas, universities in lower-cost provinces may increasingly attract less academically able students, further increasing regional inequalities.

A third implication relates to the educational benefits of diversity within student populations. Higher openness rates not only reflect greater accessibility for students from various regions but also foster diversity in terms of ethnic, cultural, and socioeconomic backgrounds, as well as differing religious and political perspectives. This diversity has been shown to enhance educational outcomes, including improved cross-cultural competence, academic engagement, critical thinking, and creativity (Chang, 2001; Gurin et al., 2009; Jones, 2013; Milem, 2003; Rothman et al., 2003). Additionally, diverse student groups often bring greater creativity to collaborative efforts

(Bultseva & Lebedeva, 2021; Hoever et al., 2012). A decline in out-of-province enrollment due to rising rental costs limits these benefits, potentially resulting in less dynamic learning environments and weaker educational outcomes.

This study makes several key contributions to the literature on student mobility. It is the first to specifically focus on the effect of housing costs, particularly rental prices, on student mobility, addressing a critical yet underexplored factor in higher education decisions. By leveraging the unprecedented surge in rental prices across Turkey as a natural experiment, it employs a difference-in-differences approach to isolate the causal effect of rental prices on mobility decisions. Finally, examining a middle-income country addresses a significant gap in the predominantly developed-country-focused literature, offering insights into educational mobility dynamics in a developing context.

One limitation of the data used in this study is that it only captures the initial enrollments of first-year university students from the Higher Education Council's Atlas. Consequently, it does not account for students who may drop out after registering due to high living costs. This limitation does not undermine the main findings but suggests that rising rental prices' impact on student mobility and continuation in higher education could be even more significant.

References

- Abbott, A., & Silles, M. (2016). Determinants of International Student Migration. *The World Economy*, 39(5), 621–635. <https://doi.org/10.1111/twec.12319>
- Bacci, S., & Bertaccini, B. (2021). Assessment of the University Reputation Through the Analysis of the Student Mobility. *Social Indicators Research*, 156(2–3), 363–388. <https://doi.org/10.1007/s11205-020-02322-x>
- Ballarino, G., Colombo, S., Panichella, N., & Piolatto, M. (2022). Human capital dynamics: The geographical mobility of high-school graduates towards university in Italy. *Regional Studies*, 56(6), 921–939. <https://doi.org/10.1080/00343404.2021.1912723>
- Beine, M., Noël, R., & Ragot, L. (2014). Determinants of the international mobility of students. *Economics of Education Review*, 41, 40–54. <https://doi.org/10.1016/j.econedurev.2014.03.003>
- Belfield, C., & Morris, Z. (1999). Regional Migration to and from Higher Education Institutions: Scale, Determinants and Outcomes. *Higher Education Quarterly*, 53(3), 240–263. <https://doi.org/10.1111/1468-2273.00129>
- Boeing, G., Wegmann, J., & Jiao, J. (2023). Rental Housing Spot Markets: How Online Information Exchanges Can Supplement Transacted-Rents Data. *Journal of Planning Education and Research*, 43(3), 525–537. <https://doi.org/10.1177/0739456X20904435>
- Bratti, M., & Verzillo, S. (2019). The ‘gravity’ of quality: Research quality and the attractiveness of universities in Italy. *Regional Studies*, 53(10), 1385–1396. <https://doi.org/10.1080/00343404.2019.1566701>
- Bultseva, M. A., & Lebedeva, N. M. (2021). The role of intercultural competence, in the relationship between intercultural experiences and creativity among students. *International Journal of Intercultural Relations*, 82, 256–264. <https://doi.org/10.1016/j.ijintrel.2021.04.010>
- Callender, C., & Jackson, J. (2008). Does the fear of debt constrain choice of university and subject of study? *Studies in Higher Education*, 33(4), 405–429. <https://doi.org/10.1080/03075070802211802>
- Cattaneo, M., Malighetti, P., Meoli, M., & Paleari, S. (2017). University spatial competition for students: The Italian case. *Regional Studies*, 51(5), 750–764. <https://doi.org/10.1080/00343404.2015.1135240>

- Chang, M. J. (2001). *The Positive Educational Effects of Racial Diversity on Campus*.
<https://eric.ed.gov/?id=ED456198>
- Ciriaci, D. (2014). Does University Quality Influence the Interregional Mobility of Students and Graduates? The Case of Italy. *Regional Studies*, 48(10), 1592–1608.
<https://doi.org/10.1080/00343404.2013.821569>
- Cui, C., Yu, C., Chen, N., & Deng, X. (2024). Moving into higher education: An examination of student mobility under the Independent Freshman Admission Program in China. *Population, Space and Place*, e2812. <https://doi.org/10.1002/psp.2812>
- Cullinan, J., & Duggan, J. (2016). A School-Level Gravity Model of Student Migration Flows to Higher Education Institutions. *Spatial Economic Analysis*, 11(3), 294–314.
<https://doi.org/10.1080/17421772.2016.1177195>
- D’Agostino, A., Ghellini, G., & Longobardi, S. (2019). Out-migration of university enrolment: The mobility behaviour of Italian students. *International Journal of Manpower*, 40(1), 56–72. <https://doi.org/10.1108/IJM-07-2017-0169>
- Dotti, N. F., Fratesi, U., Lenzi, C., & Percoco, M. (2014). Local labour market conditions and the spatial mobility of science and technology university students: Evidence from Italy. *Review of Regional Research*, 34(2), 119–137. <https://doi.org/10.1007/s10037-014-0088-y>
- Dotzel, K. R. (2017). Do natural amenities influence undergraduate student migration decisions? *The Annals of Regional Science*, 59(3), 677–705. <https://doi.org/10.1007/s00168-016-0765-6>
- Dwenger, N., Storck, J., & Wrohlich, K. (2012). Do tuition fees affect the mobility of university applicants? Evidence from a natural experiment. *Economics of Education Review*, 31(1), 155–167. <https://doi.org/10.1016/j.econedurev.2011.10.004>
- Eşidir, Y. (2017). *Yükseköğretimde Barınma Politikalarının Değerlendirilmesi ve Türkiye için Öneriler*. Kalkınma Bakanlığı. https://www.sbb.gov.tr/wp-content/uploads/2022/08/Yukse_Ogretimde_Barinma_Politikalarinin_Degerlendirilmesi_ve_Turkiye_Icin_Oneriler-Yusuf_Esidir.pdf
- Faggian, A., & Franklin, R. S. (2014). Human Capital Redistribution in the USA: The Migration of the College-bound. *Spatial Economic Analysis*, 9(4), 376–395.
<https://doi.org/10.1080/17421772.2014.961536>

- Filiz, Z., & Çemrek, F. (2007). Üniversite Öğrencilerinin Barınma Sorunlarının Uygunluk Analizi ile İncelenmesi. *Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi*, 8(2), Article 2.
- Flannery, D., & Cullinan, J. (2014). Where they go, what they do and why it matters: The importance of geographic accessibility and social class for decisions relating to higher education institution type, degree level and field of study. *Applied Economics*, 46(24), 2952–2965. <https://doi.org/10.1080/00036846.2014.916392>
- Fratesi, U., & Percoco, M. (2014). Selective Migration, Regional Growth and Convergence: Evidence from Italy. *Regional Studies*, 48(10), 1650–1668. <https://doi.org/10.1080/00343404.2013.843162>
- Fratesi, U., & Riggi, M. R. (2007). Does Migration Reduce Regional Disparities? The Role of Skill-Selective Flows. *Review of Urban & Regional Development Studies*, 19(1), 78–102. <https://doi.org/10.1111/j.1467-940X.2007.00125.x>
- Gareis, P., & Broekel, T. (2022). The Spatial Patterns of Student Mobility Before, During and After the Bologna Process in Germany. *Tijdschrift Voor Economische En Sociale Geografie*, 113(3), 290–309. <https://doi.org/10.1111/tesg.12507>
- Genova, V. G., & Boscaino, G. (2024). Chain migration and student mobility in Sicily. *Higher Education*. <https://doi.org/10.1007/s10734-024-01336-5>
- Giambona, F., Porcu, M., & Sulis, I. (2017). Students Mobility: Assessing the Determinants of Attractiveness Across Competing Territorial Areas. *Social Indicators Research*, 133(3), 1105–1132. <https://doi.org/10.1007/s11205-016-1407-1>
- Gurin, P., Dey, E., Hurtado, S., & Gurin, G. (2009). Diversity and Higher Education: Theory and Impact on Educational Outcomes. *Harvard Educational Review*, 72(3), 330–367. <https://doi.org/10.17763/haer.72.3.01151786u134n051>
- Hepsiemlak (2024). Accessed November 21, 2024. <https://www.hepsiemlak.com/>
- Hoever, I. J., van Knippenberg, D., van Ginkel, W. P., & Barkema, H. G. (2012). Fostering team creativity: Perspective taking as key to unlocking diversity’s potential. *The Journal of Applied Psychology*, 97(5), 982–996. <https://doi.org/10.1037/a0029159>
- Hübner, M. (2012). Do tuition fees affect enrollment behavior? Evidence from a ‘natural experiment’ in Germany. *Economics of Education Review*, 31(6), 949–960. <https://doi.org/10.1016/j.econedurev.2012.06.006>

- IPA (2024). *İstanbul'da Öğrenci Yaşam Maliyeti Araştırması 2024/2025*. Available at: <https://ipa.istanbul/yayinlarimiz/genel/istanbulda-ogrenci-yasam-maliyeti-arastirmasi-2024-2025/> (Accessed: 28 October 2024).
- Ishitani, T. T. (2011). The Determinants of Out-Migration Among In-State College Students in the United States. *Research in Higher Education*, 52(2), 107–122.
- Jha, S., & Kumar, S. (2017). Socio-economic Determinants of Inter-state Student Mobility in India: Implications for Higher Education Policy. *Higher Education for the Future*, 4(2), 166–185. <https://doi.org/10.1177/2347631117708069>
- Jones, W. A. (2013). The Relationship Between Student Body Racial Composition and the Normative Environment Toward Diversity at Community Colleges. *Community College Review*, 41(3), 249–265. <https://doi.org/10.1177/0091552113497090>
- Kanbur, R., & Rapoport, H. (2005). Migration selectivity and the evolution of spatial inequality. *Journal of Economic Geography*, 5(1), 43–57.
- Knight Frank (2023). Global House Price Index. Knight Frank LLP. Accessed November 21, 2024. <https://content.knightfrank.com/research/84/documents/en/global-house-price-index-q2-2023-10572.pdf>
- Lourenço, D., & Sá, C. (2019). Spatial competition for students: What does (not) matter? *The Annals of Regional Science*, 63(1), 147–162. <https://doi.org/10.1007/s00168-019-00930-1>
- Mchugh, R., & Morgan, J. N. (1984). The determinants of interstate student migration: A place-to-place analysis. *Economics of Education Review*, 3(4), 269–278. [https://doi.org/10.1016/0272-7757\(84\)90045-1](https://doi.org/10.1016/0272-7757(84)90045-1)
- Milem, J. (2003). The Educational Benefits of Diversity: Evidence from Multiple Sectors. In *Compelling Interest* (pp. 126–169). Stanford University Press. <https://doi.org/10.1515/9780804764537-009>
- Ministry of Education – Republic of Türkiye (2023). National Education Statistics, Formal Education 2022/'23. Accessed November 21, 2024. https://sgb.meb.gov.tr/www/icerik_goruntule.php?KNO=508
- Ministry of Trade - Republic of Türkiye (2024). Elektronik İlan Doğrulama Sistemi. Accessed November 21, 2024. <https://ticaret.gov.tr/kurumsal-haberler/elektronik-ilan-dogrulama-sistemi-eids-yetki-dogrulama-uygulamasi-hayata-gecirildi>

- Mixon, F. G., & Hsing, Y. (1994a). College Student Migration and Human Capital Theory: A Research Note. *Education Economics*, 2(1), 65–73.
<https://doi.org/10.1080/09645299400000005>
- Mixon, F. G., & Hsing, Y. (1994b). The determinants of out-of-state enrollments in higher education: A tobit analysis. *Economics of Education Review*, 13(4), 329–335.
[https://doi.org/10.1016/S0272-7757\(05\)80056-1](https://doi.org/10.1016/S0272-7757(05)80056-1)
- Pelegrini, T., Sá, C., & França, M. T. A. (2023). Factors associated with the mobility of college students in Brazil: An analysis using a gravity model. *Higher Education*, 85(1), 203–223.
<https://doi.org/10.1007/s10734-022-00829-5>
- Pigini, C., & Staffolani, S. (2016). Beyond participation: Do the cost and quality of higher education shape the enrollment composition? The case of Italy. *Higher Education*, 71(1), 119–142. <https://doi.org/10.1007/s10734-015-9892-8>
- Prakhov, I., & Bocharova, M. (2019). Socio-economic predictors of student mobility in Russia. *Journal of Further and Higher Education*, 43(10), 1331–1347.
<https://doi.org/10.1080/0309877X.2018.1483014>
- Prakhov, I., & Sergienko, D. (2020). Matching between students and universities: What are the sources of inequalities of access to higher education? *European Journal of Education*, 55(2), 261–274. <https://doi.org/10.1111/ejed.12389>
- Psycharis, Y., Tselios, V., & Pantazis, P. (2019). Interregional student migration in Greece: Patterns and determinants: *Revue d'Économie Régionale & Urbaine*, Octobre(4), 781–812. <https://doi.org/10.3917/reru.194.0781>
- Raab, J., Knoblen, J., Aufurth, L., & Kaashoek, B. (2018). Going the distance: The effects of university – secondary school collaboration on student migration. *Papers in Regional Science*, 97(4), 1131–1150. <https://doi.org/10.1111/pirs.12288>
- Rizzi, L., Grasseti, L., & Attanasio, M. (2021). Moving from North to North: How are the students' university flows? *Genus*, 77(1), 8. <https://doi.org/10.1186/s41118-021-00116-8>
- Rolfe, V., & Yang Hansen, K. (2020). Family Socioeconomic and Migration Background Mitigating Educational-Relevant Inequalities. In T. Nilsen, A. Stancel-Piątak, & J.-E. Gustafsson (Eds.), *International Handbook of Comparative Large-Scale Studies in Education: Perspectives, Methods and Findings* (pp. 1–34). Springer International Publishing. https://doi.org/10.1007/978-3-030-38298-8_50-1

- Rothman, S., Lipset, S. M., & Nevitte, N. (2003). Does Enrollment Diversity Improve University Education? *International Journal of Public Opinion Research*, 15(1), 8–26.
<https://doi.org/10.1093/ijpor/15.1.8>
- Sahibinden (2024). *Emlak endeksi*. Accessed November 21, 2024.
<https://www.sahibinden.com/emlak360/emlak-endeksi>
- Sá, C., Florax, R. J. G. M., & Rietveld, P. (2004). Determinants of the Regional Demand for Higher Education in The Netherlands: A Gravity Model Approach. *Regional Studies*, 38(4), 375–392. <https://doi.org/10.1080/03434002000213905>
- Sá, C., Florax, R. J. G. M., & Rietveld, P. (2006). Does Accessibility to Higher Education Matter? Choice Behaviour of High School Graduates in the Netherlands. *Spatial Economic Analysis*, 1(2), 155–174. <https://doi.org/10.1080/17421770601009791>
- Tuckman, H. P. (1970). Determinants of College Student Migration. *Southern Economic Journal*, 37(2), 184–189. <https://doi.org/10.2307/1056128>
- Turkish Statistical Institute – TURKSTAT. (2024). Statistics by Theme. Inflation and Prices. Consumer Price Index. Statistical Tables and Dynamic Search. Accessed November 21, 2024. <https://biruni.tuik.gov.tr/medas/?locale=tr>
- Türk, U. (2019). Socio-Economic Determinants of Student Mobility and Inequality of Access to Higher Education in Italy. *Networks and Spatial Economics*, 19(1), 125–148.
<https://doi.org/10.1007/s11067-019-09445-w>
- Wakeling, P., & Jefferies, K. (2012). The effect of tuition fees on student mobility: The UK and Ireland as a natural experiment. *British Educational Research Journal*, 1–23.
<https://doi.org/10.1080/01411926.2012.658022>
- Wei, H. (2013). An empirical study on the determinants of international student mobility: A global perspective. *Higher Education*, 66(1), 105–122. <https://doi.org/10.1007/s10734-012-9593-5>
- Winters, J. V. (2012). Cohort crowding and nonresident college enrollment. *Economics of Education Review*, 31(3), 30–40. <https://doi.org/10.1016/j.econedurev.2012.01.001>
- YÖK. (2022). *Yükseköğretime Geçişte Öğrenci Hareketliliği*. Yükseköğretim Kurumu.
<https://www.yok.gov.tr/Documents/Yayinlar/Yayinlarimiz/2022/yuksekogretime-geciste-ogrenci-hareketliliği.pdf>

YÖK Lisans Atlası (2024). Yükseköğretim Program Atlası. Accessed November 21, 2024.

<https://yokatlas.yok.gov.tr/lisans-anasayfa.php>.

Yurtlarburada (2024). İstanbul Özel Öğrenci Yurtları. Accessed November 21, 2024.

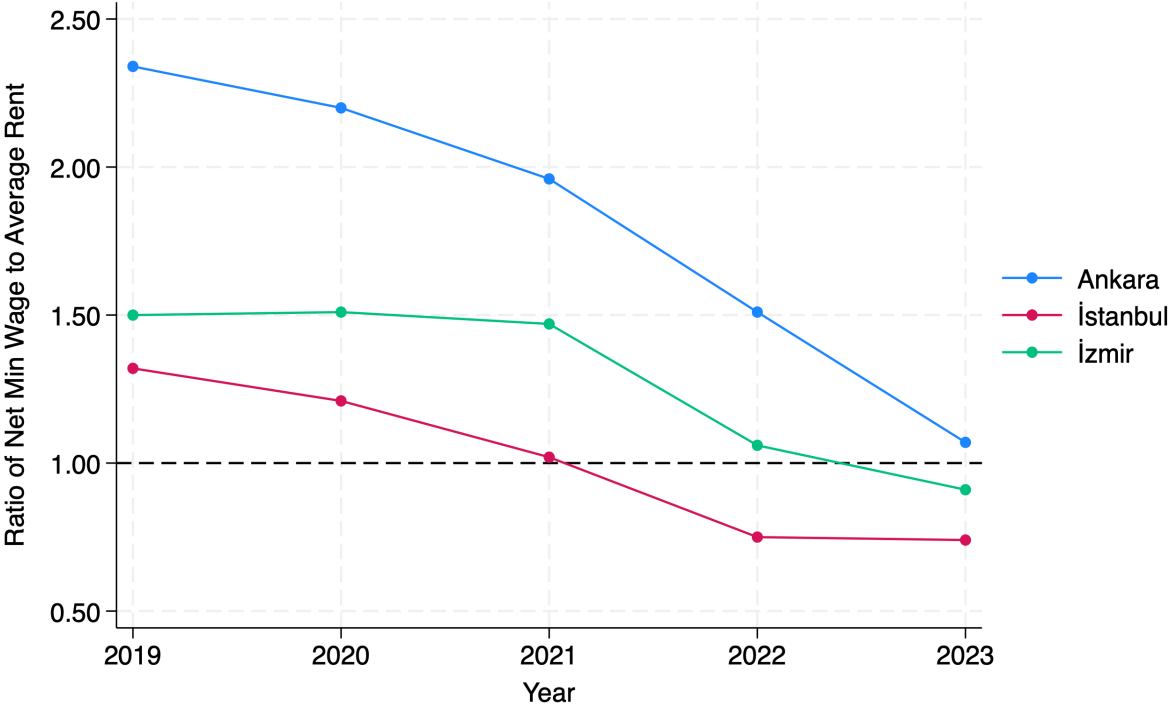
<https://www.yurtlarburada.com/sehirler/istanbul-ozel-ogrenci-yurtlari>.

Zhou, J., & Chi-Man Hui, E. (2022). Housing prices, migration, and self-selection of migrants in China. *Habitat International*, 119, 102479.

<https://doi.org/10.1016/j.habitatint.2021.102479>

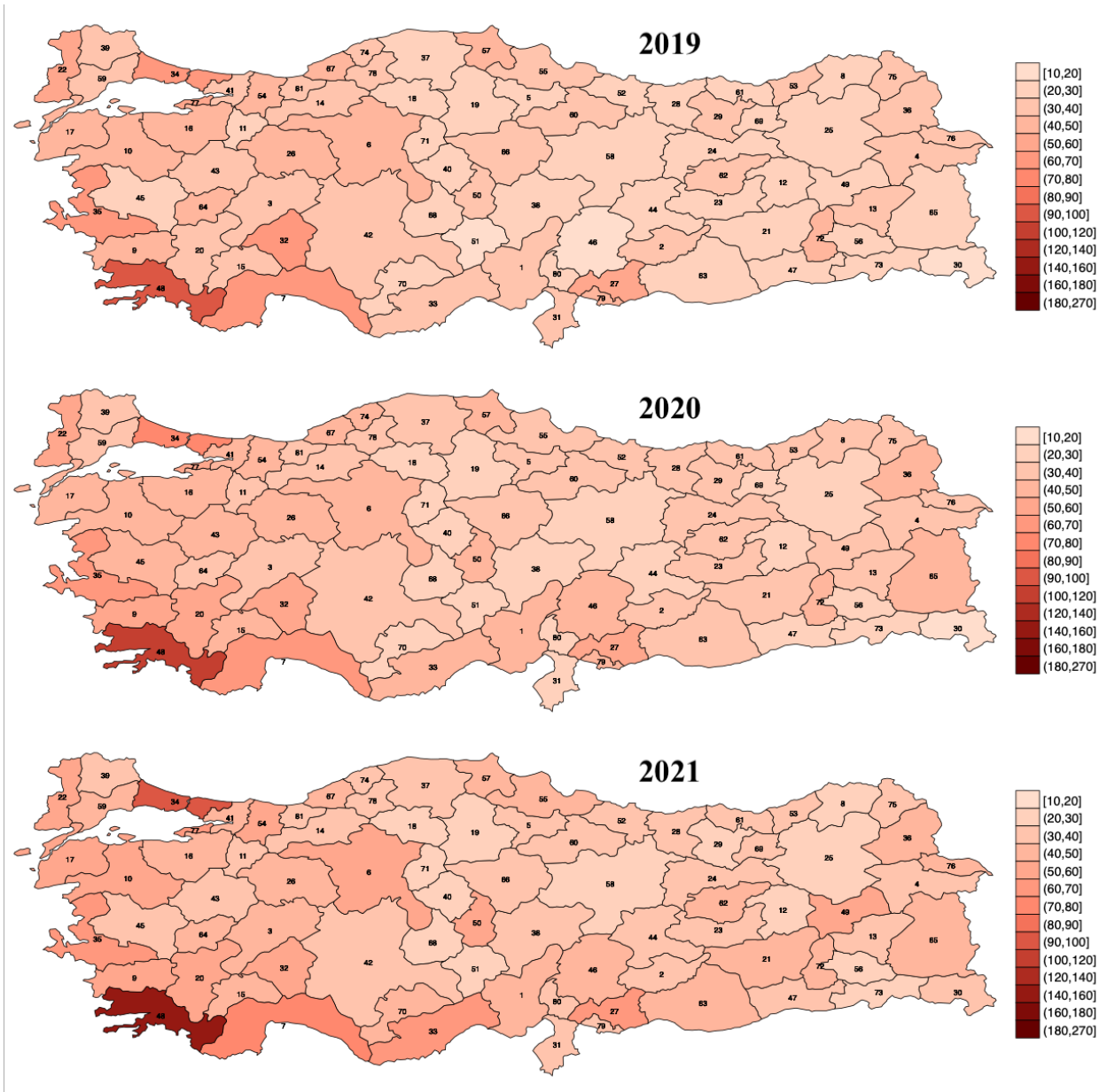
Tables and Figures

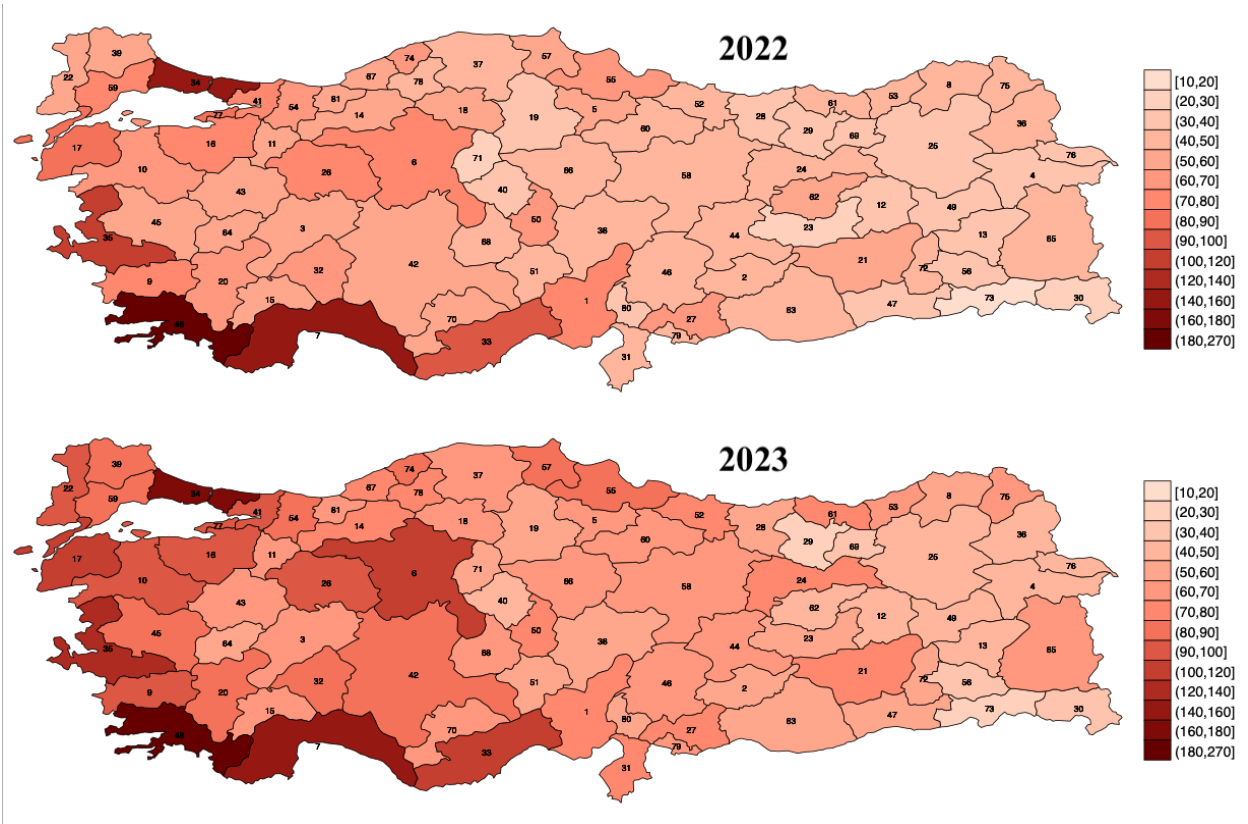
Figure 1: The Ratio of Minimum Wage to Average Rent by Years



Notes: Net minimum wage data, presented in nominal Turkish Lira, is sourced from the Ministry of Labor and Social Security, based on July figures each year. The annual wages for the years 2019 to 2023 are as follows: 2,020.9 (2019), 2,324.7 (2020), 2,825.9 (2021), 5,500.4 (2022), and 11,402.3 (2023). Average rents are determined by applying the July rental price indices from sahibinden.com, which reflect the median square meter price for residential properties in each province, and then multiplying by 96 to estimate the cost for an average-sized home of 96 square meters. All values are reported in nominal terms.

Figure 2: Rental Price Indices Across Provinces and Years





Notes: Rental price indices, reflecting the median square meter rental price for residential properties per province, were sourced from sahibinden.com and adjusted for inflation to 2023 values using TURKSTAT's Consumer Price Index at NUTS2 level.

Table 1: Descriptive Statistics - Openness Rates, Number of Programs, and Number of Students by Program Types

A) Openness Ratio					
	2019	2020	2021	2022	2023
Programs in Public Universities	0.71	0.72	0.67	0.68	0.70
Private Programs with a Full Scholarship	0.47	0.46	0.45	0.44	0.47
Private Programs with Tuition Payments	0.34	0.33	0.33	0.32	0.30
B) Number of Programs					
	2019	2020	2021	2022	2023
Programs in Public Universities	4731	5203	5512	5864	5364
Private Programs with a Full Scholarship	1002	1262	1508	1601	1605
Private Programs with Tuition Payments	1038	1510	1693	2055	2116
C) Number of Students Registered					
	2019	2020	2021	2022	2023
Programs in Public Universities	301545	327973	287280	355665	334123
Private Programs with a Full Scholarship	6969	12878	14740	15422	15427
Private Programs with Tuition Payments	29076	51393	47029	69227	73593

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes public programs with fewer than five registered students, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The openness rate indicates the percentage of nonresident students enrolled in a program.

Table 2: Effects of Rental Price on the Openness Rate of Public University Programs

	(1)	(2)	(3)	(4)	(5)	(6)
Rental Price Index	-0.035** (0.016)	-0.059*** (0.022)	-0.057*** (0.022)	-0.030* (0.015)	-0.053** (0.024)	-0.032* (0.016)
Mean	68.898	68.898	68.898	68.898	68.898	68.898
Observations	21,317	21,317	21,317	21,317	21,317	21,317
R-squared	0.388	0.428	0.492	0.822	0.493	0.822
Controls for:						
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	Yes
5 Region Linear Time Trends	No	No	No	No	Yes	Yes

Notes: The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

Table 3: Effects of Rental Price on the Openness Rates Across Public University Programs by Entry Score Categories

	Programs with Low Entry Scores				Programs with Lower-Middle Entry Scores			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rental Price Index	-0.124*** (0.038)	-0.125*** (0.038)	-0.123*** (0.037)	-0.115*** (0.035)	-0.006 (0.022)	-0.019 (0.026)	-0.018 (0.026)	0.003 (0.019)
Mean	65.126	65.126	65.126	65.126	69.596	69.596	69.596	69.596
Observations	5,138	5,138	5,138	5,138	5,429	5,429	5,429	5,429
R-squared	0.376	0.388	0.431	0.718	0.453	0.487	0.521	0.833
Controls for:								
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes

	Programs with Upper-Middle Entry Scores				Programs with High Entry Scores			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rental Price Index	0.015 (0.011)	-0.023 (0.017)	-0.015 (0.017)	0.020 (0.012)	0.014 (0.012)	-0.029 (0.029)	-0.025 (0.027)	0.018 (0.011)
Mean	70.223	70.223	70.223	70.223	70.467	70.467	70.467	70.467
Observations	5,217	5,217	5,217	5,217	5,533	5,533	5,533	5,533
R-squared	0.563	0.609	0.667	0.912	0.508	0.590	0.636	0.909
Controls for:								
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) Score categories were determined based on the entry score of a program in its first year of appearance in the dataset (for newly opened programs, the entry score in their opening year; for existing programs, the score in 2019), which represents the score of the last student able to enroll in the program based on university entrance exam success. This approach was adopted because changes in rental prices could potentially influence demand for the program and, consequently, the program's entry score over the years. All programs admit students based on one of four score categories: equal weight, quantitative, verbal, and language. Each category was divided into four quartiles, with the 1st quartile defined as low, the 2nd as lower-middle, the 3rd as upper-middle, and the 4th as high score programs.

Table 4: Effects of Rental Price on the Openness Rates of Private University Programs

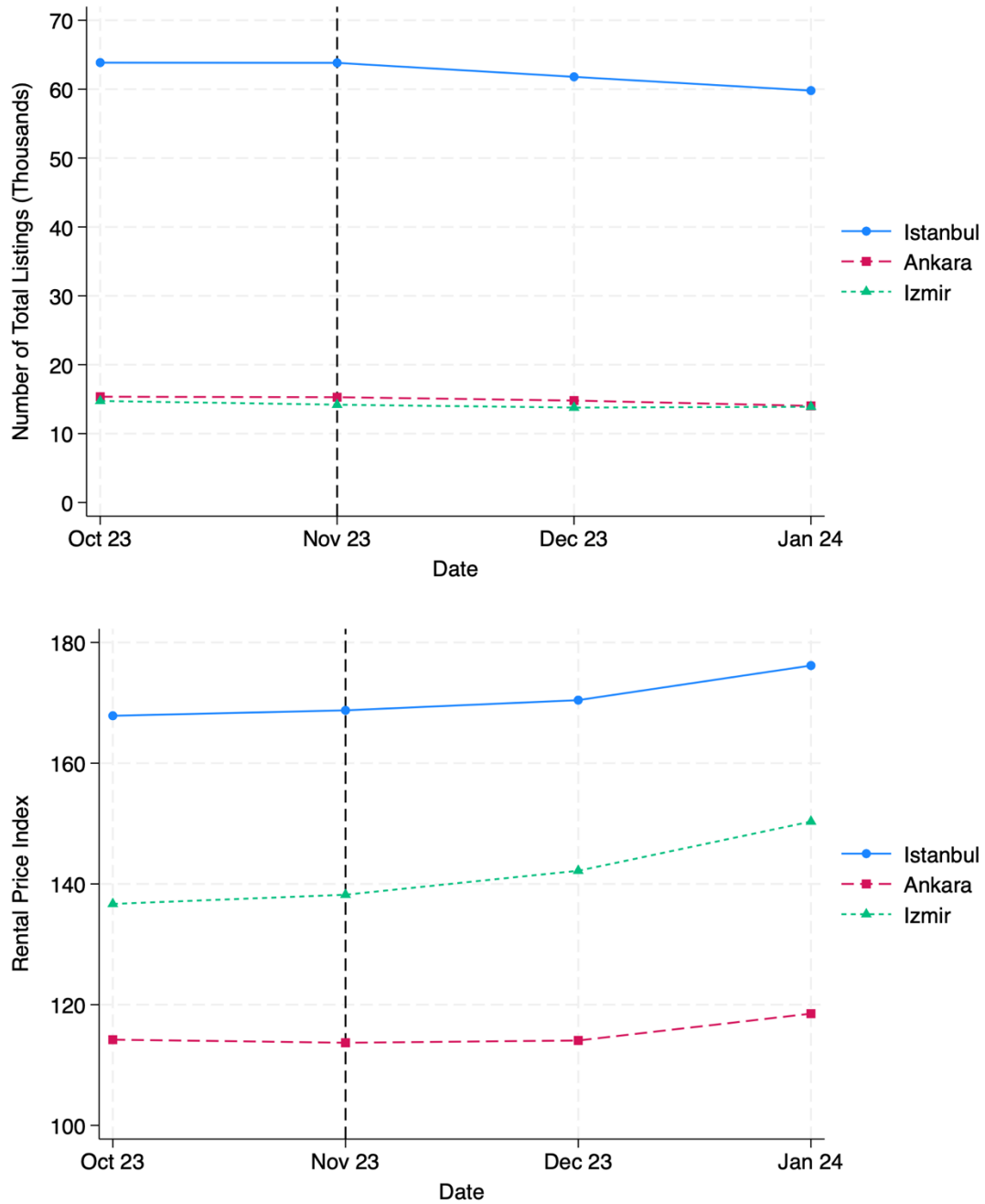
	Programs in Private Universities with a Full Scholarship				Programs in Private Universities Requiring Tuition Payments							
					Not Controlled for Tuition Fees				Controlled for Tuition Fees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rental Price Index	-0.110*	-0.089	-0.082	-0.074	-0.161**	-0.133**	-0.111**	-0.097*	-0.171**	-0.153***	-0.124**	-0.102*
	(0.056)	(0.055)	(0.055)	(0.055)	(0.058)	(0.048)	(0.047)	(0.045)	(0.055)	(0.048)	(0.046)	(0.046)
Mean	45.862	45.862	45.862	45.862	32.091	32.091	32.091	32.091	32.091	32.091	32.091	32.091
Observations	6,657	6,657	6,657	6,657	6,722	6,722	6,722	6,722	6,722	6,722	6,722	6,722
R-squared	0.072	0.285	0.304	0.595	0.080	0.229	0.376	0.720	0.124	0.247	0.383	0.720
Controls for:												
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Tuition Fee	-	-	-	-	No	No	No	No	Yes	Yes	Yes	Yes

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at private universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) The analysis in columns 1-4 covers private programs with a full scholarship. The analysis in columns 5-12 covers private programs that require tuition wave. The analysis in columns 9-12 accounts for tuition fees. Tuition data was manually collected from the official websites of each university, focusing on psychology programs. It is assumed that tuition fees for all programs increase at the same rate annually, allowing for the derivation of university-level fees. All tuition data was adjusted for inflation and converted to 2023 values.

Online Appendix

Figure A1: Monthly Trends in Total Listings and Rental Price Index Before and After the Verification Policy Implementation (November 2023)



Notes: Data comes from hepsimlak.com, Turkey's second largest real estate listings platform.

Table A1: Economic Indicators in Turkey 2018-2023: CPI, Exchange Rate, and Homeownership Statistics

Indicators	2019	2020	2021	2022	2023
Consumer Price Index	419.24	468.56	557.36	1,001.03	1,479.84
US Dollars to Turkish Lira Exchange Rate	5.68	6.86	8.63	17.42	26.47
The proportion of the population living in their own dwellings	58.8%	57.8%	60.7%	56.7%	56.2%
The proportion of the population living in rented house	25.6%	26.2%	27.6%	27.2%	27.8%

Note: The Consumer Price Index (CPI) data, indexed to 2003, is sourced annually in July from TURKSTAT. The exchange rate of US Dollars to Turkish Lira, provided by the Central Bank of the Republic of Turkey, is taken from July values each year. Homeownership ratios are derived from the Income and Living Conditions Survey conducted by TURKSTAT.

Table A2: Statistics on Dormitories and Student Financial Aid in Turkish Higher Education

A) Public Dormitory Capacities and Number of Students Enrolled in Private Domitories					
	2019	2020	2021	2022	2023
Total Capacity of Public Dormitories	674,672	703,175	695,834	759,838	876,942
Number of Students in Private Dormitories					
Dormitories Owned by Associations (Dernek Yurtları)	63,879	73,488	-	73,939	72,640
Dormitories Owned by Foundations (Vakıf Yurtları)	30,068	44,039	-	33,764	31,418
Dormitories Owned by Individuals (Şahıs Yurtları)	23,087	27,697	-	14,346	10,360
Other Private Dormitories	57,276	80,518	-	54,970	54,389
B) Number of Students Receiving Student Grant and Loans from the Higher Education Credit and Hostels Institution and the Amount of Credit Granted					
	2019	2020	2021	2022	2023
Loan (Öğrenim Kredisi)	1,156,419	1,139,292	1,144,070	859,479	847,038
Study Grant (Burs)	413,988	419,135	414,018	503,254	566,872
The Amount of Loan and Study Grant (Undergraduate Student, Nominal Values)	500 TL	550 TL	650 TL	850 TL	1250 TL

Notes: Data from the National Education Statistics (Formal Education) by the Ministry of National Education cover academic years 2018/2019 to 2022/2023. Data on dormitories represent the total population of undergraduate and postgraduate students accommodated in that academic year, not solely the incoming freshmen. Public dormitories fall under the Higher Education Credit and Hostels Institution (Kredi ve Yurtlar Kurumu) of the Ministry of Youth and Sports. Data on students in private dormitories for 2021 are unavailable. The category 'Other private dormitories' encompasses various types such as commercial-private, foundation university, university-affiliated, and other legally established dormitories.

Table A3: Rental Price Indices Across Provinces and Years

P.No	Province	2019	2020	2021	2022	2023	P.No	Province	2019	2020	2021	2022	2023
1	Adana	36,6	41,4	49,6	72,0	72,0	42	Konya	31,8	33,1	35,2	59,7	83,0
2	Adiyaman	32,3	33,2	35,7	43,2	60,0	43	Kütahya	37,5	42,3	39,8	53,5	62,0
3	Afyonkarahisar	32,8	33,8	47,1	57,6	68,0	44	Malatya	27,6	29,5	31,3	41,1	63,0
4	Ağrı	32,7	34,1	33,3	32,9	44,0	45	Manisa	28,1	42,3	39,8	55,5	83,0
5	Amasya	28,8	30,3	36,6	53,5	68,0	46	Kahramanmaraş	18,5	42,3	46,5	47,3	66,0
6	Ankara	40,7	44,8	52,8	78,2	111,0	47	Mardin	23,1	29,0	31,8	37,0	50,0
7	Antalya	61,2	67,9	78,6	156,3	142,0	48	Muğla	99,2	106,8	147,3	263,3	200,0
8	Artvin	28,8	35,0	29,4	41,1	54,0	49	Muş	27,6	33,2	50,3	37,0	44,0
9	Aydın	47,2	51,3	53,9	74,1	100,0	50	Nevşehir	38,2	46,8	57,8	63,8	79,0
10	Balıkesir	41,4	49,1	52,7	67,9	94,0	51	Niğde	19,1	21,3	21,7	41,1	55,0
11	Bilecik	27,2	32,5	34,6	51,4	70,0	52	Ordu	24,0	35,0	36,8	47,3	75,0
12	Bingöl	23,0	29,5	27,8	30,9	41,0	53	Rize	38,4	39,4	36,8	43,2	70,0
13	Bitlis	32,2	33,2	32,3	30,9	45,0	54	Sakarya	41,9	41,9	53,4	69,9	88,0
14	Bolu	32,6	37,7	39,2	55,5	72,0	55	Samsun	38,4	39,0	43,9	63,8	87,0
15	Burdur	37,7	42,4	46,5	59,7	63,0	56	Siirt	23,1	24,9	28,3	30,9	38,0
16	Bursa	45,4	44,7	48,4	74,1	95,0	57	Sinop	42,4	43,5	40,8	51,4	82,0
17	Çanakkale	46,0	49,1	52,7	84,3	111,0	58	Sivas	28,2	25,4	25,2	43,2	63,0
18	Çankiri	28,3	26,1	29,7	53,5	63,0	59	Tekirdağ	32,0	37,4	49,4	74,1	88,0
19	Çorum	24,0	26,0	29,3	32,9	51,0	60	Tokat	33,6	30,3	36,6	43,2	68,0
20	Denizli	37,8	51,3	53,9	63,8	85,0	61	Trabzon	28,8	35,0	33,1	43,2	72,0
21	Diyarbakir	28,3	34,0	46,5	51,4	75,0	62	Tunceli	32,6	35,5	43,8	55,5	47,1
22	Edirne	59,5	58,2	56,4	55,5	92,0	63	Şanlıurfa	23,6	34,0	43,0	45,3	55,0
23	Elazığ	27,6	37,9	31,3	20,6	51,0	64	Uşak	42,2	38,0	47,1	51,4	57,0
24	Erzincan	28,3	33,4	39,2	43,2	75,0	65	Van	27,6	45,7	43,1	47,3	66,0
25	Erzurum	28,3	25,1	21,4	35,0	50,0	66	Yozgat	32,9	33,8	36,0	45,3	63,0
26	Eskişehir	45,4	48,7	48,4	74,1	96,0	67	Zonguldak	42,3	47,1	43,5	51,4	80,0
27	Gaziantep	50,8	54,0	60,7	67,9	75,0	68	Aksaray	23,9	25,5	25,3	49,4	66,0
28	Giresun	24,0	30,6	36,8	37,0	58,0	69	Bayburt	28,3	29,2	32,1	30,9	31,0
29	Gümüşhane	33,6	30,6	29,4	35,0	30,0	70	Karaman	27,3	28,9	42,3	51,4	68,0
30	Hakkari	18,4	16,6	30,5	26,7	30,5	71	Kirikkale	28,7	25,5	25,3	28,8	57,0
31	Hatay	32,3	29,6	35,8	45,3	77,0	72	Batman	41,6	41,4	45,9	43,2	50,0
32	Isparta	61,2	50,9	53,6	69,9	85,0	73	Şirnak	24,8	22,3	24,7	18,5	23,4
33	Mersin	36,6	41,4	60,3	96,7	102,0	74	Bartın	37,6	42,8	39,9	69,9	85,0
34	Istanbul	69,9	78,5	97,5	156,3	161,0	75	Ardahan	32,7	37,1	39,0	45,3	63,0
35	Izmir	62,7	64,0	68,7	111,1	130,0	76	İğdir	32,7	38,4	40,7	35,0	50,0
36	Kars	37,4	46,9	44,4	43,2	50,0	77	Yalova	51,2	50,3	60,5	82,3	96,0
37	Kastamonu	28,3	30,4	37,1	43,2	70,0	78	Karabük	37,6	38,5	36,2	49,4	72,0
38	Kayseri	28,2	25,4	32,4	47,3	51,0	79	Kilis	46,2	41,5	39,3	41,1	61,0
39	Kırklareli	36,6	37,4	38,8	51,4	83,0	80	Osmaniye	27,7	25,4	35,8	37,0	55,0
40	Kırşehir	23,9	25,5	28,9	35,0	50,0	81	Düzce	32,6	37,7	39,2	55,5	63,0
41	Kocaeli	37,3	41,9	42,7	72,0	96,0							

Notes: Rental price indices, reflecting the median square meter rental price for residential properties per province, were sourced from sahibinden.com and adjusted for inflation to 2023 values using TURKSTAT's Consumer Price Index at NUTS2 level.

Table A4: Change in First-Year Student Enrollments Relative to Provincial Populations (2019–2023)

Province	Student Enrollment in 2019	Student Enrollment in 2023	Total Population in 2023	Change in Enrollments (% of Population)	Province	Student Enrollment in 2019	Student Enrollment in 2023	Total Population in 2023	Change in Enrollments (% of Population)
Istanbul	56490	97976	15655924	0,26%	Çorum	959	1400	528351	0,08%
Ankara	34806	45850	5803482	0,19%	Ağrı	1069	1856	511238	0,15%
Izmir	18879	24990	4479525	0,14%	Giresun	1805	2492	461712	0,15%
Bursa	7330	8089	3214571	0,02%	Isparta	5480	6413	449777	0,21%
Antalya	7954	10018	2696249	0,08%	Aksaray	1898	2172	438504	0,06%
Konya	12158	16157	2320241	0,17%	Yozgat	2129	2533	420699	0,10%
Adana	5270	6976	2270298	0,08%	Edirne	3623	4419	419913	0,19%
Şanlıurfa	1936	3127	2213964	0,05%	Düzce	2796	3539	409865	0,18%
Gaziantep	4408	7339	2164134	0,14%	Muş	992	1613	399879	0,16%
Kocaeli	5708	7326	2102907	0,08%	Kastamonu	2302	2723	388990	0,11%
Mersin	3533	5518	1938389	0,10%	Kırklareli	1595	2626	377156	0,27%
Diyarbakır	3446	4629	1818133	0,07%	Niğde	2121	3070	377080	0,25%
Hatay	2993	2938	1544640	0,00%	Uşak	2647	3481	377001	0,22%
Manisa	4294	5262	1475716	0,07%	Bitlis	458	1065	359747	0,17%
Kayseri	7129	8613	1445683	0,10%	Rize	1904	2375	350506	0,13%
Samsun	4906	6140	1377546	0,09%	Siirt	1284	1783	347412	0,14%
Balıkesir	4855	6127	1273519	0,10%	Amasya	1133	1642	339529	0,15%
Tekirdağ	2397	2720	1167059	0,03%	Bolu	3375	3811	324789	0,13%
Aydın	4650	5390	1161702	0,06%	Nevşehir	2312	3923	315994	0,51%
Van	2612	3046	1127612	0,04%	Yalova	1160	1802	304780	0,21%
Kahramanmaraş	2676	4217	1116618	0,14%	Hakkari	292	619	287625	0,11%
Sakarya	6293	7335	1098115	0,09%	Kirikkale	3058	3910	285744	0,30%
Muğla	4255	5136	1066736	0,08%	Bingöl	1217	1982	285655	0,27%
Denizli	5188	5671	1059082	0,05%	Kars	1488	2296	278335	0,29%
Eskişehir	7777	8272	915418	0,05%	Burdur	3107	3972	277452	0,31%
Mardin	912	1609	888874	0,08%	Karaman	1357	2009	263960	0,25%
Trabzon	5210	5707	824352	0,06%	Karabük	2741	3506	255242	0,30%
Ordu	1460	2009	775800	0,07%	Kirşehir	1648	2062	247179	0,17%
Afyonkarahisar	3757	4362	751344	0,08%	Erzincan	1857	2221	243399	0,15%
Erzurum	6811	8607	749993	0,24%	Sinop	1361	1631	229716	0,12%
Malatya	3949	6459	742725	0,34%	Bilecik	1542	1927	228058	0,17%
Sivas	4066	6109	650401	0,31%	İğdir	719	1689	209738	0,46%
Batman	616	1034	647205	0,06%	Bartın	1529	2043	207238	0,25%
Tokat	2091	3124	606934	0,17%	Çankiri	1419	2320	205501	0,44%
Adıyaman	1592	1435	604978	-0,03%	Artvin	1115	1439	172356	0,19%
Elazığ	4075	5556	604411	0,25%	Kilis	907	2013	155179	0,71%
Zonguldak	3078	3367	591492	0,05%	Gümüşhane	1762	2057	148539	0,20%
Kütahya	3397	4623	575674	0,21%	Ardahan	475	792	92819	0,34%
Şirnak	217	428	570745	0,04%	Tunceli	529	1174	89317	0,72%
Çanakkale	4382	5318	570499	0,16%	Bayburt	869	1403	86047	0,62%
Osmaniye	1021	2334	557666	0,24%					

Notes: Enrollment data comes from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. The source of province-level population is TURKSTAT - The Results of Address Based Population Registration System, 2023.

Table A5: Robustness Check Across Selected Years

	Including All Years from 2019 to 2023				Including Years 2021 and 2022			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rental Price Index	-0.017 (0.013)	-0.041** (0.020)	-0.039** (0.019)	-0.012 (0.012)	-0.048** (0.020)	-0.092** (0.043)	-0.091** (0.042)	-0.048** (0.020)
Mean	69.460	69.460	69.460	69.460	67.379	67.379	67.379	67.379
Observations	26,520	26,520	26,520	26,520	11,018	11,018	11,018	11,018
R-squared	0.405	0.445	0.506	0.823	0.355	0.394	0.463	0.864
Controls for:								
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes

Notes: a) The data from the Higher Education Council's Atlas covers 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, Northern Cyprus programs, and international joint programs. Programs with fewer than five registered students and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis) are also excluded. The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) The analysis in columns 1-4 encompasses all years from 2019 to 2023, while the analysis in columns 5-8 includes only the years 2021 and 2022.

Table A6: Robustness Check with Regional Exclusions

	Excluding Eastern Anatolia (NUTS1 regions 10,11,12)				Excluding Eastern Anatolia and Black Sea Regions (NUTS1 regions 8,9,10,11,12)				Include Only Three Major Provinces (İstanbul, Ankara, and İzmir)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rental Price Index	-0.026* (0.015)	-0.055** (0.024)	-0.054** (0.024)	-0.022 (0.014)	-0.025 (0.016)	-0.056** (0.028)	-0.054* (0.027)	-0.021 (0.015)	-0.116 (0.091)	-0.355** (0.060)	-0.356** (0.056)	-0.121 (0.085)
Mean	70.849	70.849	70.849	70.849	69.644	69.644	69.644	69.644	57.397	57.397	57.397	57.397
Observations	18,086	18,086	18,086	18,086	15,241	15,241	15,241	15,241	4,595	4,595	4,595	4,595
R-squared	0.388	0.439	0.495	0.827	0.404	0.461	0.516	0.843	0.180	0.381	0.467	0.880
Controls for:												
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adiyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) The analysis in columns 1-4 excludes provinces in the Eastern Anatolia (corresponding to NUTS1 regions 10, 11, and 12). The analysis in columns 5-8 excludes provinces in the Eastern Anatolia and Black Sea regions (corresponding to NUTS1 regions 8, 9, 10, 11, and 12). The analysis in columns 9-12 includes only the three largest provinces - İstanbul, Ankara, and İzmir.

Table A7: Robustness Check – Program Size Sensitivity

	Regressions Weighted by Program Size				Filtering Out Small-Scale Programs							
					Programs with Min 10 Registered Students				Programs with Min 20 Registered Students			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rental Price Index	-0.016 (0.012)	-0.047** (0.022)	-0.044** (0.021)	-0.008 (0.011)	-0.038** (0.016)	-0.061*** (0.022)	-0.059*** (0.022)	-0.032** (0.015)	-0.032** (0.016)	-0.056** (0.022)	-0.053** (0.022)	-0.026* (0.014)
Mean	68.898	68.898	68.898	68.898	69.055	69.055	69.055	69.055	69.693	69.693	69.693	69.693
Observations	21,317	21,317	21,317	21,317	20,923	20,923	20,923	20,923	19,349	19,349	19,349	19,349
R-squared	0.428	0.472	0.569	0.874	0.395	0.436	0.505	0.828	0.424	0.471	0.540	0.853
Controls for:												
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) In columns 1-4, the average number of students registered in each program is utilized as weights in the regressions. The analysis in columns 5-8 specifically omits programs with fewer than 10 registered students. The analysis in columns 9-12 omits programs with fewer than 20 registered students.

Table A8: Robustness Check by Eliminating the Impact of Newly Opened and Closed Programs

	(1)	(2)	(3)	(4)
Rental Price Index	-0.025 (0.015)	-0.054** (0.025)	-0.053** (0.024)	-0.025 (0.015)
Mean	69.981	69.981	69.981	69.981
Observations	16,548	16,548	16,548	16,548
R-squared	0.386	0.429	0.489	0.815
Controls for:				
Year Fixed Effects	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes

Notes: The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). Data is constrained to balanced panel form, focusing solely on programs consistently observed from 2019 to 2023. The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

Table A9: Robustness Check by Eliminating Gap Years Before Enrollment

	(1)	(2)	(3)	(4)
Rental Price Index	-0.028* (0.016)	-0.053** (0.022)	-0.052** (0.022)	-0.027* (0.015)
Mean	68.898	68.898	68.898	68.898
Observations	21,317	21,317	21,317	21,317
R-squared	0.423	0.456	0.512	0.824
Controls for:				
Year Fixed Effects	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes

Notes: The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. In addition, the analysis includes a control for the proportion of students who transition directly from high school to university without taking any gap years. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

Table A10: Robustness Check by Eliminating Daily Commutes

	Non-Adjacent Provincial Mobility				Provincial Mobility Beyond 100 km			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rental Price Index	-0.035** (0.017)	-0.059*** (0.022)	-0.057** (0.022)	-0.029* (0.016)	-0.030* (0.017)	-0.056** (0.024)	-0.054** (0.023)	-0.025 (0.016)
Mean	64.743	64.743	64.743	64.743	51.454	51.454	51.454	51.454
Observations	21,317	21,317	21,317	21,317	21,317	21,317	21,317	21,317
R-squared	0.389	0.428	0.490	0.825	0.381	0.418	0.475	0.823
Controls for:								
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
University Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Faculty Fixed Effects	No	No	Yes	Yes	No	No	Yes	Yes
Program Fixed Effects	No	No	No	Yes	No	No	No	Yes

Notes: a) The data from the Higher Education Council's Atlas includes 4, 5, and 6-year undergraduate programs at public universities, excluding open and distance learning, 2-year associate degrees, international students, programs in Northern Cyprus, and international joint programs. It excludes programs with fewer than five registered students, all 2020 data due to COVID-19's impact, and 2023 observations from the 10 provinces affected by the February earthquake (Kahramanmaraş, Hatay, Gaziantep, Osmaniye, Malatya, Adana, Diyarbakır, Şanlıurfa, Adıyaman, Kilis). The dependent variable, the openness rate, indicates the percentage of nonresident students enrolled in a program, ranging between 0 and 100. Each column presents the estimation result of a separate OLS regression where the openness rate is the dependent variable and the key variable of interest is the inflation-adjusted rental price index, incorporating a set of year, province, university, faculty, and program-specific controls as indicated above. In all regressions, non-rental CPI is controlled for. Standard errors, given in parentheses, are clustered at the province level. *, **, or *** indicates significance at the 10%, 5% and 1% levels, respectively.

b) The analysis in columns 1-4 adjusts the openness rate to consider only students relocating from non-adjacent provinces. The analysis in columns 5-8 further narrows the definition of the openness, focusing on students moving over 100 km for education.