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GOVERNMENT INTERVENTIONS IN THE TURKISH MORTGAGE MARKET: HOUSING SUPPORT SCHEMES

Türk Konut Finansmanı Piyasasına Devlet Müdahaleleri: Konut Destekleme Paketleri

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Keywords:
Government Intervention, Mortgage Markets, Housing Policies, Housing Economics, Housing Finance.

JEL Codes:
G21, R31, R38.

Abstract

Many government policies in housing markets aim to encourage homeownership and raise affordability. However, conflicting outcomes of government interventions suggest that such policies may lead to uncertainty, as well as irrational and strategic behaviours, contrary to initial expectations. The Turkish government initiated two housing support schemes in 2020 and 2022. To explore the impact of housing support schemes on the probability of mortgage-financing in house sales transactions, this study applies difference in differences and an event-study method on a novel transaction-level dataset covering all full share apartment unit sales across the country. The 2020 scheme produced a large shift in the extensive margin of credit use (71.5 percent relative increases on average across the country) while the 2022 program generated a substantially smaller increase than that of the 2020 scheme. This study argues that government interventions in mortgage interest rates have a boosting effect on the mortgage market and market liquidity. However, the primary objective and the target population of such policies need to be clearly defined, and they must be tailored to reflect local and sector-specific conditions in order to be effective. Otherwise, the results might be inconsistent with the initial anticipated impacts.

Anahtar Kelimeler:
Devlet Müdahalesi, Konut Finansman Piyasaları, Konut Politikaları, Konut Ekonomisi, Konut Finansmanı.

JEL Kodları:
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Öz

Konut piyasalarına yönelik olarak sunulan devlet politikalarının çoğunun amacı, konut sahiplik oranını yükseltmek ve konuta erişilebilirliği iyileştirmektir. Ancak, beklenen faydaların aksine, bu politikaların kimi zaman belirsizliğe ve hatta irrasyonel ve stratejik davranışlara neden olabildiği görülmüştür. Türkiye'de 2020 ve 2022 yıllarında, devlet tarafından iki konut destekleme paketi çıkarılmıştır. Bu çalışmada, farklılıkların farkı ve etki analizi yöntemleri kullanılarak, bu paketlerin konut satış işlemlerinde konut kredisi kullanılması olasılığı üzerindeki etkisi araştırılmıştır. Ülke genelinde gerçekleşen tüm tam hisse ve gerçek konut satış işlemlerini kapsayan özgün bir veri seti kullanılmıştır. 2020'de çıkarılan destekleme paketinin, konut kredisi kullanımında belirgin bir artışa sebep olduğu (ülke düzeyinde ortalama yüzde 71,5'lik bir göreli artış), 2022 yılındaki paketin ise 2020 paketine kıyasla çok daha düşük bir artışla sonuçlandığı gösterilmiştir. Bu makalede, konut kredisi faiz oranlarına yapılan devlet müdahalelerinin, konut kredisi piyasasının likiditesi üzerinde artışa neden olabileceği sonucuna ulaşılırken, iki önemli vurguda bulunulmuştur. Birincisi, benzer politikalar geliştirilirken, öncelikli amaç ve hedef gruplar açık bir şekilde tanımlanmalıdır. İkincisi, politikaların etkin bir şekilde işleyebilmesi için yerel ve sektöre özgü koşullar, politika içeriğine muhakkak yansıtılmalıdır. Aksi halde, başlangıçta beklenen etkilere ulaşılamaması olasılığı ile karşılaşılabilir.

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1. Introduction

The housing finance system in Türkiye relies on deposit-based lending, and mortgage rates are significantly higher than those in advanced economies. A comparison of average interest rates on loans for housing purchases at the end of 2019 and 2022 reveals an increase from 12.7 percent to 21.0 percent. In contrast, average mortgage rates in the Euro Area stood at 1.4 percent in 2019 and remained below 3 percent by the end of 2022. During the same period, the share of mortgage-financed house sales in Türkiye declined from 31 percent in 2019 to just 10 percent by year-end 2022 (CBRT, 2025b; ECB, 2025; TurkStat, 2025). However, Figure 1(a) highlights a notable structural shift in mortgage-financed transactions. In 2020, Türkiye experienced a significant rise in the share of mortgaged transactions: for the first time since 2012, more than half of all housing purchases were financed through mortgage loans.

To stimulate the housing market and improve access to home ownership among middle- and low-income families, the Turkish government introduced two targeted policies in 2020 and 2022. This study examines the impacts of the two policies on the probability of mortgage financing in residential property transactions. One common feature of both schemes was that they provided low mortgage interest rates for home-buyers under certain conditions.

Under the 2020 scheme, state banks would originate mortgage loans with low interest rates, longer term maturity, and a grace period of up to one year. Mortgage loan amount was restricted up to 750,000 Turkish lira in İstanbul, Ankara, and İzmir, and to 500,000 Turkish lira in the rest of the country. Considering the fact that average housing unit prices were around 3,400 TL/sqm in the country, 5,600 TL/sqm in İstanbul, 2,500 TL/sqm in Ankara, and 3,700 TL/sqm in İzmir in the first half of 2020 (CBRT, 2025a), the scheme seemed quite reasonable for average middle-income households.

The 2022 scheme had three sub-packages, two of which offered mortgage loans with low mortgage rates. The first sub-package addressed only first-time home buyers who would purchase newly built residential properties with a value of less than 2 million Turkish lira. Average housing unit prices were around 21,000 TL/sqm in the country in mid-2022 (CBRT, 2025a). Therefore, average house prices were above 2 million Turkish lira, and much higher in the large metropolitan cities. The second sub-package was available to all purchasers of either newly-built or second-hand residential properties, if at least half of the house price would be paid through the liquidation of foreign currency deposits opened before April 1, 2022, or through the sale of physical gold to the Turkish Central Bank. Mortgage rates for the first and second sub-packages were 0.99 percent and 0.89 percent, respectively, irrespective of whether the bank was state or private. Eligibility criteria for the 2022 scheme were clearly more stringent than those of the 2020 scheme.

Housing transaction volume in Türkiye increased by 11 percent in 2020 relative to the previous year, while the home ownership rate declined by almost two percentage points (Figure 1(c)). Despite the rapid upward trend in house prices, the number of residential property transactions stayed at the same level in 2021 and 2022, and the housing ownership rate continued to decrease in 2022. One interpretation of these figures is that they reflect a broader shift in the role of housing in Türkiye—from being a home to becoming an investment asset—and that government-led schemes may have contributed to this shift. Such economic and social evaluations about the Turkish housing market have already been discussed in the existing literature (e.g., Subaşı and Baycan, 2022; Doruk, 2024). This paper, by using highly granular and novel data (transaction level), concentrates on identifying and quantifying the measurable impact of the housing support schemes on transaction-level activity.

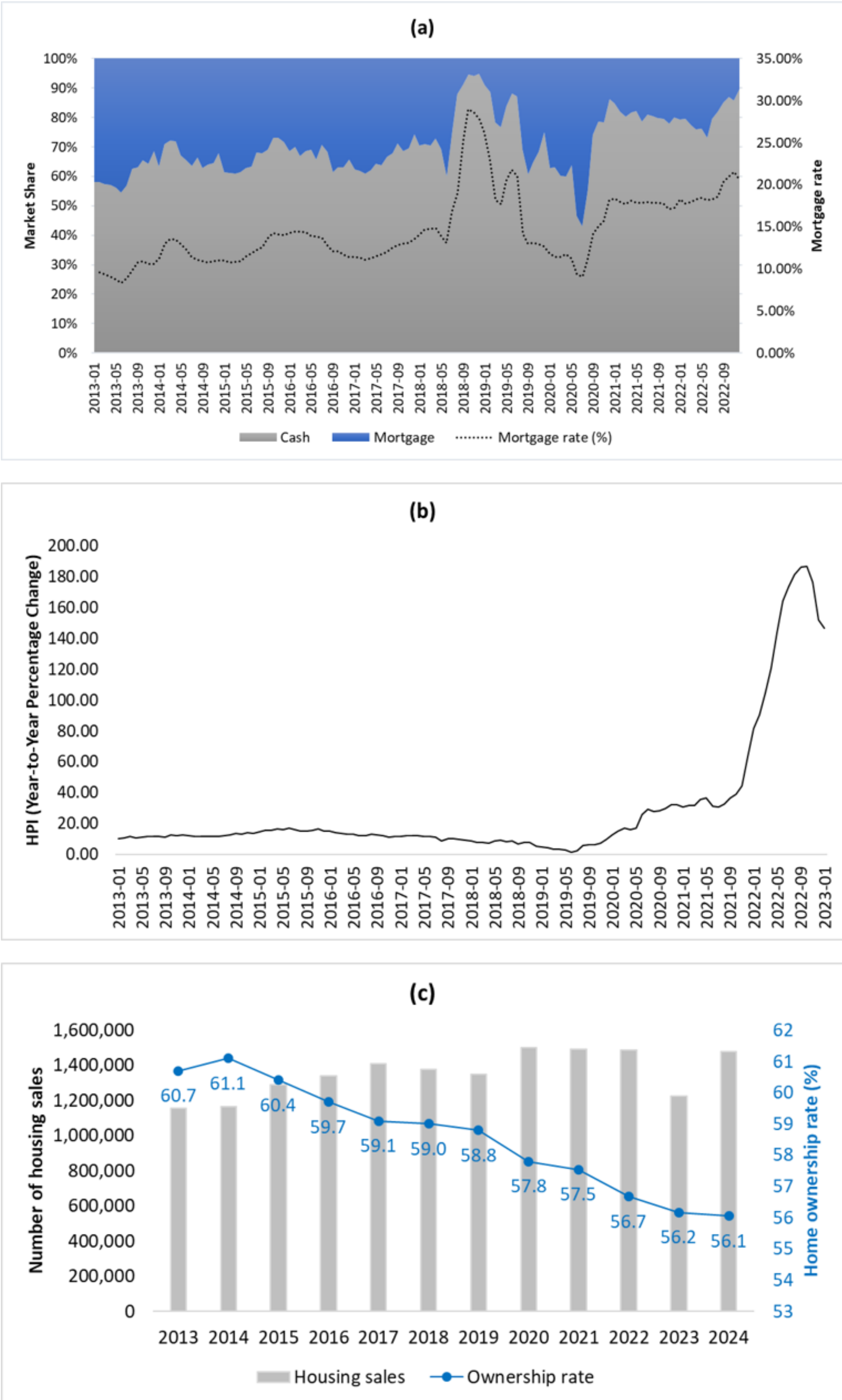

Figure 1 – Turkish Housing Market

Source: TurkStat and Turkish Central Bank

Notes: Figure (1a) illustrates market shares of mortgage-financed and cash house sales based on the number of transactions together with the average mortgage rates, Figure (1b) presents the yearly changes in house price index, and Figure (1c) shows the number of house sales and homeownership rate.

This study applies difference-in-differences and event study methods on a transaction-level house sales database to compare the probability of mortgage financing in the two scheme periods relative to the mortgage sales trends in the pre-scheme years. The results show a sharp increase in the mortgage-financed transactions right after the first scheme was launched in 2020. During the period of the scheme in effect, a 20.6 percentage-point increase occurred in the probability of mortgage financing relative to the same period in 2017-2019, corresponding to a 71.5 percent relative increase in 2020.

The baseline model indicates that the 2022 scheme also led to an increase in mortgage-financed house purchases; however, this effect is weaker than that of the 2020 scheme. The probability of using a mortgage loan increased by 5.3 percentage points during the 2022 scheme period compared to the pre-scheme years, corresponding to a relative increase of approximately 22 percent. However, while initial estimates point to a positive association between the 2022 scheme and mortgage uptake, further analysis suggests that this effect may not be entirely attributable to the policy itself. The sharp rise in house prices (Figure 1(b)), combined with the highly restrictive design of the 2022 scheme—particularly the price cap—excluded most of the market, and in many metropolitan areas, left virtually no eligible residential properties. In light of this, evidence from placebo tests indicates that the causal interpretation of the baseline estimates should be treated with caution.

This paper contributes to the literature that examines the effect of government intervention on the probability of mortgage financing in housing purchases despite the stringent requirements of the policies. Also, there appears to be the first and only study using an official transaction-level dataset covering the whole country in the international literature. Furthermore, it explores the impact of not only the first scheme introduced in 2020, but also the second scheme launched in 2022. This study highlights that government interventions in mortgage interest rates have a boosting effect on mortgage market liquidity. However, the policies need to be designed after making clear definitions of both the primary objective and the target groups. Furthermore, they must be tailored to reflect local and sector-specific conditions in order to be effective.

2. Literature Review

Governments often intervene to achieve a range of objectives in housing markets, from broad social goals like increasing homeownership rates and ensuring housing affordability, to macroeconomic aims such as cooling overheated markets and ensuring financial stability. Policymakers employ diverse policy instruments, including direct financial incentives, taxes, and credit regulations. A dominant finding across different types such interventions is the capitalization of the financial benefit into higher house prices. This effect consistently undermines the primary goal of the policies and largely serves to benefit existing property owners, who realize capital gains, at the expense of new buyers (Valentin, 2024). Furthermore, conflicting outcomes of government interventions suggest that such policies may lead to uncertainty, as well as irrational and strategic behaviours, contrary to initial expectations (Berry et al., 2001; Floetotto et al., 2016).

Rather than directly lowering mortgage rates as in the Turkish case, policymakers usually prefer making mortgage interest deductions through offering tax advantages. The Belgian government introduced a mortgage interest deductibility scheme to stimulate housing demand by offering a significant tax advantage on mortgage payments. The scheme led to a substantial increase in house prices in the country. A crucial outcome was that the policy failed to benefit its targeted group – first-time home buyers – as the financial value of the policy was absorbed into higher property prices (Damen and Goeyvaerts, 2025).

A growing body of literature, particularly from the United States, reveals increasing agreement on the impacts of mortgage interest deductions. Although these policies are intended to promote homeownership, evidence indicates that they are mostly capitalized into higher housing prices, especially in markets where housing supply is inelastic. In such areas, such policies often have little or even negative effects on homeownership rates, as higher prices reduce affordability and exclude lower-income households. Furthermore, studies emphasize the regressive nature of the policy: the greatest benefits accrue to high-income households, leading to distortions in housing consumption and a decline in overall social welfare (Valentin, 2024).

The reviewed literature strongly suggests that governments should exercise caution when implementing housing policies. The outcomes of such interventions are critically dependent on local market structures. This body of evidence points toward the potential superiority of alternative approaches (Warlters, 2023). Fundamental shifts in housing taxation could prove more beneficial than marginal adjustments. Policymakers in Hong Kong utilized a combination of credit tightening by putting loan-to-value ratio caps and transaction taxes to cool the overheated housing market. The loan-to-value cap was effective in curbing house price growth; however, its impact was confined to the high-price segment of the market. On the other hand, transaction taxes had a perverse effect, increasing housing prices in the low-price segment (Wong et al., 2021).

The UK government introduced the First Time Buyers' Relief policy in Greater London to improve housing affordability by reducing stamp duty land tax for this group. This policy resulted in an immediate price spike for newly built flats and terraced houses, the properties most likely to be preferred by first-time buyers. The rapid price increase suggests that a significant portion of the tax relief's value was capitalized into the price, transferring wealth to the seller (Grynevych, 2024).

A similar outcome was observed in the Flanders region of Belgium following a reduction in registration fees. Even though the policy was designed to lower the cost of home purchasing, it led to an increase in housing prices. This effect was even larger for the properties at the bottom of the price distribution. The Belgian experience reveals that existing homeowners were the primary winners, while renters—particularly those in the low-value segment of the market—were the primary losers as housing became more expensive (Domènech-Arumí et al., 2022).

The COVID-19 pandemic triggered substantial disruptions in housing markets globally. In response, governments implemented a range of policies aimed at stabilizing housing markets, supporting affordability, and mitigating broader economic distress (Spatt, 2020; Golding et al., 2021). Among the various government interventions, those specifically targeting mortgage markets primarily involve mortgage forbearance and prohibition or deferral of foreclosures and delinquencies (Malpezzi, 2023).

In the United States, Congress passed the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) in 2020, which allows mortgagors to delay their mortgage payments without penalty. It was extended with the American Rescue Plan Act in 2021. Capponi et al. (2022) find that the Cares Act helps stabilize housing prices, leading to collateral benefits such as reduced refinancing costs and relaxed eligibility requirements for households. Letdin and McCollum (2023), and Lichtenstein and Weber (2023) are among the many studies investigating the impact of the CARES Act on mortgage markets. The Fed announced a large-scale asset purchase program, primarily focused on mortgage-backed securities, which significantly contributed to the decline in mortgage rates (Fuster et al., 2021). Those programs were highly effective in reducing mortgage foreclosures and delinquencies, and increasing the refinancings (Gerardi et al., 2022).

A very similar program to that in Türkiye was launched in Russia in 2020 (Popova, 2025). The program offered a certain number of loans with low interest rates for purchasing newly built apartment units. The program led to a significant increase in housing demand; however, it contributed to a substantial rise in housing prices. By employing fixed-effects panel data models using quarterly data, Popova (2025) underscores the complex interplay between housing policy, regional economic resilience, demographic needs, and financial stability, suggesting a need for tailored, risk-aware program design. China mostly focused on the stabilization of the housing and construction sectors. Mao et al. (2025) evaluate the effectiveness of local governments’ emergency responses in mitigating the adverse effects of the COVID-19 pandemic on China’s housing market. The interventions covered economic support policies (including interest rate reductions and subsidies, reducing financing costs and rent exemptions for small and medium-sized enterprises, aimed at reducing financial burdens and sustaining employment), and social prevention and control measures (such as restrictions on mobility and public gatherings). Empirical results reveal that strong and timely government interventions significantly moderate the adverse effects of the pandemic on housing markets. The main finding is that regions with stronger and faster local government emergency responses experienced quicker market recovery, revealing regional disparities in both policy execution and effectiveness. Both countries’ experiences highlight the importance of implementing tailor-made policies, particularly at the regional level, to achieve the intended positive effects of housing market interventions.

The Turkish government's policy of lowering mortgage rates is the main interest of this study. House prices and market liquidity in Türkiye were well-explored in the literature; however, few studies focused on the impact of the schemes. Akgündüz et al. (2022) explore the impact of the 2020 scheme on house prices by using property valuation reports prepared in mortgage applications. Their findings suggest that housing prices rose more significantly in regions with a high concentration of mortgages issued by state-owned banks.

3. Housing Support Scheme Policies

The Turkish government launched a 'housing support scheme' on June 1, 2020, right after the COVID-19 pandemic. The housing support scheme was a state-bank-driven mortgage loan program, which offered low mortgage rates (around 0.64% which was as much as the average mortgage rates in 2013), longer term-maturity (up to fifteen years), and a grace period of up to one year. Mortgage loan amount was restricted up to 750,000 Turkish lira in İstanbul, Ankara, and İzmir, and up to 500,000 in the rest of the country. Given the dominant role of state banks in the Turkish housing finance system, the scheme had a particularly strong impact on the mortgage market. It was a strategic policy intervention within the broader economic measures introduced under President Erdoğan’s leadership. The scheme was primarily intended to mitigate the adverse impacts of the COVID-19 pandemic in the housing market and to revitalize the economy.

President Erdoğan himself announced another 'housing support scheme' with three sub-packages on May 9, 2022. The first was known as "my first home finance package", addressing only the first-time home buyers. It offered 10 years of maturity with 0.99 percent monthly mortgage rates if first-time home buyers purchased newly built residential properties with a value of up to 2 million Turkish lira. The second package was called as “extended housing finance package”, covering both newly-built and second-hand residential properties. The sub-package offered 10 years of maturity with 0.89 percent monthly mortgage rates if at least half of the house price had to be paid through the liquidation of foreign currency deposits opened before April 1, 2022, or through the sale of physical gold to the Turkish Central Bank. The third package was launched to provide a credit guarantee for only the construction sector. It was designed to provide credit loans with a maturity of up to 36 months for construction companies undertaking housing projects that were at least 40 percent complete and had a minimum of 50 percent of their units unsold, conditional on their commitment to keep housing prices fixed at the levels publicly announced on online platforms.

Figure 2 (Panel A) illustrates the share of mortgage-financed housing transactions in 2020, relative to the baseline constructed from pre-policy averages in 2017-2019. Figure 2 (Panel B) reports the analogous comparison for the 2022 scheme, using the reference averages from 2018, 2019, and 2021 controls (2020 is excluded from the empirical analyses to avoid contamination from the earlier scheme). In Panel A, while the patterns are quite similar in the pre-scheme period, mortgage-financed transactions sharply increase by June when the 2020 scheme was launched. This share gradually decreased after peaking in July 2020 and got back to the pre-scheme level by September 2020. In Panel B, the patterns are similar throughout the scheme window in 2022, which implies that the scheme 2022 did not lead to a spike in mortgage-financed transactions volume, compared to that observed after the scheme 2020. It is noteworthy that house prices increased significantly in mid-2022 (Figure 1 (b)).

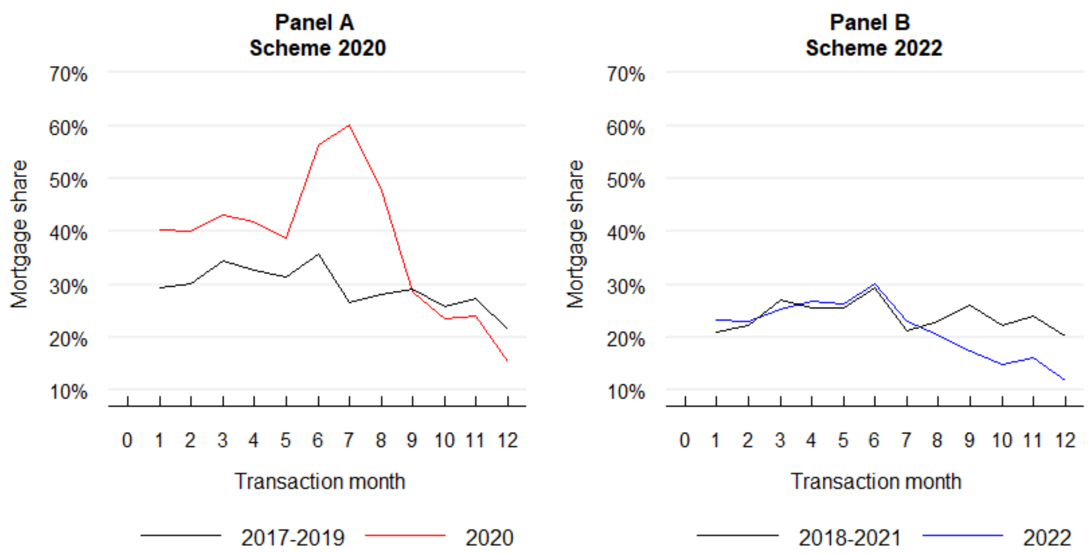

Figure 2 - Mortgage Sales Share (monthly)
Source: Own estimations using official transaction data
Notes: Panel A (B) illustrates the share of mortgage-financed transactions in 2020 (2022) relative to the baseline constructed from pre-policy averages.

The housing support schemes, rather than facilitating home ownership among the mid- and low-income groups in the country, evolved into an investment opportunity (Popova, 2025). Real estate sector, experiencing sustained value appreciation in an economic environment with more than 70 percent of inflation rate, has become an attractive investment tool. The first scheme in 2020 brought a significant opportunity for the investors, yet its benefits for the mid- and low-income groups were not as much as anticipated. Despite the rapid increase in mortgage-financed transactions, the total volume of housing transactions remained relatively constant, but the home ownership rate declined in 2020. On the other hand, the 2022 scheme had a limited impact on the market for two primary reasons. The first is that, considering the average household income estimated by the TurkStat, it was almost impossible for a low/mid-income homebuyer to afford their mortgage payments. Secondly, in 2022, it was nearly impossible to find a house with a value under 2 million Turkish lira, particularly in metropolitan cities.

4. Data and Empirical Specification

This paper uses a novel dataset (official land registry records) provided by the General Directorate of Land Registry and Cadastre· The dataset covers all full-share residential property sales transactions across the country from 2017 to 2022. The database contains a property unique id, location information (province, district, and neighbourhood), transaction type (either cash or mortgage-finances sales), and transaction date information. There are almost 7.5 million transactions in the sample.

To explore the impact of housing support schemes on mortgage sales transactions, difference in differences (DiD) and an event-study method are employed in this study. A transaction-level linear probability model is estimated by using all house sales transactions across the country. In the following model, the dependent variable takes the value of one if the house purchase was financed through a mortgage loan:

$$\Pr(Mortgage_{it}) = \alpha + \beta Scheme_t + \gamma Scheme_t * Year_y + \theta_{wi} + \vartheta_{wy} + \varepsilon_{ity} \qquad (1)$$

where $Mortgage_{it}$ is a dummy variable indicating that the given transaction was made with a mortgage loan in transaction i on day t. There is no announcement by the government about the termination date for the housing support schemes. After exploring the historical monthly data on mortgage rates, it is assumed that each support scheme remained in effect for approximately three months following its announcement. Accordingly, the scheme in 2020 was available during June, July, and August, while the 2022 scheme was available in May, June, and July. $Scheme_t$ is a dummy variable which equals 1 for transactions that occurred during the 3-month policy window: from June to August in between 2017 and 2020 in the case of scheme 2020; and from May to June in 2018, 2019, 2021, and 2022 for the 2022-scheme. $Year_y$ is a dummy variable representing the year of the housing support scheme (2020 or 2022). The interaction term $Scheme_t * Year_y$ is the DiD parameter of interest. Control years for the scheme in 2020 (2022) are 2017-2019 (2018, 2019, 2021), so the interaction measures the 2020 (2022) deviation from pre-scheme seasonal patterns. θ_{wi} and ϑ_{wy} are neighbourhood-week and neighbourhood-year fixed effects. The specification includes high-dimensional fixed effects that absorb rich compositional characteristics and seasonality, while capturing both local and macroeconomic variations. Standard errors are clustered at the neighbourhood-year level.

In Türkiye, transaction prices in the official land registry records usually do not reflect the prices that buyers and sellers agreed on for really. According to the legislative regulations, buyers and sellers have to declare the real price, which cannot be lower than the tax value of the given property. The transaction fee is calculated based on the declared price. Tax values in Türkiye are substantially lower than the market prices. People usually prefer to declare the tax value as the transaction price at the time of the transaction to avoid paying high transaction fees. Therefore, official transaction prices in the dataset do not allow exploring the impact of the housing support schemes on housing prices. Therefore, analysing the impact of the housing support schemes through transaction prices is the main limitation of this study.

5. Results

Table 1 reports difference-in-differences estimates from Equation 1 for the housing support schemes in 2020 (Panel A) and 2022 (Panel B). Column (1) reports the estimates for the full sample. Columns (2)-(4) present the results for the three largest cities (İstanbul, Ankara, İzmir), where higher price ceilings were applied compared to the other provinces. The last two Columns (5-6) provide linear probability model estimates for metropolitan and non-metropolitan cities, respectively.

Across the country (Column 1, Panel A), the coefficient on the interaction term is 0.206, implying a 20.6 percentage-point increase in the probability of mortgage financing in the treated months of 2020 relative to the same months in 2017-2019. Using the control-year baseline share of mortgage-financed purchases (0.288), this corresponds to a 71.5 percent relative increase in 2020. The relative increases in metropolitan (71.2 percent) and non-metropolitan (72.8 percent) cities are at a similar level to that of the overall country. Given the control-year baseline share of mortgaged sales (0.304), İstanbul appears to have benefited the most from the 2020 scheme, showing the highest relative increase (76.3 percent) in uptake. Conversely, the relative increase is approximately 64 percent in both Ankara and İzmir—below the national average. It is evident that the 2020 scheme had a substantial impact on motivating residential property buyers to take out mortgage loans.

The design is repeated for the 2022 intervention by using 2018, 2019, and 2021 as controls (year 2020 is excluded to avoid contamination from the 2020 scheme). The interaction $Scheme \times Year$ 2022 is 0.053 in the full sample (i.e., 5.3 percentage points), implying a 22.3 percent relative increase, given the control-year baseline share is 0.238. In contrast to the 2020 scheme, İstanbul has benefited the least from the 2022 scheme, with a 19.5 percent relative increase. The highest relative increase in uptake is observed in non-metropolitan areas, reaching 28.4 percent. These findings align with expectations, as the first sub-package of the 2022 scheme applied exclusively to residential properties priced below 2 million Turkish lira — houses that are seldom seen in major metropolitan areas like İstanbul. Magnitudes in Panel B of Table 1 are substantially smaller than those in Panel A, consistent with the stricter pre-requisites and features that diverge from real-world dynamics of the 2022 housing support scheme.

Table 1. Baseline Results

	(1) All	(2) İstanbul	(3) Ankara	(4) İzmir	(5) Metropol	(6) Non-metropol
Panel A: Housing support scheme in 2020						
Scheme (June - August)	-0.078 (0.057)	-0.068 (0.062)	-0.081 (0.061)	-0.065 (0.054)	-0.076 (0.057)	-0.089 (0.055)
Scheme × Year 2020	0.206*** (0.027)	0.232*** (0.028)	0.226*** (0.030)	0.222*** (0.030)	0.210*** (0.027)	0.190*** (0.026)
Observations	4 887 017	865 110	444 642	267 742	3 995 769	891 248
R^2	0.169	0.121	0.155	0.139	0.157	0.220
Panel B: Housing support scheme in 2022						
Scheme (May - June)	-0.026 (0.017)	-0.018 (0.014)	-0.026 (0.028)	-0.018 (0.026)	-0.025 (0.017)	-0.028* (0.016)
Scheme × Year 2022	0.053*** (0.020)	0.049*** (0.021)	0.061*** (0.023)	0.068*** (0.023)	0.052*** (0.020)	0.060*** (0.020)
Observations	4 872 279	875 686	412 109	256 903	3 964 079	908 200
R^2	0.128	0.066	0.107	0.105	0.115	0.187
Neighbourhood FE	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Nbhood × Week FE	✓	✓	✓	✓	✓	✓
Nbhood × Year FE	✓	✓	✓	✓	✓	✓

Notes: This table reports difference-in-differences estimates from Equation 1 for the housing support schemes in 2020 (Panel A) and 2022 (Panel B). the Robust standard errors are clustered at neighbourhood-year level. (*** p < 0.01, ** p < 0.05, *p < 0.1)

6. Robustness Checks

The linear probability model (Equation 1) is re-estimated by replacing the actual treatment year with alternative pre-intervention years to assess the credibility of the estimated effects of the 2020 and 2022 housing support schemes. This approach examines whether the estimated treatment effects in the baseline specification could be driven by seasonal patterns in the economy or annual shocks rather than by the government interventions on the mortgage market itself. If the observed increases in mortgage-financed transactions in 2020 and 2022 were not causally attributable to the housing support schemes, it would be anticipated detecting effects of placebo schemes in the pre-treatment years.

For the 2020 scheme, placebo estimations are implemented by using the years 2017-2019 as pseudo-treatment years in Equation 1, instead of interacting with the year 2020. The estimation results are reported in Table 2. Each column in Table 2 replicates the corresponding specification and samples from Table 1. Table 2 presents a contrasting pattern to the main results: The interaction coefficients are negative and statistically significant for the years of 2019 and 2017 (Panels A and C), and the estimates are positive but statistically insignificant in Panel B (2018). This pattern provides compelling support for the validity of the main results.

Table 1. Robustness Check: Housing Support Scheme in 2020

	(1) All	(2) İstanbul	(3) Ankara	(4) İzmir	(5) Metropol	(6) Non-metropol
Panel A: 2019						
Scheme (June - August)	0.025	0.046	0.029	0.046	0.028	0.009
	(0.047)	(0.044)	(0.053)	(0.046)	(0.046)	(0.048)
Scheme × Year 2019	-0.196***	-0.222***	-0.222***	-0.222***	-0.198***	-0.184***
	(0.046)	(0.042)	(0.055)	(0.053)	(0.046)	(0.044)
R^2	0.166	0.118	0.151	0.136	0154	0.218
Panel B: 2018						
Scheme (June - August)	-0.013	0.010	-0.012	0.003	-0.009	-0.032
	(0.039)	(0.038)	(0.047)	(0.035)	(0.039)	(0.041)
Scheme × Year 2018	0.011	0.001	0.010	0.015	0.009	0.021
	(0.035)	(0.039)	(0.039)	(0.041)	(0.036)	(0.032)
R^2	0.161	0.112	0.146	0.131	0.150	0.214
Panel C: 2017						
Scheme (June - August)	0.011	0.035	0.020	0.035	0.016	-0.010
	(0.046)	(0.045)	(0.057)	(0.046)	(0.046)	(0.045)
Scheme × Year 2017	-0.094***	-0.098***	-0.117***	-0.116***	-0.096***	-0.084***
	(0.023)	(0.025)	(0.026)	(0.027)	(0.024)	(0.023)
R^2	0.163	0.113	0.148	0.132	0.151	0.215
Observations	4 887 017	865 110	444 642	267 742	3 995 769	891 248
Neighbourhood FE	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Nbhood × Week FE	✓	✓	✓	✓	✓	✓
Nbhood × Year FE	✓	✓	✓	✓	✓	✓

Notes: This table reports difference-in-differences estimates from Equation 1 by replacing the actual treatment year (2020) for the alternative pre-intervention years. Robust standard errors are clustered at neighbourhood-year level. (*** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$)

The placebo results for the 2022 scheme are summarized in Table 3. In Panel A (2021) and Panel B (2019), the interaction terms are negative and statistically significant. However, in Panel C (2018), the estimated interaction terms are not only positive and significant, but also much larger in magnitude than the actual 2022 estimates. This result raises concerns about the reliability of the 2022 estimates and suggests that unobserved market dynamics may have coincided with the scheme window.

Table 3. Robustness Check: Housing Support Scheme in 2022

	(1) All	(2) İstanbul	(3) Ankara	(4) İzmir	(5) Metropol	(6) Non-metropol
Panel A: 2021						
Scheme (May - June)	-0.006	0.000	-0.004	0.000	-0.006	-0.004
	(0.022)	(0.019)	(0.033)	(0.029)	(0.022)	(0.023)
Scheme × Year 2021	-0.065***	-0.054**	-0.067**	-0.059**	-0.062***	-0.082***
	(0.022)	(0.023)	(0.027)	(0.026)	(0.022)	(0.022)
R^2	0.128	0.067	0.107	0.104	0.115	0.187
Panel B: 2019						
Scheme (May - June)	0.054	0.063*	-0.062*	0.084**	0.055	0.049
	(0.037)	(0.037)	(0.036)	(0.040)	(0.037)	(0.034)
Scheme × Year 2019	-0.221***	-0.214***	-0.264***	-0.265***	-0.222***	-0.217***
	(0.022)	(0.023)	(0.026)	(0.025)	(0.022)	(0.023)
R^2	0.134	0.072	0.114	0.112	0.121	0.193
Panel C: 2018						
Scheme (May - June)	-0.087**	-0.071**	-0.098**	-0.084**	-0.086**	-0.091**
	(0.035)	(0.032)	(0.039)	(0.036)	(0.035)	(0.035)
Scheme × Year 2018	0.194***	0.183***	0.217***	0.206***	0.193***	0.199***
	(0.025)	(0.026)	(0.027)	(0.029)	(0.025)	(0.024)
R^2	0.134	0.072	0.113	0.110	0.121	0.193
Observations	4 872 279	875 686	412 109	256 903	3 964 079	908 200
Nbhood FE	✓	✓	✓	✓	✓	✓
Week FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Nbhood × Week FE	✓	✓	✓	✓	✓	✓
Nbhood × Year FE	✓	✓	✓	✓	✓	✓

Notes: This table reports difference-in-differences estimates from Equation 1 by replacing the actual treatment year (2022) for the alternative pre-intervention years. Robust standard errors are clustered at neighbourhood-year level. (*** $p < 0.01$, ** $p < 0.05$, *$p < 0.1$).

The sharp depreciation in Turkish lira triggered a broad-based economic disturbance, intensifying cost pressures across many sectors. Households, anticipating further depreciation and inflation, shifted their savings into real estate as a hedge against the loss of purchasing power. The surge in house prices encouraged further investment in housing as a store of value. Investors purchased multiple properties not for use but for capital preservation. Despite the decline in mortgage loan volume and rising mortgage interest rates, the number of housing transactions stayed constant between 2020 and 2022, and the home ownership rate declined significantly (Figure 1c).

In response to the currency turmoil, the Turkish government introduced the “Currency-Protected Deposit Scheme” in December 2021 as a stabilization measure to protect Turkish lira deposits from exchange rate depreciation. The policy contributed to a temporary stabilization of the exchange rate by discouraging dollarization and supporting confidence in the Turkish lira. However, the mechanism transferred the exchange risk from depositors to the public sector, generating fiscal burdens, monetary expansion, and inflationary pressures. Simultaneously, the Central Bank’s unconventional monetary policy, characterized by successive interest rate cuts beginning in late 2021, lowered credit costs in nominal terms and the opportunity cost of holding real assets. These measures altered households’ borrowing and saving behaviour and significantly fuelled housing demand. The targeted housing support schemes supplying relatively cheaper mortgage credit amplified this trend. Consequently, Turkish housing prices experienced an unprecedented surge between 2019 and 2022, accelerating sharply in 2021 and soaring throughout 2022 (Figure 1b). These findings are consistent with the relevant literature that the government's intervention led to substantial increases in housing prices (Valentin, 2024).

Given the steep rise in house prices since 2021, the 2022 scheme's highly restrictive design and limited market coverage—due to a 2 million Turkish lira price cap (sub-package 1) and obligatory use of specific savings (sub-package 2)—appears to have limited its effectiveness in generating the initially anticipated increase in mortgage-financed transactions. So, evidence from placebo tests for the 2022 scheme indicates that the causal interpretation of the baseline estimates should be treated with caution.

7. Event-Study Analyses

The robustness of the empirical analysis is further evaluated using an event-study methodology. Changes in the probability of mortgage financing in response to the 2020 scheme are examined by benchmarking these variations against the corresponding periods from 2017 to 2019. The following week of the introduction of the scheme serves as the reference week for this comparison. The same approach is applied for the 2022 scheme as well. The following model is estimated:

$$\Pr(Mortgage_{it}) = \alpha + \sum_{w=0}^{n} \gamma_i \, \mathbf{I}(Week = w)_t * Year_y + \theta_{wi} + \vartheta_{wy} + \varepsilon_{ity} \qquad (2)$$

where $Mortgage_{it}$ is a dummy variable indicating that the given transaction is made with a mortgage loan in transaction i on day t. $\mathbf{I}(Week = w)_t$ serves as an indicator variable that takes the value of 1 when a given day falls within week w. The variable $Year_y$ is a dummy indicator that takes the value 1 for the year corresponding to the scheme under study, either 2020 or 2022, and 0 otherwise. The other variables are defined as in Equation 1. Standard errors are clustered at neighbourhood-year level.

Figures 3 and 4 display the results of the event study analyses. Figure 3, in all graphs, shows a significant and marked increase in mortgage-financed house sales during the months when the 2020 housing support scheme is in effect. Over the initial two months right after the scheme launch, the effect demonstrates a rising trajectory; however, followed by a gradual weekly decline throughout the third month, and eventually falls back to the pre-scheme period's level by September 2020.

Figure 4 displays that the 2022 scheme leads to a rise in mortgage-financed transactions; however, this effect is substantially weaker than that of the 2020 scheme. The effect is prominently evident during the first two weeks right after the initiation of the scheme and gradually diminishes thereafter. Except for the non-metropolitan cities, the coefficients in all graphs move towards zero by the sixth and seventh weeks, subsequently turning negative across all graphs. The most notable declines are observed in İstanbul and Ankara, the two largest cities, where house prices are well above 2 million Turkish lira in 2022. By the tenth week, coefficients across all graphs consistently remain negative, reflecting a sustained decrease. Interestingly, there is a mild increase in the coefficients during the initial weeks of August 2022, coinciding with the closing stage of the program. However, this temporary rise is followed by a consistent, statistically significant, and substantial decline in all coefficients in the weeks that follow.

Overall, the event-study analyses reveal that mortgage-financed transactions increased nationwide during the periods in which housing support schemes were in effect. This effect is considerably stronger under the 2020 scheme, which featured lower interest rates and longer maturity terms, compared to the 2022 scheme, which imposed more stringent and unrealistic eligibility criteria.

Homeownership rates in Türkiye confirms the impacts of housing support schemes. Table 4 presents homeownership rates by median income group between 2013 and 2023. Nationally, the overall homeownership rate declined by 4.5 percentage points, from 60.7% in 2013 to 56.2% in 2023. When disaggregated by income group, the decline was markedly more severe among low-income households, whose ownership rate fell by 11.2 percentage points over the same period. During the past decade the only year which homeownership among the low-income group increased was 2020, coinciding with the introduction of the first support scheme. In contrast, in 2022, the year of second support scheme, no increase was observed in homeownership among low-income households, while a decline persisted among middle- and higher-income groups.

Table 2. Home Ownership Rate by Income Groups

		Median Income		
Year	**Total**	**below 60%**	**between 60%-120%**	**above 120%**
2013	60.7	59.3	56.3	65.9
2014	61.1	57.8	58.6	65.4
2015	60.4	57.2	58.5	64.2
2016	59.7	52.9	58.2	64.9
2017	59.1	52.1	57.8	64.2
2018	59.0	52.1	57.9	63.8
2019	58.8	51.2	56.9	64.9
2020	57.8	52.5	55.4	63.3
2021	57.5	49.4	56.9	62.7
2022	56.7	49.4	55.9	61.5
2023	56.2	48.1	55.7	61.0

Source: TurkStat, 2025.

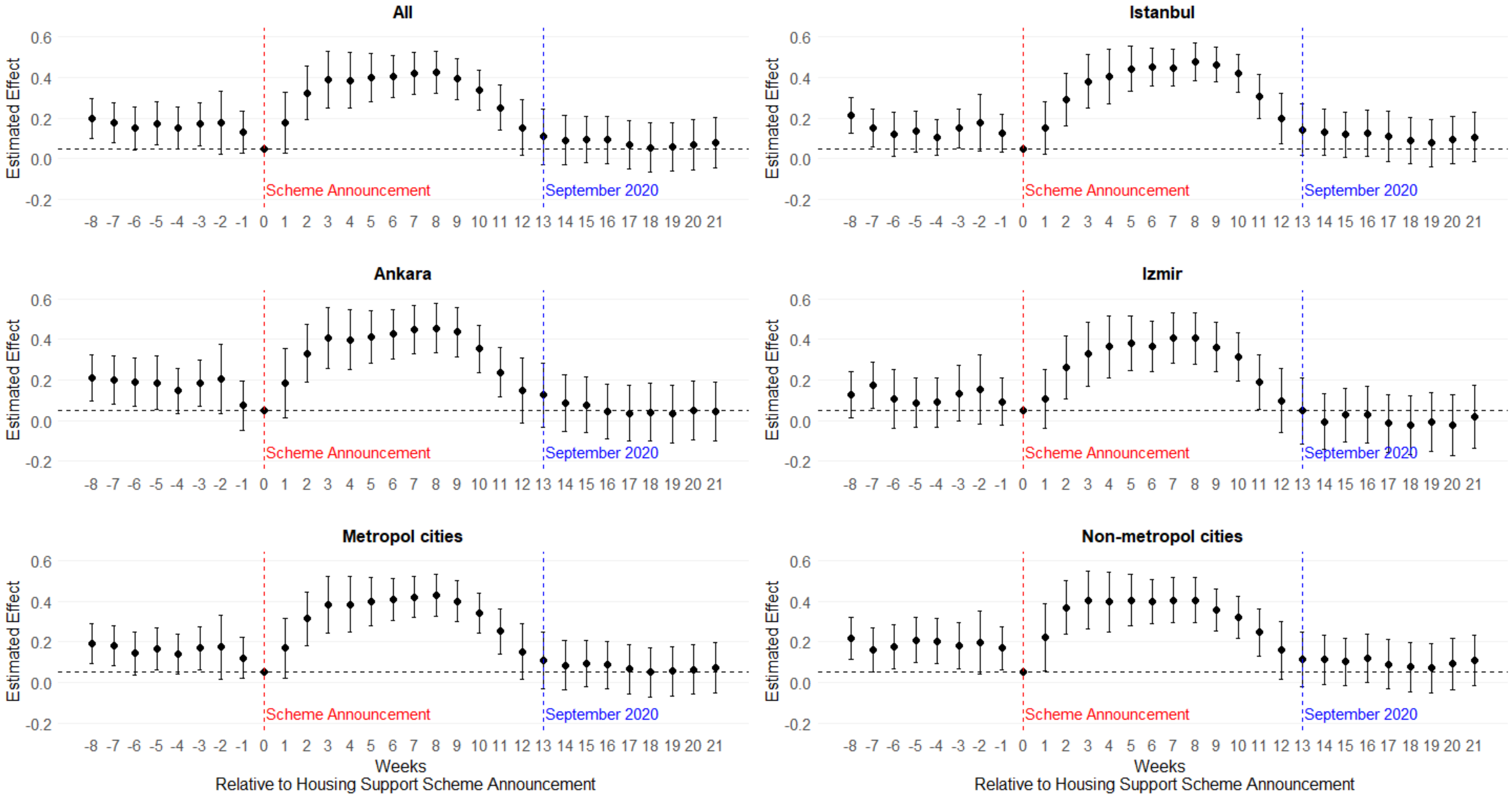

Figure 3 - Event-Study: Housing Support Scheme in 2020

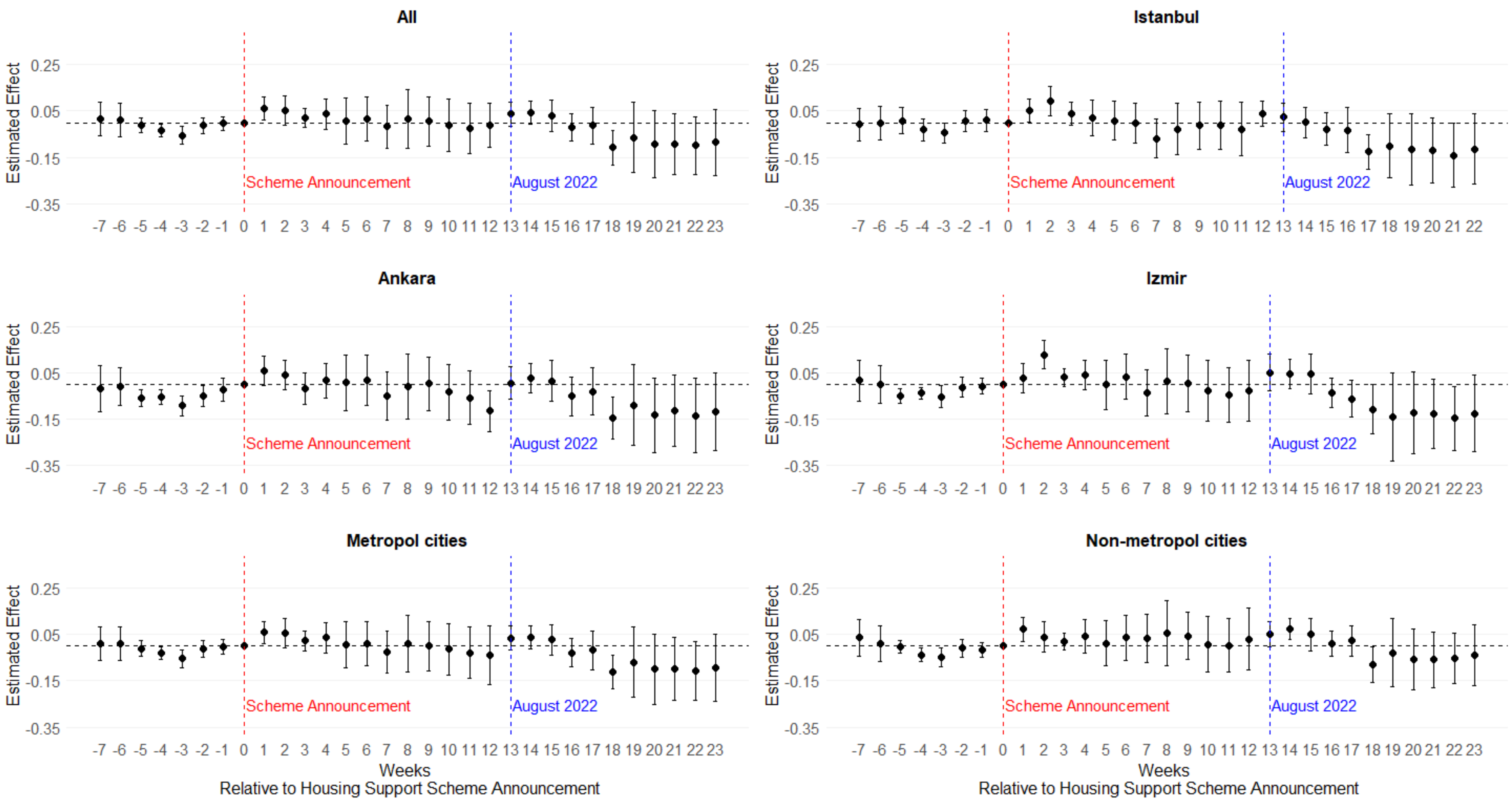

Figure 4 - Event-Study: Housing Support Scheme in 2022

8. Conclusion

This study demonstrates that government-led programmes aimed at lowering mortgage rates can stimulate mortgage-financed house purchases within the context of the Turkish mortgage market. The impact of the 2020 scheme is found to be substantially stronger than that of the 2022 scheme. However, these findings do not necessarily imply that the policies enabled a broad segment of households to access affordable housing or improved overall market efficiency. Rather, the results highlight the importance of clearly defining both the primary objective and the target population before implementing such policies that incentivize loan use in the housing market (Wong et al., 2021; Valentin, 2024).

The reviewed literature strongly suggests that governments should exercise caution when implementing demand-side housing policies. Governments must determine whether their primary aim is to increase the home ownership rate and enhance housing affordability, or to support investors and boost market liquidity. The former objective is more delicate than the latter, as it requires careful design to prevent speculative behaviour and mitigate investor-driven interference. In the case of the 2022 scheme, a significantly weaker impact is observed on the probability of taking out a mortgage loan. This is largely due to both the unrealistic price cap and the obligation of using a specific type of savings imposed in the eligibility criteria, which excluded a substantial portion of the market, particularly in major metropolitan areas where access to affordable housing remains a critical issue. Thus, the scheme failed to meaningfully benefit either households or investors. This brings us to a second key principle in designing such interventions: regardless of the policy's primary objective, it must be tailored to reflect local and sector-specific conditions in order to be effective because the effectiveness of such policy interventions is highly contingent on the characteristics of local housing markets. This evidence suggests that alternative policy designs and strategies may yield more efficient outcomes.

Another critical concern relates to the risk of market manipulation associated with such housing support schemes and interventions. Credit expansion or demand-stimulating interventions may create speculative pressures, leading to abrupt house price spikes. Reflecting this concern, the Turkish government introduced a regulation in May 2022 obliging online advertisement platforms to report listings monthly to the Revenue Administration, with the goal of curbing speculative pricing and informality (Official Gazette, 2022). However, the practical effectiveness of this measure requires an integrated digital infrastructure that enables verification of listings against official land registry records. The government (MoT, 2024) has started developing e-government-based verification systems.

Declaration of Research and Publication Ethics
This study which does not require ethics committee approval and/or legal/specific permission complies with the research and publication ethics.

Researcher's Contribution Rate Statement
I am a single author of this paper. My contribution is 100%.

Declaration of Researcher's Conflict of Interest
There are no potential conflicts of interest in this study.

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