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Threshold-based policies and distortions
in housing markets

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THRESHOLD-BASED POLICIES AND DISTORTIONS IN HOUSING MARKETS

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ABSTRACT

This paper examines how investment thresholds embedded in residence-by-investment programmes shape housing market outcomes. The analysis exploits a reform of Greece's golden visa scheme that selectively doubled the minimum real estate investment requirement - from €250,000 to €500,000 - across municipalities. Using comprehensive administrative data on property transactions from 2017-2024, the study combines a bunching framework with a difference-in-differences design to identify behavioural responses to eligibility thresholds and their spatial equilibrium effects. Under the initial regime, pronounced bunching in transaction prices is observed around the €250,000 cutoff, indicating that the threshold was a salient determinant of pricing behaviour. Following the reform, this bunching disappears in municipalities subject to the higher threshold, while persisting in unaffected areas. Consistent with this pattern, treated municipalities experience a relative deceleration in price growth, alongside increased transaction activity in nearby markets that remain eligible under the lower threshold. The results demonstrate that residency-investment thresholds may operate as active policy instruments that distort housing price distributions and reallocate demand across space, highlighting the importance of threshold design for housing-market outcomes.

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1 Introduction

Governments seeking to attract economic activity from abroad have traditionally relied on fiscal instruments, adjusting tax parameters to influence private incentives. While the economic effects of such tax-based strategies are well documented, recent policy developments point to a broader class of instruments that operate through legal and administrative rules rather than explicit taxation. Residence-by-Investment (RBI)—commonly known as "golden visa" programmes—exemplify this shift. By linking residency rights to specific forms of investment, these schemes shape behaviour through eligibility rules and regulatory thresholds, embedding economic objectives within migration and property law rather than the tax system itself.[1]

From an economic perspective, minimum investment thresholds embedded in residence-by-investment programmes operate similarly to transaction taxes, in that they introduce discrete incentives that distort trading behaviour around salient cutoffs. A large literature on stamp duty land taxes documents that transaction taxes generate substantial behavioural responses in housing markets, primarily along the extensive margin of transactions (Besley et al. (2014) and Best and Kleven (2017)). While stamp duty operates through explicit taxation, golden visa thresholds shape incentives through eligibility rules rather than prices, raising the question of whether comparable distortions arise in the absence of a formal tax.

Although RBI programmes have generated substantial investment inflows for participating countries, they have also raised concerns about their effects on domestic housing markets (Clerides et al., 2025). By conditioning residency rights on minimum investment amounts, such schemes introduce discrete thresholds that can alter demand at specific points of the price distribution. In housing markets—particularly in dense urban centres and coastal areas where supply adjustment is limited—these threshold-induced demand shifts have the potential to affect pricing behaviour beyond the immediate vicinity of the cutoff. As a result, policy debates surrounding golden visa programmes have increasingly focused not only on their ability to attract foreign capital, but also on their implications for housing market prices.

In response to these concerns, several countries have begun to recalibrate, or even discontinue, their programmes. Ireland and Portugal have scaled back or terminated their schemes, while Greece has implemented geographically targeted reforms that raise minimum investment thresholds in selected high-demand municipalities. Such reforms provide a natural setting to study how threshold-based policies operate. Intuitively, changes in eligibility thresholds modify the incentives of both buyers and sellers, influen-

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[1]The qualifying investment can take various forms, including the purchase of real estate, the acquisition of government bonds, or contributions to national development funds. Eligibility thresholds differ across countries, and most schemes allow some flexibility in how the required investment is structured; see Clerides et al. (2025).

cing price formation not only at the cutoff itself but potentially across the wider housing price distribution. When thresholds are adjusted selectively across locations, these effects may extend beyond local markets, inducing a reallocation of transactions across locations.

Despite growing policy interest, empirical evidence on the housing-market effects of golden visa programmes remains limited. Existing studies primarily examine programme introduction or exposure. Pereira dos Santos and Strohmaier (2024), for example, documents price pressures associated with Portugal's golden visa scheme, while Foremny et al. (2025) shows that the Spanish programme increased high-end transactions and raised average prices in exposed areas. At a broader level, Clerides et al. (2025) adopt a cross-country perspective to study the determinants and aggregate consequences of RBI and citizenship-by-investment schemes. While this literature establishes that golden visa programmes can affect housing markets, much less is known about how changes in investment thresholds—as opposed to programme adoption—shape price distributions and the spatial allocation of market activity.

This paper adopts a policy-design perspective by exploiting a reform of Greece's golden visa scheme that selectively doubled the minimum real estate investment requirement across municipalities. Using comprehensive administrative data on property transactions from 2017 to 2024, the analysis combines a bunching framework with a difference-in-differences (DiD) design to study behavioural responses to eligibility thresholds and their spatial equilibrium effects. Under the initial regime, pronounced bunching in transaction prices is observed around the statutory cutoff, indicating that the threshold was a salient determinant of pricing behaviour. Following the reform, this bunching disappears in municipalities subject to the higher threshold, while persisting in unaffected areas. Consistent with this pattern, treated municipalities experience a relative deceleration in price growth alongside increased transaction activity in nearby markets that remain eligible under the lower threshold. Overall, the analysis shows that residency-investment thresholds function as salient policy constraints that shape housing price distributions and the spatial allocation of transactions. By focusing on threshold design rather than programme incidence, the paper highlights how geographically targeted reforms can attenuate local distortions while redistributing investment activity across space.

This paper contributes to the literature in three main ways. First, it provides the first quasi-experimental evidence on how threshold-based investment policies distort housing markets, using a sharp and spatially differentiated reform of Greece's golden visa programme. By combining bunching analysis with a difference-in-differences design, the paper shows that statutory investment thresholds generate pronounced kinks in demand that reshape the entire price distribution, rather than merely affecting average prices. Second, the analysis demonstrates that tightening such thresholds does not simply dampen local demand, but induces spatial reallocation of transactions across neighbouring markets, shifting distortions toward locations where eligibility remains at-

tainable. This highlights an important and previously undocumented channel through which threshold-based policies operate. Third, the paper contributes to the design of threshold-based regulations by showing how discrete policy cutoffs act as powerful allocative instruments, creating patterns of bunching, displacement, and price deceleration. The empirical estimates on bunching magnitudes, spatial substitution, and price responses provide key inputs for evaluating the trade-offs inherent in threshold design, a question that extends well beyond the context of residence-by-investment schemes.

The remainder of the paper is organised as follows. Section 2 reviews the related literature. Section 3 describes the institutional setting of Greece's golden visa programme, and Section 4 outlines the conceptual framework that guides the analysis. Section 5 presents the data and empirical strategy. Section 6 reports the main bunching results, while Section 7 examines the effects of the threshold reform using a before-and-after (difference-in-differences) design. Section 8 provides a back-of-the-envelope quantification of the aggregate effects implied by the estimated behavioural effects. Section 9 concludes.

2 Literature review

The empirical literature on residence-by-investment (RBI) and citizenship-by-investment (CBI) schemes can be broadly organised into two partially overlapping strands.[2] One strand focuses on the extent to which such schemes weaken tax transparency or facilitate tax avoidance and evasion. The other examines whether RBI and CBI programmes generate real economic activity, including investment inflows, employment, or public revenues, and how these effects manifest across domestic markets.

A number of studies emphasise the interaction between investment-based residency schemes and international tax enforcement. Langenmayr and Zyska (2023), using data on cross-border bank deposits, show that the acquisition of a new citizenship can reduce the perceived probability of detection under automatic exchange of information, leading to increased deposits in low-tax jurisdictions following the introduction of CBI programmes. These findings suggest that, under certain conditions, CBI schemes may facilitate tax evasion. At the same time, Ahrens et al. (2022) find limited evidence of broad-based regulatory arbitrage in response to automatic exchange of information, indicating that avoidance responses through channels such as golden visa programmes may be targeted rather than systemic. Relatedly, Lee and Glennon (2023) show that visa policies can shape real economic behaviour—documenting that the introduction of a start-up visa programme significantly increased entrepreneurial activity among immigrants in Canada—while Patsoulis et al. (2025) discuss the importance of golden visa

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[2]For a comprehensive review, see Clerides et al. (2025), who study the adoption, design, and economic correlates of RBI and CBI programmes across countries, and discuss their implications for investment, housing markets, and public revenues.

programmes in supporting Greek tourism development.[3]

A second strand of the literature focuses on the effects of RBI and CBI schemes on housing markets. By linking residency rights to minimum investment amounts—often through real estate purchases—these programmes can alter demand at specific points of the housing price distribution, with potential implications for price formation and market segmentation. Despite growing policy interest, empirical evidence in this area remains relatively scarce. Pereira dos Santos and Strohmaier (2024) analyse the introduction of Portugal's golden visa programme using transaction-level data and document a substantial price premium for properties transacted near the eligibility threshold, amounting to more than 10 percent in high-end market segments. Using Spanish data, Foremny et al. (2025) show that the introduction of a golden visa programme increased transactions above the eligibility threshold disproportionately for non-EU investors and generated positive spillovers to overall transaction prices in more exposed areas.

While this literature establishes that golden visa programmes can affect housing prices and transaction patterns, existing studies primarily focus on programme adoption or exposure. Much less is known about how changes in eligibility thresholds—as opposed to the introduction of such schemes—shape housing price distributions and the spatial allocation of market activity. In particular, there is limited evidence on whether threshold-based reforms attenuate local distortions or instead reallocate investment demand across locations. The present paper contributes to this literature by exploiting a geographically targeted reform of Greece's golden visa scheme to study how threshold adjustments affect pricing behaviour and equilibrium outcomes across housing markets.

A closely related body of work examines the effects of transaction taxes on housing market activity, most notably stamp duty land taxes. Using UK transaction-level data and policy reforms, Best and Kleven (2017) show that stamp duty induces large behavioural responses in transaction volumes, with sharp bunching at tax thresholds and substantial excess burden relative to revenue raised.[4] A key insight from this literature is that transaction taxes primarily affect the extensive margin of housing market activity, including both the timing and occurrence of transactions, while having more limited effects on prices. Although golden visa thresholds are not taxes, they similarly create discrete incentives around transaction values. The findings suggest that eligibility-based thresholds can generate distortions comparable in nature to those documented for stamp duty, while operating through regulatory rather than fiscal channels. Related work by Kopczuk and Munroe (2015) examines the effects of real estate transfer taxes ("mansion taxes") on housing market behaviour. They document pronounced behavioural responses to tax thresholds and distortions in transaction timing and values, reinforcing the broader

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[3]See also Surak and Tsuzuki (2021) for some evidence for the impact of the golden visa programme on the real estate market in Greece.

[4]See also Adams et al. (2019) for an application on the impact of the stamp duty tax holiday on Welsh house transactions.

insight that discrete tax or regulatory thresholds can generate significant market distortions along the extensive margin. More broadly, this evidence relates to the growing literature on behavioural responses to notches and kinks in policy schedules, where discrete incentives generate bunching and missing mass in observed distributions (see, for example, Saez, 2010; Kleven and Waseem, 2013; Kleven, 2016).

3 Institutional details

The Greek sovereign debt crisis, which followed the global financial crisis of 2008, severely weakened public finances and triggered a deep and prolonged recession.[5] As part of successive adjustment programmes agreed with the European Union, the European Central Bank, and the International Monetary Fund, Greece implemented extensive fiscal consolidation and structural reforms. The economic fallout included a collapse in investment, capital outflows, and a sharp contraction in real estate prices, particularly in Athens and other major urban centres.[6] Against this backdrop, Greece introduced a golden visa programme in 2013, granting a five-year residence permit to non-EU nationals investing at least €250,000 in real estate.[7] The scope of eligible investments was expanded in 2014 to include long-term leases and time-sharing arrangements, and in 2019 eligibility was extended beyond real estate. The relatively low investment threshold, combined with EU residency rights and Greece's geographic position, made the programme particularly attractive to investors from China, Russia, Turkey, and the Middle East.[8]

The minimum investment requirement remained unchanged until 2022, when the government implemented a geographically targeted reform that increased the threshold from €250,000 to €500,000 in selected high-demand areas.[9] The reform applied to the regional units of North, Central, and South Athens; the municipalities of Vari, Voula, and Vouliagmeni; the municipality of Thessaloniki; and the regional units of Mykonos and Santorini.[10] The stated objective was to alleviate pressure in overheated housing markets

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[5]Between 2007 and 2019, Greece's real GDP contracted by approximately 22 percent (Eurostat, 2026b).

[6]The Athens metropolitan area alone accounts for roughly 48.6 percent of national GDP, while the broader region of Central Macedonia—which includes Thessaloniki—contributes an additional 13.8 percent. Together, these metropolitan areas generate close to two-thirds of Greece's total output, underscoring their central role in national economic activity (Eurostat, 2025).

[7]The programme followed similar initiatives introduced earlier in Portugal (2012) and Spain (2013), but set one of the lowest investment thresholds in Europe, compared with Portugal's initial €500,000 requirement.

[8]As of 2025, investors from China account for roughly 48 percent of residence permits issued under the scheme, followed by Turkey (around 15 percent) and Middle Eastern countries (approximately 5 percent) (Ministry of Migration and Asylum, nd). Demand is therefore highly concentrated across a small number of origin countries, with especially strong exposure in Athens and coastal municipalities.

[9]See, for example, Petridi (2022).

[10]The supporting legislative document noted that the threshold increase applied to areas "of high investment interest" where the existing minimum was considered low, while maintaining the lower threshold elsewhere to stimulate activity in less saturated markets.

while preserving the programme's attractiveness in other locations. By differentiating eligibility thresholds across space, the reform created a natural experiment to study how threshold-based policies affect pricing behaviour and the allocation of housing transactions.

In 2023, the government further restructured the programme by introducing a separate residence permit aimed at non-EU nationals undertaking strategic or high-value investments in sectors such as energy, technology, infrastructure, and innovation. This reform reflected a shift in policy emphasis away from passive real estate investment toward forms of capital expected to generate longer-term economic benefits. Subsequent reforms announced in 2024 raised the minimum real estate investment to €800,000 in high-demand areas and €400,000 elsewhere; however, these changes were implemented from February 2025 onwards and therefore fall outside the period considered in this study.

Figure 1 provides descriptive evidence on transaction price distributions around the golden visa investment threshold prior to the 2022 reform. Panel (a.i) shows pronounced bunching in transaction values around €250,000, with excess mass both just below and just above the cutoff. This pattern suggests heterogeneous seller responses: some properties are priced marginally below the threshold to attract domestic buyers, while others are priced just above it to target foreign investors whose eligibility requires meeting the minimum investment criterion. A similar pattern is observed around the new threshold of €500,000 following the reform (Panel (a.ii)). Panels (b.i) and (b.ii) indicate that, after the threshold increase in treated municipalities, transaction clustering intensifies around €250,000 in control areas where the lower threshold remains in place, consistent with a reallocation of investment demand across locations.

Figure 1: Distribution of residential transaction values in Greece

(a) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated - regions where new threshold was introduced)

(i) Pre-change
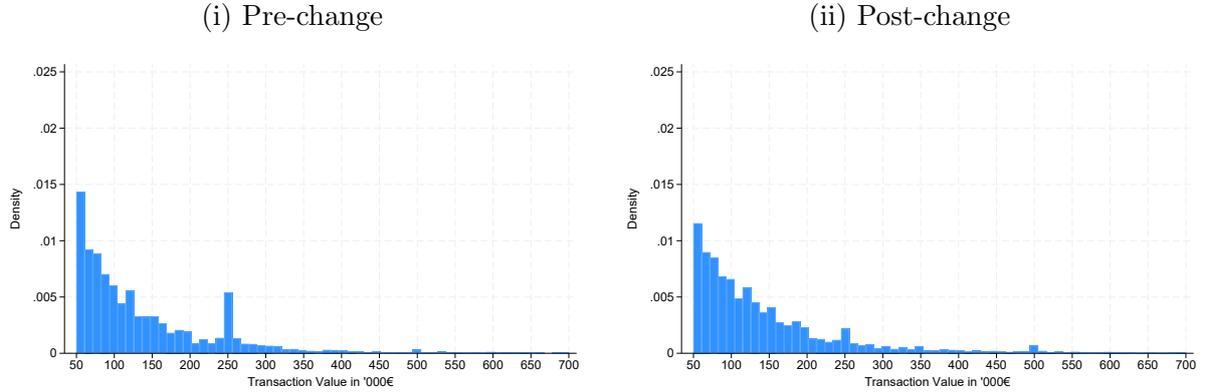
(ii) Post-change

(b) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control - regions where new threshold was not introduced)
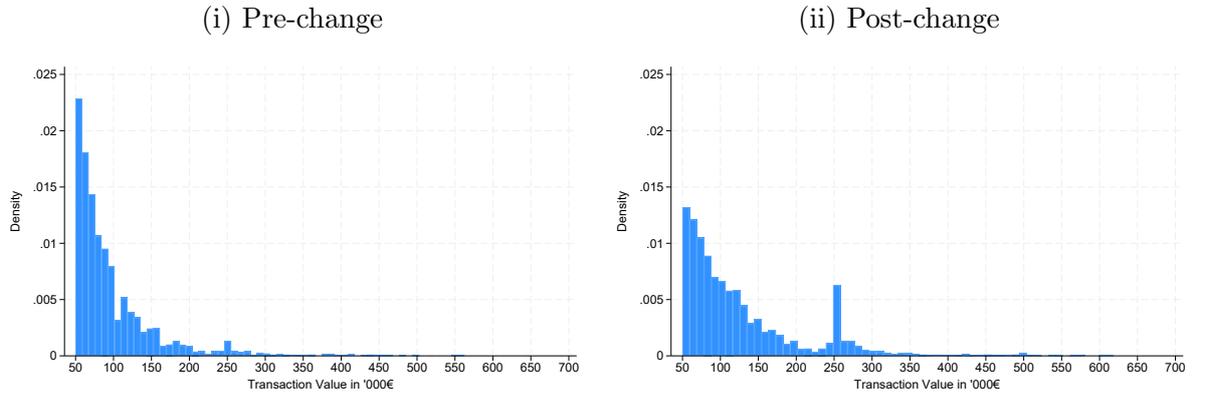
(i) Pre-change

(ii) Post-change

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy.

The next section develops a simple conceptual framework to clarify the mechanisms underlying threshold-induced bunching and the resulting spatial reallocation of housing market activity.

4   Conceptual framework

This section develops a simple conceptual framework to clarify how eligibility thresholds in golden visa programmes shape housing market outcomes. The central mechanism is that a minimum investment requirement p_f—above which foreign buyers become eligible—introduces a kink in housing demand that sellers anticipate when setting prices. This demand kink can generate bunching of transactions just below and just above the threshold. The framework also accommodates geographically targeted reforms. When thresholds are raised in some locations but remain unchanged in others, investment de-

mand may be reallocated across housing markets, affecting both local price distributions and spatial patterns of transaction activity.

4.1   A single threshold

Consider a housing market with two types of buyers. *Domestic buyers* can purchase properties at any price p. *Golden visa buyers* obtain residency rights only if they purchase a property priced at or above a minimum threshold p_f. This category may include foreign buyers whose primary objective is access to residency rather than housing consumption per se, and who are therefore inactive below the threshold.

Let $G_d(v)$ and $G_f(v)$ denote the distributions of willingness to pay among domestic and golden visa buyers, respectively, and let n_d and n_f denote their respective masses. A buyer purchases a property if willingness to pay exceeds the posted price. Aggregate demand at price p is given by

$$D(p) = n_d(1 - G_d(p)) + \mathbf{1}_{\{p \geq p_f\}}\, n_f(1 - G_f(p)). \tag{1}$$

Domestic demand is active at all prices, while foreign demand enters discretely once the threshold p_f is reached. As a result, aggregate demand is continuous but kinked at p_f, reflecting the change in slope induced by the entry of golden visa buyers. This mechanism parallels the demand responses documented in models of transaction taxes, where notches or kinks in the tax schedule generate bunching and missing mass in the price distribution (as in, for example, Kopczuk and Munroe (2015) and Best and Kleven (2017)).

Let seller profits be given by $\pi(p) = p\, D(p)$. A seller has an incentive to set a price just above the threshold if

$$\pi(p_f + \varepsilon) > \pi(p_i), \tag{2}$$

for some $\varepsilon > 0$ and an unconstrained optimal price $p_i < p_f$. The set of sellers for whom crossing the threshold is profitable is

$$C^+ = \left\{ i :\; p_i \in [\hat{p}, p_f) \text{ and } \pi(p_f + \varepsilon) > \pi(p_i) \right\}, \tag{3}$$

where $\hat{p}$ denotes the lower bound of the range over which upward adjustment is profitable. Owing to heterogeneity in property characteristics, location quality, and market frictions, only a fraction $\alpha^+ \in (0,1)$ of sellers in C^+ successfully reprice above the threshold.

Conversely, some sellers with unconstrained optimal prices close to the threshold may prefer to price just below it. Define

$$C^- = \left\{ i :\; p_i \in [p_f - \delta, p_f) \text{ and } \pi(p_f - \varepsilon) \geq \pi(p_f + \varepsilon) \right\}, \tag{4}$$

for small $\varepsilon, \delta > 0$. These sellers optimally avoid crossing the threshold when the additional demand from golden visa buyers does not compensate for lost domestic demand or the

costs of selling above p_f. Let $\alpha^- \in (0,1)$ denote the fraction of sellers in C^- who bunch just below the threshold.

The threshold therefore generates two sources of excess mass in the price distribution: *bunching above the threshold*, as some sellers raise prices to target foreign buyers, and *bunching below the threshold*, as others strategically avoid crossing it. The relative magnitude of these effects depends on the density and purchasing power of golden visa buyers, the elasticity of domestic demand, and the degree of seller heterogeneity and adjustment frictions. These forces jointly determine the extent and asymmetry of price distortions around p_f.[11] This mechanism is analogous to that documented in the transfer tax literature, where agents cluster just below tax thresholds to avoid higher tax liabilities (Kopczuk and Munroe (2015) and Best and Kleven (2017)). In the present context, minimum investment thresholds similarly create discrete incentive discontinuities that distort the distribution of transactions relative to an undistorted baseline.

4.2 Municipality-specific thresholds

Now suppose housing markets are segmented across M municipalities indexed by $m \in \{1, \ldots, M\}$, each characterised by a potentially different threshold $p_f(m)$. Golden visa buyers choose where to purchase based on these thresholds, so that the share purchasing in municipality m is

$$s_m = s_m\big(p_f(1), \ldots, p_f(M)\big), \qquad s_m \geq 0, \quad \sum_{m=1}^{M} s_m = 1. \tag{5}$$

Foreign demand in municipality m is therefore $n_f(m) = s_m n_f$. Local demand in municipality m is given by

$$D_m(p) = n_d^m\big(1 - G_d^m(p)\big) + \mathbf{1}_{\{p \geq p_f(m)\}}\,(n_f s_m)\big(1 - G_f^m(p)\big), \tag{6}$$

where the entry of golden visa buyers again induces a kink in demand at the local threshold $p_f(m)$.

The 2022 reform analysed in this paper provides a natural application of this framework. By raising the minimum investment requirement from €250,000 to €500,000 in selected municipalities, the reform reduced the relative attractiveness of these locations for golden visa buyers. Foreign demand consequently shifted toward municipalities where the lower threshold remained in place. Because the extent of bunching around a threshold scales with s_m, the reform is expected to attenuate bunching at the original cutoff in treated municipalities while amplifying clustering around €250,000 in untreated areas.

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[11]The empirical analysis does not seek to estimate the structural primitives of the model. Instead, the framework is used to discipline interpretation: bunching at the threshold, its attenuation following a location-specific increase, and the associated spatial reallocation of transactions are reduced-form implications of the demand kink induced by threshold-based eligibility.

This spatial reallocation mechanism underlies the empirical patterns documented in the subsequent analysis.

5 Data and methodological approach

5.1 Data

The analysis uses administrative microdata from the Greek Register of Real Estate Transfer Values.[12] The registry is maintained by the Ministry of Finance and, since March 2017, by the Independent Authority for Public Revenue. It records property transactions along with detailed characteristics, including transaction value, location, date of sale, property type, year of construction, and size in square meters.[13] The sample covers 2017–2024 and includes residential transactions with values between €10,000 and €20 million, following conventions in the related literature. To mitigate the influence of potential data-entry errors and extreme outliers, observations are trimmed at the top and bottom one percent of the size (square meter) distribution, yielding a final sample of 109,407 transactions.

Table 1 defines the variables used in the analysis, while Table 2 reports summary statistics for the full sample and for the main regions relevant to the 2022 reform.[14] Treated areas—municipalities in which the minimum investment requirement increased from €250,000 to €500,000—account for 53 percent of transactions nationwide, with substantially higher coverage in Attica (78 percent), reflecting the concentration of treated municipalities around Athens. Average transaction values are highest in Attica and the South Aegean (both above the national mean), while Thessaloniki exhibits lower average values. Property size is broadly similar across regions, although units in the South Aegean are slightly larger on average.

Transaction characteristics also differ systematically across locations. Newer properties (0–15 and 16–30 years) are more common in the South Aegean, whereas Attica has a higher concentration of older buildings, particularly in the 46–60 age category. Auxiliary spaces are least common in Attica and more prevalent in Thessaloniki. Average floor level is notably lower in the South Aegean, consistent with a larger share of ground-floor and low-rise properties. Listed buildings are rare nationwide, though slightly more common in Thessaloniki and the South Aegean. Finally, the statutory assessed value ("zone value") is highest in Attica, followed by Thessaloniki, and lowest in the South Aegean,

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[12]The data were accessed in January 2025

[13]The registry does not report buyer nationality or whether a purchase was explicitly made for golden visa eligibility.

[14]While Table 2 reveals significant regional heterogeneity—showing that Attica and the South Aegean possess higher baseline transaction values than the national average—Figure 1 demonstrates that these regional differences are secondary to the policy-induced distortion. The fact that a single, sharp spike occurs at €250,000 in the aggregate national distribution, despite the varying wealth levels documented in Table 2, confirms that the threshold acts as a primary determinant of pricing behaviour across the entire Greek housing market.

consistent with established differences in local housing market quality and valuation.

Figures 2–4 provide a visual overview of the spatial distribution of treated and control municipalities[15] and a descriptive proxy for golden visa–related activity. In each figure, Panel (a) maps the municipalities included in the analysis and indicates whether they were subject to the threshold increase. Panels (b.i) and (b.ii) report the share of transactions priced between €250,000 and €260,000 as a percentage of all transactions, shown separately for the pre- and post-reform periods. Because golden visa purchases cannot be identified directly in the transaction registry, this measure serves as an informative indicator of threshold-adjacent activity and captures clustering of transactions around the statutory minimum investment requirement.[16] The maps reveal substantial heterogeneity in threshold-adjacent transaction shares across municipalities, particularly within Attica, while the corresponding patterns in Thessaloniki and the South Aegean display more limited spatial variation.

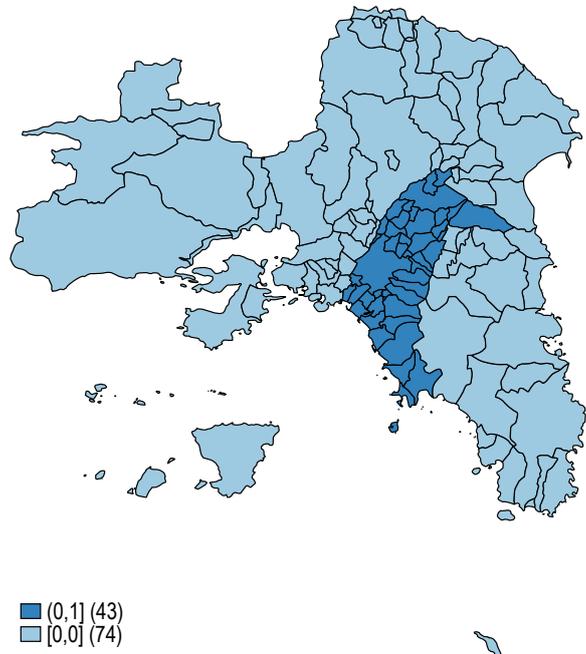[15]Table A1 reports the municipalities subject to the increase in the golden visa investment threshold.

[16]Independent administrative statistics from the Ministry of Migration and Asylum show pronounced clustering of golden visa application amounts at the statutory minimum. In particular, during 2017–2024, approximately 58 percent of recorded real-estate golden visa applications report an investment amount in the €250,000–€260,000 interval. While these records cannot be linked to the transaction registry and do not provide investment location, the sharp concentration at the cutoff signifies the salience of threshold-based behaviour in golden visa–related activity.

Table 1: Variables' Definitions,

Variable	Definition
Treated	Dummy variable equal to 1 if the residential property is located in any of the Municipalities designated under the 2022 policy, which increased the minimum real estate investment required to obtain a golden visa from €250,000 to €500,000 and 0 otherwise. The relevant regions in Greece are those of: - Attica Region: Regional Units of North, Central, South Athens and Municipality of Vari, Voula, Vouliagmeni - Regional Unit of Thessaloniki: Municipality of Thessaloniki - South Aegean Region: Regional Units of Mykonos and Santorini
Post	Dummy variable equal to 1 for the years 2023–2024 (the post-treatment period following the implementation in 2022), and 0 otherwise.
Transaction Value	Natural logarithm of the property's transaction value
SquareMeters	Natural logarithm of the property's size in square meters
AgeCategory 0-15	Dummy variable equal to 1 if the property falls within the 0–15 year age category, and 0 otherwise.
AgeCategory 16-30	Dummy variable equal to 1 if the property falls within the 16–30 year age category, and 0 otherwise.
AgeCategory 31-45	Dummy variable equal to 1 if the property falls within the 31–45 year age category, and 0 otherwise.
AgeCategory 46-60	Dummy variable equal to 1 if the property falls within the 46–60 year age category, and 0 otherwise.
AgeCategory ≥61	Dummy variable equal to 1 if the property falls within the 61 years and above age category, and 0 otherwise.
AuxiliarySpace	Dummy variable equal to 1 if the apartment includes an auxiliary space (e.g., parking, storage), and 0 otherwise.
Floor	Property floor level
FrontFaces	Number of Building Facades
ListedBuilding	Dummy variable equal to 1 if the building is officially listed as a protected historical or architectural property, and 0 otherwise.
UncompletedBuilding	Dummy variable equal to 1 if the building is uncompleted at the time of the transaction, and 0 otherwise.
ZoneValue	Natural logarithm of the defined statutory assessed property value ("zone value") per square meter of the specific zone in which the building is located, as officially determined by the government.

Figure 2: Impact of Minimum Transaction Value Policy Change on Residential Property Sales in Attica Region.

(a) Municipalities subject to an increase in the minimum investment threshold from €250,000 to €500,000.

(0,1] (43)
[0,0] (74)

(b) Share of apartment transactions priced €250,000–€260,000

(i) Pre-change   (ii) Post-change

(10.3,17.9] (9)
(5.1,10.3] (10)
(3.1,5.1] (10)
(1.6,3.1] (10)
(0.0,1.6] (5)
[0.0,0.0] (73)

(8.2,20.6] (13)
(5.9,8.2] (13)
(3.7,5.9] (12)
(1.4,3.7] (14)
(0.0,1.4] (7)
[0.0,0.0] (58)

Note: The pre-change period refers to 2022; the post-change period refers to 2024, one year after the implementation of the policy change.

Figure 3: Impact of Minimum Transaction Value Policy Change on Residential Property Sales in Municipality Unit of Thessaloniki.
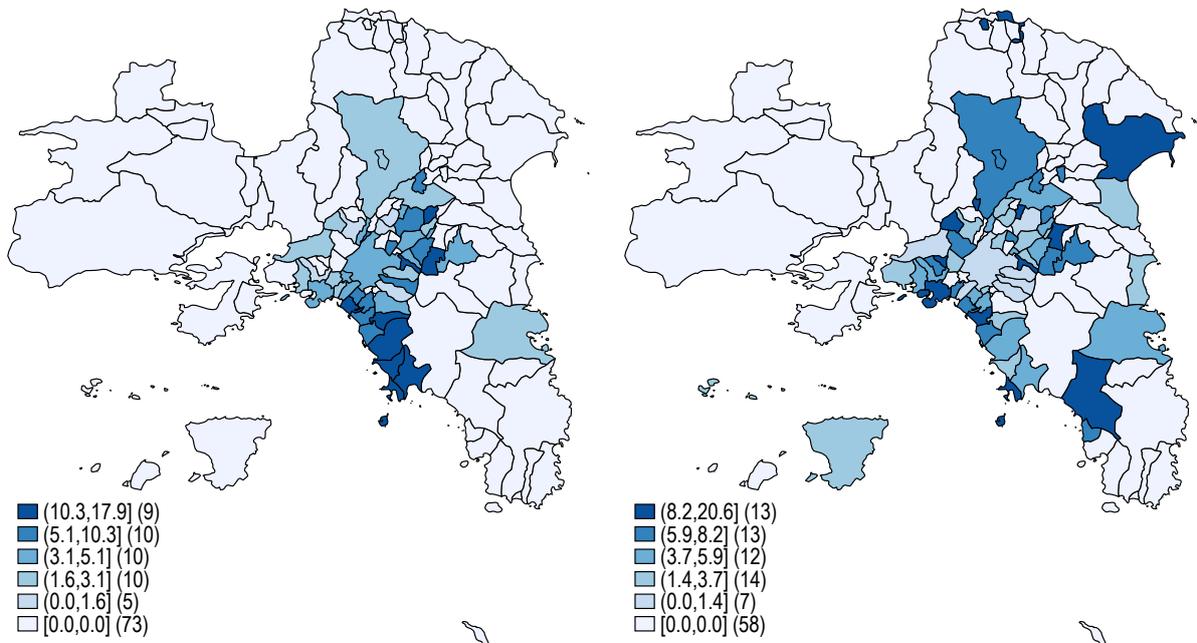
(a) Municipalities subject to an increase in the minimum investment threshold from €250,000 to €500,000.

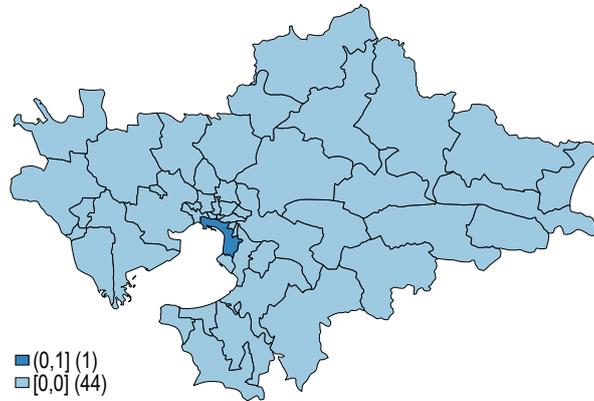(b) Share of apartment transactions priced €250,000–€260,000
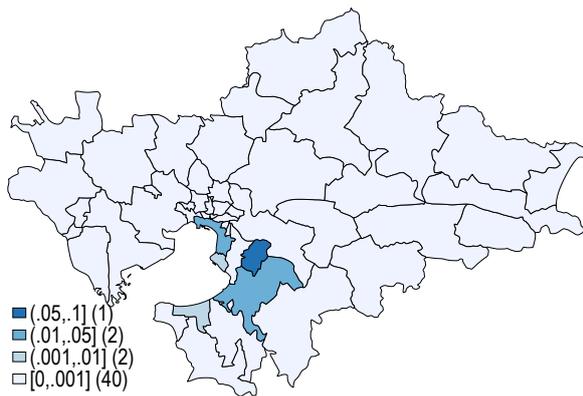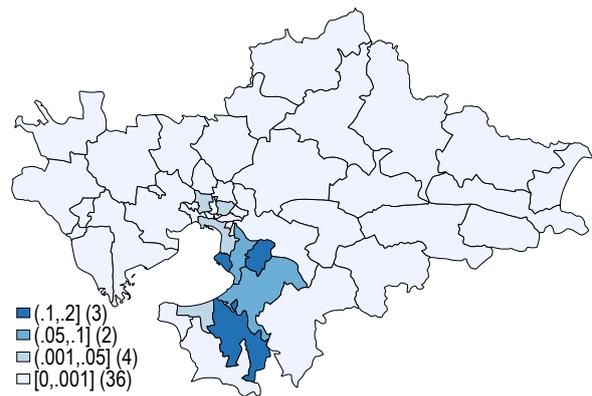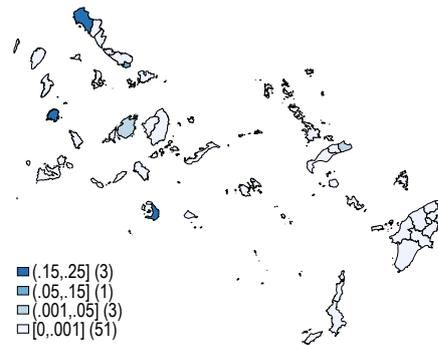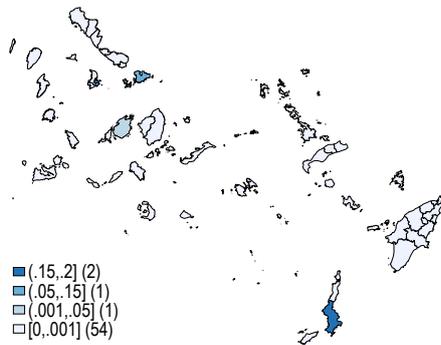
(i) Pre-change

(ii) Post-change

Note: The pre-change period refers to 2022; the post-change period refers to 2024, one year after the implementation of the policy change.

Figure 4: Impact of Minimum Transaction Value Policy Change on Residential Property Sales in South Aegean Municipality.

(a) Municipalities subject to an increase in the minimum investment threshold from €250,000 to €500,000.

■ (0,1] (3)
□ [0,0] (55)

(b) Share of apartment transactions priced €250,000–€260,000

(i) Pre-change   (ii) Post-change

■ (.15,.2] (2)
■ (.05,.15] (1)
□ (.001,.05] (1)
□ [0,.001] (54)

■ (.15,.25] (3)
■ (.05,.15] (1)
□ (.001,.05] (3)
□ [0,.001] (51)

Note: The pre-change period refers to 2022; the post-change period refers to 2024, one year after the implementation of the policy change.

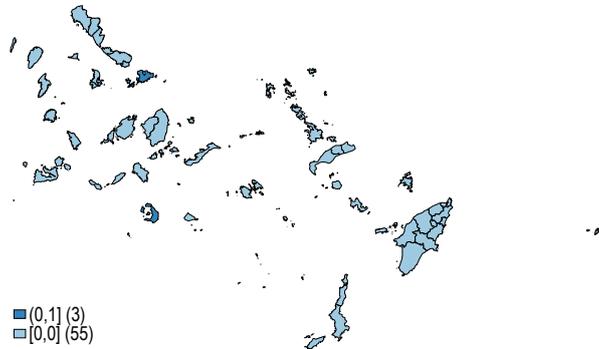Table 2: Summary Statistics.

Variable	Greece				Attica		Thessaloniki		South Aegean	
	Obs	Mean (Std. dev.)	Min	Max	Obs	Mean (Std. dev.)	Obs	Mean (Std. dev.)	Obs	Mean (Std. dev.)
Treated	109,407	0.528 (0.499)	0	1	61,346	0.778 (0.415)	18,604	0.524 (0.499)	2,135	0.097 (0.296)
Post	109,407	0.304 (0.460)	0	1	61,346	0.297 (0.457)	18,604	0.296 (0.456)	2,135	0.323 (0.468)
TransactionValue	109,407	10.902 (0.867)	9.210	16.811	61,346	11.068 (0.901)	18,604	10.788 (0.779)	2,135	11.082 (0.924)
SquareMeter	109,407	4.196 (0.424)	3.075	5.312	61,346	4.208 (0.421)	18,604	4.182 (0.395)	2,135	4.231 (0.472)
AgeCategory 0-15	109,359	0.142 (0.349)	0	1	61,317	0.116 (0.321)	18,596	0.126 (0.332)	2,134	0.294 (0.456)
AgeCategory 16-30	109,359	0.159 (0.366)	0	1	61,317	0.104 (0.305)	18,596	0.173 (0.378)	2,134	0.201 (0.401)
AgeCategory 31-45	109,359	0.249 (0.433)	0	1	61,317	0.231 (0.421)	18,596	0.213 (0.409)	2,134	0.261 (0.439)
AgeCategory 46-60	109,359	0.372 (0.483)	0	1	61,317	0.455 (0.498)	18,596	0.41 (0.492)	2,134	0.101 (0.301)
AgeCategory ≥ 61	109,359	0.078 (0.268)	0	1	61,317	0.094 (0.292)	18,596	0.078 (0.268)	2,134	0.143 (0.350)
AuxiliarySpace	109,404	0.173 (0.378)	0	1	61,344	0.155 (0.362)	18,604	0.229 (0.42)	2,135	0.188 (0.391)
Floor	109,407	1.865 (1.672)	-1	20	61,346	1.937 (1.736)	18,604	2.138 (1.728)	2,135	0.592 (0.820)
FrontFaces	109,407	1.088 (0.545)	0	4	61,346	1.103 (0.523)	18,604	1.075 (0.551)	2,135	1.067 (0.703)
ListedBuilding	109,407	0.002 (0.040)	0	1	61,346	0.001 (0.038)	18,604	0.003 (0.052)	2,135	0.004 (0.061)
UncompletedBuilding	109,407	0.039 (0.193)	0	1	61,346	0.035 (0.185)	18,604	0.02 (0.141)	2,135	0.098 (0.298)
ZoneValue	109,407	7.092 (0.377)	5.521	9.287	61,346	7.247 (0.319)	18,604	7.043 (0.279)	2,135	6.784 (0.556)

5.2 Empirical design: Bunching

To study behavioural responses to the golden visa eligibility threshold, the analysis applies a standard bunching framework following Saez (2010).[17] The approach compares the observed density of transaction prices to a smooth counterfactual distribution that would prevail in the absence of threshold-induced incentives. The empirical focus is on the initial minimum investment requirement of €250,000, which determines eligibility for the golden visa programme. Because foreign investors become active only at or above this cutoff, the threshold introduces a discrete change in effective demand that may influence pricing behaviour for properties with transaction values close to the eligibility boundary. In housing markets, where adjustment frictions such as search, bargaining, and liquidity constraints are prevalent, behavioural responses to such thresholds are expected to be localized but not perfectly sharp.

Following Chetty et al. (2011), bunching in this setting is interpreted as a reduced-form indicator of behavioural response rather than as evidence on structural elasticities. Adjustment frictions and institutional features may spread responses across nearby price bins, motivating a local and non-structural interpretation of excess mass around the cutoff. The analysis uses binned transaction-level data, grouping prices into bins of width €10,000. The counterfactual smooth distribution of transaction prices is estimated using the following polynomial density regression

$$c_j = \sum_{i=0}^{p} \beta_i x_j^i + \sum_{k=z^-}^{z^+} \gamma_k \, \mathbb{1}(x_j = k) + \varepsilon_j, \tag{7}$$

where c_j denotes the number of transactions in price bin j, x_j is the bin midpoint, and ε_j is the regression error term. The first summation approximates the smooth counterfactual density using a polynomial of order p, set to 7 in the baseline specification and shown to be robust to alternative orders. The second summation introduces indicator variables for bins within the bunching window $[z^-, z^+]$, capturing excess and missing mass around the threshold.

Estimation is conducted over the price range [€50,000–€460,000), corresponding to 20 bins on either side of the threshold-adjacent bin [€250,000, €260,000). This range excludes sparsely populated tails of the price distribution that could unduly influence the polynomial fit. The design employs a pre-specified symmetric exclusion window consisting of one bin below and one bin above the cutoff. Rather than selecting the window endogenously, the analysis follows Saez (2010) and fixes the window to focus on localized distortions in the price distribution. This choice also facilitates comparability of bunching estimates across regions and over time.

Excess bunching at the threshold is measured as the difference between observed and

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[17]For a insightful review of the bunching literature, see Kleven (2016).

predicted transaction counts within the excluded window:

$$B = \sum_{j=-1}^{+1} \left(c_j - \hat{c}_j \right), \qquad (8)$$

where $\hat{c}_j$ denotes the counterfactual count implied by the polynomial regression. The results are reported using a normalized measure of excess mass, defined as the excess number of transactions divided by the average predicted counterfactual density within the bunching window.

Finally, the bunching analysis is implemented separately by treatment status and period to exploit the spatially differentiated increase in the minimum investment requirement. When the threshold rises from €250,000 to €500,000 in treated municipalities, the original cutoff ceases to determine eligibility in those locations. Changes in excess mass at €250,000 across treated and untreated areas therefore provide direct evidence on whether observed bunching reflects policy-induced pricing behaviour rather than general price clustering. In subsamples where transaction counts in the immediate neighbourhood of the threshold are very small, the bunching estimator may become imprecise, as reflected in larger bootstrap standard errors, and such estimates are interpreted cautiously.

5.3 Empirical design: Difference-in-differences identification

The impact of the reform is estimated using a hedonic difference-in-differences (DiD) specification of the following form,[18]

$$P_i = \alpha_0 + \alpha_1 \text{Treated}_i + \alpha_2 \text{Post}_t + \alpha_3 \left(\text{Treated}_i \times \text{Post}_t \right) + X_i + e_i, \qquad (9)$$

where P_i denotes the logarithm of the transaction value of residential property i. *Treated$_i$* is an indicator equal to one if the property is located in a municipality subject to the 2022 increase in the minimum investment threshold from €250,000 to €500,000, and zero otherwise. The treatment takes effect in 2023, so *Post$_t$* equals one for 2023–2024 and zero for 2017–2022. The vector X_i includes property-level controls listed in Table 1, and e_i is an idiosyncratic error term.

Control variables are selected based on data availability and established evidence from the hedonic pricing literature. Property size (*SquareMeters*) is a robust predictor of transaction value (Sirmans et al., 2005). Building age categories capture depreciation and functional obsolescence, while auxiliary spaces (*AuxiliarySpace*) reflect additional housing amenities. Floor level (*Floor*) controls for vertical differentiation in housing quality and views, and the number of front-facing facades (*FrontFaces*) accounts for variation in exposure and lot position. Listed buildings (*ListedBuilding*) are included to capture

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[18]This approach is standard in the housing price literature; see, for example, Malpezzi, 2003; Sirmans et al., 2005; Banzhaf, 2021; Khoshnoud et al., 2023.

potential heritage-related price premia, while uncompleted properties (*UncompletedBuilding*) typically transact at a discount due to completion risk. Finally, the logarithm of the statutory assessed zone value per square meter (*ZoneValue*) is included as a compact proxy for neighbourhood quality, reflecting differences in amenities, infrastructure, accessibility, and planning characteristics.[19] The specification includes municipality (or municipal/community district) fixed effects and year (or quarter) fixed effects, which absorb the main effects of *Treated* and *Post*. The coefficient of interest is α_3, which measures the average differential change in transaction values in treated municipalities following the reform. A negative and statistically significant estimate indicates that, after the threshold increase, transaction prices in treated areas grew more slowly than in comparable untreated municipalities, conditional on observed characteristics and common time effects.

Identification relies on plausibly exogenous variation in policy exposure across municipalities and time. The increase in the golden visa threshold was applied to municipalities identified by the government as experiencing particularly strong investor demand, with the stated objectives of easing pressure in overheated markets and redirecting investment toward less saturated areas. While treatment assignment was therefore not random, the reform operated at the municipality level and was determined centrally, independently of individual property-level outcomes. This setting corresponds to a case of weak assignment, in which treatment is correlated with pre-existing market conditions but not with idiosyncratic transaction shocks. Several checks are implemented to support the credibility of the DiD design. First, the parallel trends assumption is assessed using non-parametric local regressions of transaction values in treated and control municipalities. As shown in Figure A1 in the Appendix, price trends evolve in parallel prior to 2023, both nationally and within individual regions. Second, placebo tests are conducted by shifting the treatment date to earlier years (2021 and 2022), yielding no evidence of spurious treatment effects and suggesting the absence of anticipation or pre-trends (Bertrand et al., 2004; Lechner, 2010; Goodman-Bacon, 2021). Third, the estimated treatment effect is robust to the inclusion of additional controls, alternative fixed-effect structures, and different outcome definitions (such as price per square meter). Results are also stable when restricting the sample to a narrower time window (2021–2024), which limits the influence of longer-run structural changes in the housing market. Collectively, these checks support the interpretation that the estimated effects capture the impact of the threshold reform rather than compositional or coincidental changes.

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[19]Zone values are assigned administratively by the Ministry of Finance and incorporate information on location-specific characteristics; see Clapp and Salavei, 2010 for evidence that assessed land values substantially improve hedonic price models by capturing spatial heterogeneity.

6 Bunching at the threshold

The conceptual framework yields three reduced-form predictions: (i) bunching at the binding threshold; (ii) attenuation of bunching where the threshold ceases to bind; and (iii) spatial reallocation toward locations where eligibility remains attainable. The empirical analysis tests these predictions sequentially.

Figure 5 presents the bunching analysis around the initial €250,000 golden visa threshold, separately by treatment status and period. Panel (a) reports results for Greece as a whole, while Panel (b) focuses on Attica. Within each panel, subpanel (i) shows municipalities where the minimum investment requirement was subsequently raised to €500,000 (treated), and subpanel (ii) shows municipalities where the threshold remained unchanged (control). For each group, estimates are reported for the pre-change and post-change periods. In treated municipalities, a pronounced spike in transaction density is visible at the €250,000 threshold in the pre-change period, consistent with threshold-driven pricing behaviour when the lower eligibility requirement was in effect. Following the reform, this spike attenuates markedly. Once the minimum investment requirement increases to €500,000, the €250,000 cutoff no longer determines foreign-investor eligibility in these locations, and the associated bunching largely disappears (with this pattern being evident both nationally (Panel (a.i)) and within Attica (Panel (b.i))). It is worth noting, that these patterns align closely with the mechanism outlined in Section 4. In the model, the minimum investment threshold generates a kink in demand as foreign buyers enter the market only once the price reaches the eligibility cutoff. When the threshold is raised in selected municipalities, this kink disappears locally and re-emerges in neighbouring markets where the lower threshold remains binding. The observed attenuation of bunching in treated areas and its persistence in untreated municipalities is therefore consistent with sellers anticipating the location-specific profitability of crossing the threshold.

In contrast, municipalities where the threshold remained at €250,000 continue to exhibit a clear concentration of transactions at the cutoff in the post-change period. As shown in Panels (a.ii.B) and (b.ii.B), bunching persists—and in some cases intensifies—after the reform. Because these municipalities were not directly affected by the increase to €500,000, the continued presence of excess mass at €250,000 indicates that the threshold remains binding for foreign investors in these areas. The post-reform strengthening of bunching in control municipalities is consistent with a spatial reallocation of investment demand away from treated locations toward markets where the lower threshold continues to apply. Figure 5 therefore provides clear visual evidence that bunching at €250,000 is tightly linked to the operation of the golden visa threshold. Bunching disappears precisely in locations where the threshold ceases to bind and persists where it remains operative. Differences in excess mass across periods are assessed using bootstrap
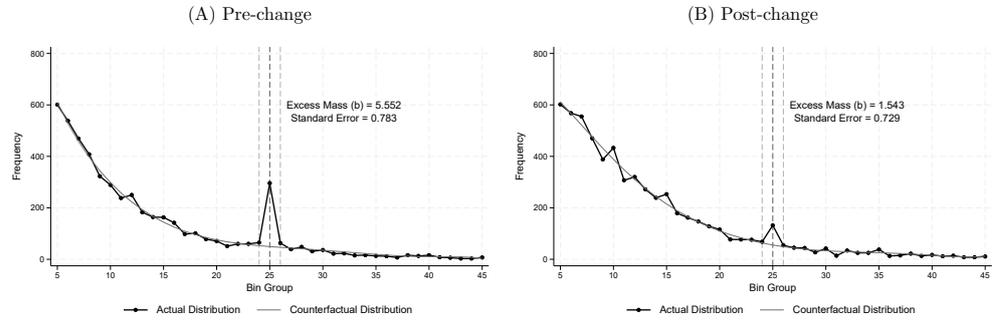
confidence intervals for changes in bunching, which indicate statistically significant reductions in treated municipalities and stable or increasing bunching in control areas, with the exception of Panel (b.ii), where estimates are less precise.[20]

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[20]For Thessaloniki and the South Aegean, transaction counts in the immediate vicinity of the threshold are insufficient to support reliable bunching estimation. A supplementary bunching analysis at the €500,000 threshold is reported in Appendix Figure B1, although sparsity of observations at higher prices limits precision. Additional robustness checks using alternative polynomial orders and wider bin widths are reported in Appendix Figures B2, B3, and B4, yielding qualitatively similar results.

Figure 5: Bunching at the €250,000 Golden Visa Threshold Before and After the 2022 Reform.

(a) Greece

(i) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated)

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control)
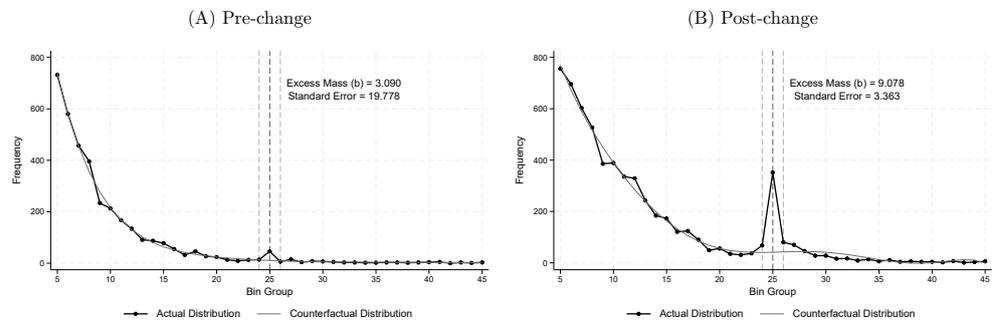
(b) Attica

(i) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated)

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control)

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy.

6.1 Heterogeneity in bunching

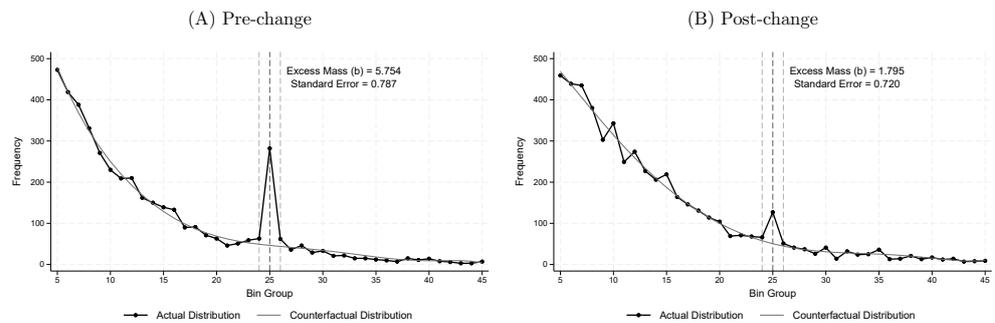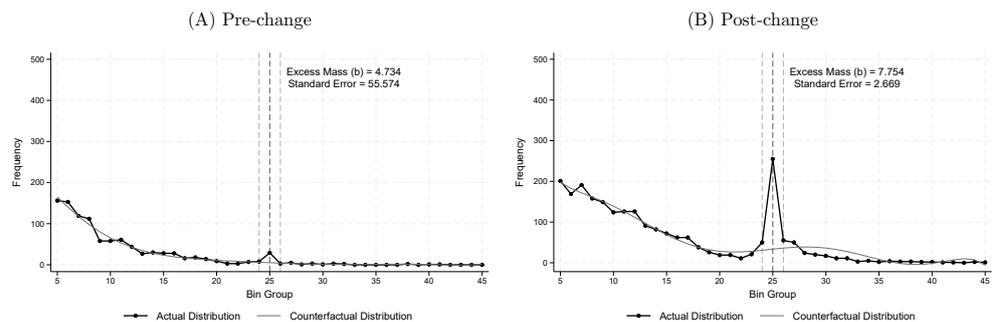This subsection examines whether threshold-induced bunching varies systematically across segments of the housing market. If responses to the golden visa threshold are driven primarily by eligibility considerations, rather than by underlying housing characteristics, bunching should display limited heterogeneity across property types. Two dimensions are considered: property age and property size, which are key determinants of housing quality and valuation.

6.1.1 Age of properties

Greece is characterised by an ageing housing stock. According to the 2021 Population and Housing Census of the Hellenic Statistical Authority,[21] approximately 83.5 percent of dwellings are more than 25 years old, predating modern building standards and energy-efficiency regulations. This feature of the market raises the question of whether bunching around the golden visa threshold differs between newer and older properties. Figures C1 and C2 show that bunching at the €250,000 threshold is broadly similar across property age categories, with no systematic variation by building age. This pattern suggests that eligibility for the residence-by-investment programme, rather than differences in housing quality or lifecycle characteristics, is the dominant factor shaping pricing behaviour around the threshold. This interpretation is consistent with broader features of the Greek housing market. A substantial stock of vacant dwellings—approximately 794,000 units—remains available for sale or rent, despite a modest decline since the 2011 census (Siatitsa and Maloutas, 2025). The availability of older, centrally located properties increases the scope for transactions to be priced strategically around the eligibility cutoff, reinforcing the role of programme incentives in shaping observed bunching patterns.

6.1.2 Size of properties

Greek dwellings are, on average, smaller than those in most European countries. According to Eurostat,[22] the average floor area of main residences in Greece is 92.7 square meters, compared with an EU27 average of 102.8 square meters. Domestic statistics indicate that roughly two-thirds of primary residences fall within the 50–100 m^2 range, while properties exceeding 100 m^2 account for less than one-third of the housing stock.[23] Figures C3 and C4 indicate that bunching around the €250,000 threshold is again present across size categories, with particularly pronounced clustering for smaller and mid-sized apartments. As with property age, the limited heterogeneity across size groups suggests that transactions are primarily positioned to satisfy the programme's minimum investment requirement, rather than to reflect standard residential consumption preferences.

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[21]Hellenic Statistical Authority (ELSTAT), Population and Housing Census 2021.

[22]Eurostat (2026a), Average size of dwelling.

[23]ELSTAT, Household Budget Survey 2024.

Overall, the evidence points to threshold eligibility, rather than property size or quality, as the key determinant of bunching behaviour.

7 Difference-in-differences analysis of threshold changes

7.1 Baseline results

Table 3 reports baseline difference-in-differences (DiD) estimates for Greece and for the three main regions that contain the municipalities affected by the 2022 reform (Attica, Thessaloniki, and the South Aegean). The estimates capture how residential transaction values evolved in treated municipalities relative to comparison municipalities before and after the increase in the minimum real estate investment requirement from €250,000 to €500,000. Within each regional block, Column (1) presents an unconditional specification without fixed effects or covariates. Column (2) introduces municipality and year fixed effects, absorbing time-invariant local characteristics and common macroeconomic shocks; in this specification, the main effects of *Treated* and *Post* are not separately identified. Column (3) adds the full set of structural and locational controls alongside fixed effects. The estimated coefficients on housing attributes are in line with established hedonic evidence.

At the national level, the treatment effect (α_3) is statistically insignificant once fixed effects are included, consistent with the reform affecting only a subset of high-demand municipalities and therefore having limited impact on the aggregate market. A distinct pattern emerges for Attica. In this region, the estimated interaction coefficient is negative and statistically significant once fixed effects and property characteristics are included. In the preferred specification (Column 6), the point estimate is approximately -0.10 and significant at the 5 percent level, implying that transaction values in treated municipalities rose more slowly than in comparable untreated municipalities after the reform. This estimate reflects a relative deceleration in price growth rather than an absolute decline in prices.

The Attica result is consistent with the mechanism described in Section 4. By doubling the eligibility threshold in selected high-demand municipalities, the reform reduced the set of properties eligible for golden visa buyers at given price points, attenuating threshold-driven demand in treated areas. The accompanying evidence on bunching suggests that part of this demand was redirected toward nearby markets where the €250,000 threshold remained in place, consistent with a spatial reallocation of investor activity within the Athens metropolitan area. By contrast, estimated effects in Thessaloniki and the South Aegean are statistically insignificant (Columns 9 and 12), consistent with lower transaction density and more limited exposure to golden visa demand in the vicinity of the threshold.

7.2 Evidence from the Attica region

Table 4 focuses on Attica and reports a series of robustness and falsification exercises. Columns (1)–(3) vary the fixed-effects structure to account for seasonal variation and finer spatial heterogeneity (including quarter and district fixed effects). Across these specifications, the estimated coefficient on *Treated × Post* remains close to the baseline magnitude.[24] Columns (4)–(6) implement placebo tests by shifting the reform date to earlier years. When the treatment date is moved to 2022 (Column 4), the estimated effect is weaker and only marginally significant; when shifted to 2021 (Column 5), the effect disappears. Restricting attention to a shorter window (2020–2023) with a fictitious 2022 treatment year (Column 6) also yields no effect. The progressive attenuation of coefficients under false treatment timing supports the interpretation that the post-2023 period is the source of the differential price changes.

Columns (7)–(9) restrict the sample to a symmetric window around the reform (2021–2024) and examine the timing of the adjustment. The estimated effect remains negative and of similar magnitude (Column 7) and becomes larger in absolute value when focusing on late 2023 and 2024 (Columns 8–9). This gradual strengthening is consistent with slow adjustment and transaction lags in housing markets, where completed sales may reflect regulatory changes with delay.[25,26] Columns (10)–(13) provide additional sensitivity checks. Using transaction value per square meter as the outcome (Column 10) yields similar conclusions. Excluding listed and uncompleted buildings (Column 11) leaves results largely unchanged. Columns (12)–(13) examine heterogeneity by proximity to the coast. When the comparison group is restricted to coastal municipalities within Attica (Column 12), the estimated effect becomes larger in magnitude and remains strongly significant, consistent with investor demand being concentrated in coastal and tourism-adjacent areas.[27] By contrast, excluding all coastal municipalities (Column 13) yields an imprecise estimate, consistent with inland areas being less exposed to golden visa demand.

Table 5 provides a complementary check using matched samples to ensure that baseline results are not driven by differences in observable characteristics between treated and control areas. Columns (1)–(2) implement 1:1 municipality-level matching based on pre-reform averages of covariates, while Columns (3)–(4) implement 1:1 transaction-level

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[24]The estimate is also robust to alternative treatments of the statutory zone value control. Re-estimating the baseline specifications (i) excluding *ZoneValue*, (ii) replacing *ZoneValue* with zone-level fixed effects, and (iii) interacting *ZoneValue* with year fixed effects to allow capitalization to vary over time yields quantitatively similar estimates; results are available upon request.

[25]Real estate transactions in Greece are widely reported to take nine to twelve months from agreement to completion; see, for example, Roussanoglou (2024).

[26]This pattern is also supported by the event-study evidence in Figure A2, where coefficients remain close to zero prior to the reform and then fall afterward, confirming both the absence of pre-trends and the gradual nature of the adjustment.

[27]See Patsoulis et al. (2025) for evidence linking golden visa activity to tourism intensity.

matching using property attributes and transaction quarter. Across both approaches, the estimated treatment effect remains negative and close to the baseline.

Arguably, the estimated price effects have clear implications for welfare, although they do not capture the full welfare consequences of the golden visa programme. By raising the investment threshold in selected municipalities, the reform reduces the demand pressure exerted by residency-motivated foreign buyers on properties below the new cutoff, leading to lower transaction prices relative to the counterfactual. This implies a redistribution of surplus away from sellers and toward domestic buyers in treated areas, improving relative affordability without eliminating threshold-induced distortions altogether. At the same time, the observed spatial reallocation of transactions toward untreated municipalities indicates that these gains are unevenly distributed across space, potentially intensifying price pressure in markets that remain eligible under the lower threshold. Importantly, the analysis does not measure changes in foreign-investor surplus, fiscal revenues, or longer-run dynamic effects, and therefore does not permit a full welfare evaluation of the programme. Rather, the results speak to how threshold-based eligibility rules shape price formation and the spatial incidence of housing-market pressures.

Finally, the results are robust to accounting for the concurrent "My Home I" mortgage subsidy programme introduced in 2023. Appendix Table A2 shows that adding an interaction term capturing eligibility for "My Home I" does not materially affect the estimated effect of the golden visa threshold reform.

Table 3: Baseline DiD estimates for Greece and Impacted Municipalities Following the Increase in the Golden Visa Minimum Real Estate Investment Threshold

VARIABLES	Greece			Attica			Thessaloniki			South Aegean		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Treated	0.319***			0.244***			-0.061***			0.462***		
	(0.006)			(0.010)			(0.013)			(0.086)		
Post	0.461***			0.629***			0.488***			0.315***		
	(0.007)			(0.014)			(0.017)			(0.043)		
Treated × Post	0.027**	0.005	0.005	-0.134***	-0.149**	-0.104**	-0.009	-0.035*	-0.017	-0.006	-0.091	0.045
	(0.011)	(0.031)	(0.026)	(0.017)	(0.062)	(0.045)	(0.024)	(0.018)	(0.020)	(0.189)	(0.116)	(0.119)
SquareMeters			0.925***			0.953***			0.907***			0.764***
			(0.013)			(0.008)			(0.024)			(0.059)
AgeCategory 16-30			-0.164***			-0.215***			-0.103***			-0.214***
			(0.017)			(0.023)			(0.016)			(0.058)
AgeCategory 31-45			-0.444***			-0.482***			-0.326***			-0.518***
			(0.028)			(0.036)			(0.039)			(0.060)
AgeCategory 46-60			-0.528***			-0.556***			-0.447***			-0.650***
			(0.023)			(0.032)			(0.035)			(0.092)
AgeCategory ≥61			-0.597***			-0.652***			-0.504***			-0.479***
			(0.026)			(0.030)			(0.029)			(0.099)
AuxiliarySpace			0.137***			0.126***			0.115***			0.159***
			(0.011)			(0.018)			(0.030)			(0.046)
Floor			0.068***			0.070***			0.071***			0.095***
			(0.002)			(0.002)			(0.006)			(0.028)
FrontFaces			0.007*			0.026***			0.021***			-0.093**
			(0.004)			(0.004)			(0.008)			(0.035)
ListedBuilding			0.287***			0.182***			0.299***			0.787***
			(0.085)			(0.065)			(0.057)			(0.140)
UncompletedBuilding			-0.123***			-0.117***			-0.059			-0.128
			(0.018)			(0.023)			(0.051)			(0.087)
ZoneValue			0.619***			0.889***			0.826***			0.195***
			(0.150)			(0.090)			(0.164)			(0.072)
Constant	10.589***	10.902***	2.862**	10.721***	11.101***	0.907	10.678***	10.794***	1.293	10.936***	11.085***	6.861***
	(0.004)	(0.005)	(1.089)	(0.008)	(0.014)	(0.610)	(0.009)	(0.003)	(1.168)	(0.025)	(0.002)	(0.639)
Observations	109,407	109,291	109,240	61,346	61,342	61,311	18,604	18,599	18,591	2,135	2,134	2,133
R-squared	0.094	0.270	0.592	0.078	0.252	0.615	0.082	0.217	0.568	0.043	0.202	0.449
FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes

Notes: The table reports coefficients and standard errors (in parentheses) from estimations using the sample period 2017–2024. The dependent variable is the Ln(transaction value). Definitions of all variables are in Table 1. Estimation method is OLS with fixed effects at municipality and year level as reported in the lower part of the table. Robust standard errors in Columns 1, 4, 7, 10 and clustered by municipality in the rest. The ***, **, and * marks denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Attica Region - Robustness, Placebos and Additional Analyses

VARIABLES	Alternative Fixed Effects			Placebo (Falsification) Tests			Time Window 2021–2024			Additional Analyses			
	Municipality & Quarter FE	Municipal/ Community District & Year FE	Municipal/ Community District & Quarter FE	Post-treatment Period after 2022	Post-treatment Period after 2021	Post-treatment Period after 2022 for Time Window 2020-2023	Post-treatment Period after 2023	Post-treatment Period after 2023H2	Post-treatment Period after 2024	Different Dependent Variable (Transaction Value/m^2)	Exclude Listed & Uncompleted Buildings	Control group is the Attica municipalities with coastal access	Control group is the Attica municipalities without coastal access
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Treated × Post	-0.101** (0.045)	-0.103** (0.041)	-0.100** (0.041)				-0.116** (0.044)			-0.099**	-0.094** (0.043)	-0.197*** (0.040)	-0.023 (0.028)
Treated × Post (2022)				-0.067* (0.034)		0.010 (0.019)							
Treated × Post (2021)					-0.039 (0.034)								
Treated × Post (2023H2)								-0.187*** (0.053)					
Treated × Post (2024)									-0.242*** (0.067)				
Post (2023H2)								0.218*** (0.040)					
SquareMeter	0.952*** (0.008)	0.958*** (0.008)	0.958*** (0.008)	0.953*** (0.008)	0.953*** (0.008)	0.954*** (0.008)	0.937*** (0.010)	0.936*** (0.010)	0.936*** (0.010)		0.962*** (0.008)	0.957*** (0.010)	0.963*** (0.012)
AgeCategory 16-30	-0.215*** (0.023)	-0.211*** (0.016)	-0.212*** (0.016)	-0.214*** (0.022)	-0.213*** (0.022)	-0.182*** (0.022)	-0.165*** (0.017)	-0.166*** (0.017)	-0.166*** (0.017)	-0.200*** (0.022)	-0.177*** (0.025)	-0.221*** (0.025)	-0.221*** (0.025)
AgeCategory 31-45	-0.484*** (0.036)	-0.481*** (0.023)	-0.483*** (0.023)	-0.482*** (0.036)	-0.482*** (0.036)	-0.425*** (0.027)	-0.414*** (0.021)	-0.414*** (0.022)	-0.416*** (0.021)	-0.451*** (0.032)	-0.446*** (0.038)	-0.486*** (0.040)	-0.493*** (0.038)
AgeCategory 46-60	-0.557*** (0.033)	-0.551*** (0.023)	-0.551*** (0.023)	-0.556*** (0.032)	-0.555*** (0.032)	-0.503*** (0.025)	-0.484*** (0.020)	-0.484*** (0.020)	-0.486*** (0.020)	-0.523*** (0.031)	-0.523*** (0.034)	-0.562*** (0.034)	-0.564*** (0.034)
AgeCategory ≥61	-0.653*** (0.031)	-0.636*** (0.024)	-0.637*** (0.024)	-0.652*** (0.030)	-0.653*** (0.030)	-0.620*** (0.021)	-0.595*** (0.017)	-0.594*** (0.017)	-0.595*** (0.017)	-0.618*** (0.031)	-0.619*** (0.032)	-0.661*** (0.030)	-0.657*** (0.035)
AuxiliarySpace	0.125*** (0.018)	0.126*** (0.013)	0.125*** (0.013)	0.126*** (0.018)	0.126*** (0.018)	0.127*** (0.020)	0.125*** (0.020)	0.125*** (0.020)	0.125*** (0.020)	0.123*** (0.018)	0.120*** (0.017)	0.114*** (0.016)	0.118*** (0.018)
Floor	0.070*** (0.002)	0.070*** (0.002)	0.070*** (0.002)	0.070*** (0.002)	0.070*** (0.002)	0.069*** (0.002)	0.070*** (0.002)	0.070*** (0.002)	0.070*** (0.002)	0.069*** (0.002)	0.070*** (0.002)	0.068*** (0.002)	0.069*** (0.002)
FrontFaces	0.026*** (0.004)	0.023*** (0.004)	0.023*** (0.004)	0.026*** (0.004)	0.026*** (0.004)	0.024*** (0.005)	0.017*** (0.006)	0.016*** (0.006)	0.016*** (0.006)	0.027*** (0.004)	0.027*** (0.004)	0.026*** (0.004)	0.026*** (0.004)
ListedBuilding	0.176*** (0.063)	0.151** (0.064)	0.147** (0.063)	0.182*** (0.065)	0.182*** (0.064)	0.298*** (0.089)	0.175*** (0.034)	0.168*** (0.033)	0.173*** (0.035)	0.197** (0.077)		0.177*** (0.064)	0.126*** (0.015)
UncompletedBuilding	-0.117*** (0.023)	-0.125*** (0.029)	-0.124*** (0.029)	-0.116*** (0.023)	-0.115*** (0.023)	-0.137*** (0.029)	-0.065* (0.035)	-0.068* (0.035)	-0.070** (0.034)	-0.136*** (0.025)		-0.078*** (0.025)	-0.117*** (0.024)
ZoneValue	0.891*** (0.090)	0.829*** (0.095)	0.832*** (0.095)	0.890*** (0.090)	0.889*** (0.091)	0.862*** (0.075)	0.881*** (0.062)	0.880*** (0.061)	0.879*** (0.062)	0.907*** (0.096)	0.887*** (0.093)	0.913*** (0.078)	0.908*** (0.085)
Constant	0.894 (0.610)	1.315* (0.675)	1.300* (0.676)	0.898 (0.609)	0.897 (0.619)	1.119** (0.514)	1.163** (0.451)	1.094** (0.457)	1.183** (0.453)	0.599 (0.676)	0.852 (0.629)	0.759 (0.516)	0.716 (0.553)
Observations	61,311	61,275	61,275	61,311	61,311	30,232	33,977	33,977	33,977	61,296	59,060	54,245	54,806
R-squared	0.617	0.620	0.623	0.615	0.615	0.584	0.568	0.569	0.570	0.453	0.610	0.618	0.620
FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports coefficients and standard errors (in parentheses) from estimations using the sample period 2017–2024 or as indicated in the upper part of the table. The dependent variable is the Ln(transaction value) in all Columns and Ln(transaction value per square meter) in Column 10. Definitions of all variables are in Table 1. Upper part of the table indicates each different specification. Estimation method is OLS with fixed effects at municipality and year levels except Columns (1) to (3) as reported in the upper part of the table. Robust standard errors clustered by municipality in all Columns except Columns (2) and (3), where they are clustered by municipal/community district. The ***, **, and * marks denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5: Attica Region - Matching Robustness Checks

| VARIABLES | 1:1 Municipality level match | | 1:1 Transaction level match | |
| | Full time period | Time Window 2021–2024 | Full time period | Time Window 2021–2024 |
	(1)	(2)	(3)	(4)
Treated × Post	-0.126***	-0.149***	-0.133***	-0.123**
	(0.040)	(0.047)	(0.048)	(0.054)
SquareMeters	0.935***	0.926***	0.919***	0.892***
	(0.018)	(0.022)	(0.011)	(0.011)
AgeCategory 16–30	-0.190***	-0.127**	-0.179***	-0.130***
	(0.027)	(0.047)	(0.019)	(0.022)
AgeCategory 31–45	-0.409***	-0.355***	-0.455***	-0.399***
	(0.028)	(0.043)	(0.032)	(0.022)
AgeCategory 46–60	-0.495***	-0.425***	-0.534***	-0.480***
	(0.024)	(0.033)	(0.035)	(0.024)
AgeCategory ≥ 61	-0.644***	-0.609***	-0.672***	-0.650***
	(0.041)	(0.058)	(0.041)	(0.028)
AuxiliarySpace	0.172***	0.167***	0.151***	0.145***
	(0.025)	(0.027)	(0.017)	(0.016)
Floor	0.078***	0.074***	0.080***	0.079***
	(0.004)	(0.005)	(0.005)	(0.004)
FrontFaces	0.038***	0.041***	0.033***	0.041***
	(0.008)	(0.011)	(0.006)	(0.008)
ListedBuilding	0.741***	0.399***	0.387	0.046
	(0.026)	(0.036)	(0.274)	(0.197)
UncompletedBuilding	-0.098	-0.075	-0.075	-0.025
	(0.066)	(0.099)	(0.047)	(0.066)
ZoneValue	0.831***	0.890***	0.736***	0.806***
	(0.138)	(0.155)	(0.121)	(0.125)
Constant	1.313	1.072	2.084**	1.801**
	(0.977)	(1.054)	(0.872)	(0.885)
Observations	11,814	6,845	20,811	12,786
R-squared	0.579	0.508	0.585	0.540
FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: Matching is performed using 1:1 nearest-neighbour propensity-score matching without replacement. Municipality-level matching uses averages of the control variables in the pre-reform year, while transaction-level matching uses property-level control variables together with the transaction quarter. Definitions of all variables are provided in Table 1. The estimation method is OLS with municipality and year fixed effects, and standard errors are clustered at the municipality level. The ***, **, and * marks denote statistical significance at the 1%, 5%, and 10% levels, respectively.

8 Back-of-the-envelope calculation

In the treated municipalities of Attica, the preferred specification in Column 6 of Table 3 implies that post-reform (log) transaction values were approximately 9.5 percent lower relative to the counterfactual evolution in comparable untreated areas.[28] Taking the pre-reform average transaction value of €117,892, this corresponds to a reduction of roughly €11,200 per transaction relative to the counterfactual. Given that approximately 6,315 residential transactions occurred in the treated part of Attica in the post-reform period, the implied reduction in aggregate reported buyer expenditure is about €70.7 million.[29] These figures are based on officially reported transaction values rather than underlying market prices and should therefore be interpreted as an estimate of the change in reported

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[28]Since $\hat{\alpha}_3 = -0.10$, $\exp(-0.10) - 1 \approx -0.095$.

[29]This calculation uses the difference-in-differences estimate, which already nets out price changes common to treated and control municipalities. No additional adjustment is required to account for appreciation in control areas, since that trend is differenced out by construction.

values relative to the counterfactual.[30] While this back-of-the-envelope exercise is not a welfare calculation, it indicates that the reform had economically meaningful effects on transaction values in the most investment-exposed parts of the Athens market.

It is useful to interpret these estimates in the context of what the empirical strategy identifies. The analysis estimates the effect of raising the investment threshold in selected municipalities, relative to a counterfactual in which the golden visa continues to operate with a €250,000 threshold everywhere. The estimates therefore capture the marginal effect of tightening the programme in high-demand areas, rather than the total effect of introducing the golden visa scheme. Consistent with the bunching evidence, the higher threshold attenuates threshold-driven incentives in treated municipalities and slows the pace of price growth relative to control areas. At the same time, municipalities that remain subject to the €250,000 threshold continue to face the original eligibility incentive, and the spatial reallocation patterns documented above suggest that some foreign-buyer activity shifts toward these still-eligible markets. Overall, the reform reshapes the geography of threshold-induced distortions—dampening them in the treated parts of Attica while potentially concentrating activity more sharply in nearby untreated areas.[31]

9 Concluding remarks

Despite growing policy interest in residence-by-investment programmes, empirical evidence on their domestic economic consequences remains limited. Existing studies have largely focused on cross-country adoption patterns or aggregate outcomes, leaving the local market effects of programme design relatively unexplored. By exploiting the sharp increase in Greece's golden visa investment threshold and using detailed administrative transaction data, this paper provides micro-level evidence on how threshold-based residency schemes shape housing price distributions and the spatial allocation of transactions.

The analysis documents pronounced bunching at the eligibility threshold, indicating that in some regions the golden visa programme operates as a salient regulatory constraint in housing markets. Prices cluster both below and above the cutoff, consistent with sellers responding strategically to threshold-induced demand. When the minimum investment requirement is raised selectively across municipalities, these distortions attenuate in treated areas and persist—or intensify—in nearby municipalities where the lower

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[30]A potential concern is that reported transaction values may understate true market prices because of under-reporting for tax purposes. This does not bias the difference-in-differences estimate provided under-reporting is similar across treated and untreated municipalities and does not change differentially after the reform. In that case, the unobserved discount is differenced out, and the estimate captures the relative change in reported values induced by the policy.

[31]Estimating the overall impact of the golden visa programme relative to a counterfactual with no scheme would require pre-programme data or an alternative identification strategy that isolates the programme's original introduction. This lies outside the scope of the present analysis, which focuses on the effects of the threshold increase implemented by the 2022 reform, and is a natural direction for future research.

threshold remains in place. This pattern highlights how changes in programme design reallocate investment activity across space rather than eliminating threshold-driven behaviour altogether. Interestingly, the effects are larger in investor-intensive areas, suggesting that local market conditions play a key role in how the policy operates. Additional evidence shows that bunching behaviour varies little across property characteristics such as age and size. In particular, clustering around the threshold persists even among older dwellings, despite their relatively lower quality and energy performance. This finding suggests that eligibility for residency rights, rather than housing attributes per se, is the primary driver of pricing behaviour near the cutoff.

The analysis is of course subject to several limitations. First, it relies on officially reported transaction values, which may understate true market prices; the estimated effects should therefore be interpreted as conservative. Second, while the difference-in-differences design accounts for differential trends across municipalities, the data do not allow a direct distinction between heterogeneous foreign buyer types or motivations. Third, the study focuses on residential transactions and cannot speak to spillovers into rental markets, construction activity, or longer-run neighbourhood dynamics. These limitations point to several avenues for future research. One promising direction is to examine medium- and long-run outcomes, including resale behaviour and price trajectories of properties acquired under residency programmes. Another concerns the interaction between golden visa schemes and rental markets, particularly in cities facing acute affordability pressures. Access to richer microdata could also allow someone to distinguish between consumption-oriented and investment-oriented foreign buyers, shedding light on behavioural heterogeneity within the investor population. Finally, cross-country comparative work could assess how alternative programme designs such as, for example, how differentiated regional thresholds or non-housing investment options affect both capital inflows and local market outcomes.

More broadly, the findings emphasise the dual nature of golden visa programmes. While they can attract targeted investment inflows, their design features also generate distortions in housing markets, with uneven spatial and distributional consequences. Understanding these mechanisms is essential for informed policy design, particularly in settings where housing affordability concerns are salient.

The results move beyond a purely descriptive characterisation of threshold-induced distortions and point towards a quantitative evaluation of optimal threshold design. While deriving an optimal investment threshold would require explicit modelling of both the benefits of foreign capital inflows and the costs associated with bunching, spatial reallocation, and local price pressures, the empirical estimates provided here—on behavioural responses, bunching magnitudes, and spatial substitution—already deliver the key ingredients needed for such an analysis. Formalising this framework is a natural and important avenue for future research.

From a policy perspective, the analysis suggests that the design of eligibility-based instruments warrants the same degree of economic scrutiny as explicit taxes. Even in the absence of direct price changes, regulatory thresholds can distort market allocations and generate efficiency costs that should be weighed against their intended benefits. We hope to have shown that the results are instructive and merit further investigation.

Appendices

Appendix A documents identification and validation checks for the difference-in-differences design. Appendix B presents robustness analyses for the bunching results, while Appendix C explores heterogeneity in bunching patterns by property characteristics.

Appendix A: Identification and Validation of the DiD Design

Table A1: Municipalities subject to the increase in the golden visa investment threshold

Regions	Municipalities
Attika	**Central Athens:** Athens, Vyronas, Galatsi, Dafni, Ymittos, Zografou, Ilioupoli, Kaisariani, Nea Filadelfeia, Nea Chalkidona. **North Athens:** Agia Paraskevi, Amarousio, Vrilissia, Irakleio, Kifisia, Lykovrysi, Pefki, Metamorfosi, Nea Ionia, Papagou, Cholargos, Penteli, Filothei, Psychiko, Chalandri, Neo Psychiko, Ekali, Melissia, Nea Erythraia, Nea Penteli. **South Athens:** Agios Dimitrios, Alimos, Glyfada, Elliniko–Argyroupoli, Kallithea, Moschato–Tavros, Nea Smyrni, Palaio Faliro. Vari-Voula-Vouliagmeni.
Thessaloniki	Thessaloniki.
South Aegean	Mykonos, Santorini (Thira and Oia).

Notes: These municipalities were subject to an increase in the minimum real estate investment threshold from €250,000 to €500,000. All other municipalities constitute the control group.

Figure A1: Transaction Values for Treated and Control Groups: Local Polynomial Regressions.

(a) Greece

(b) Attica

(c) Thessaloniki

(d) South Aegean
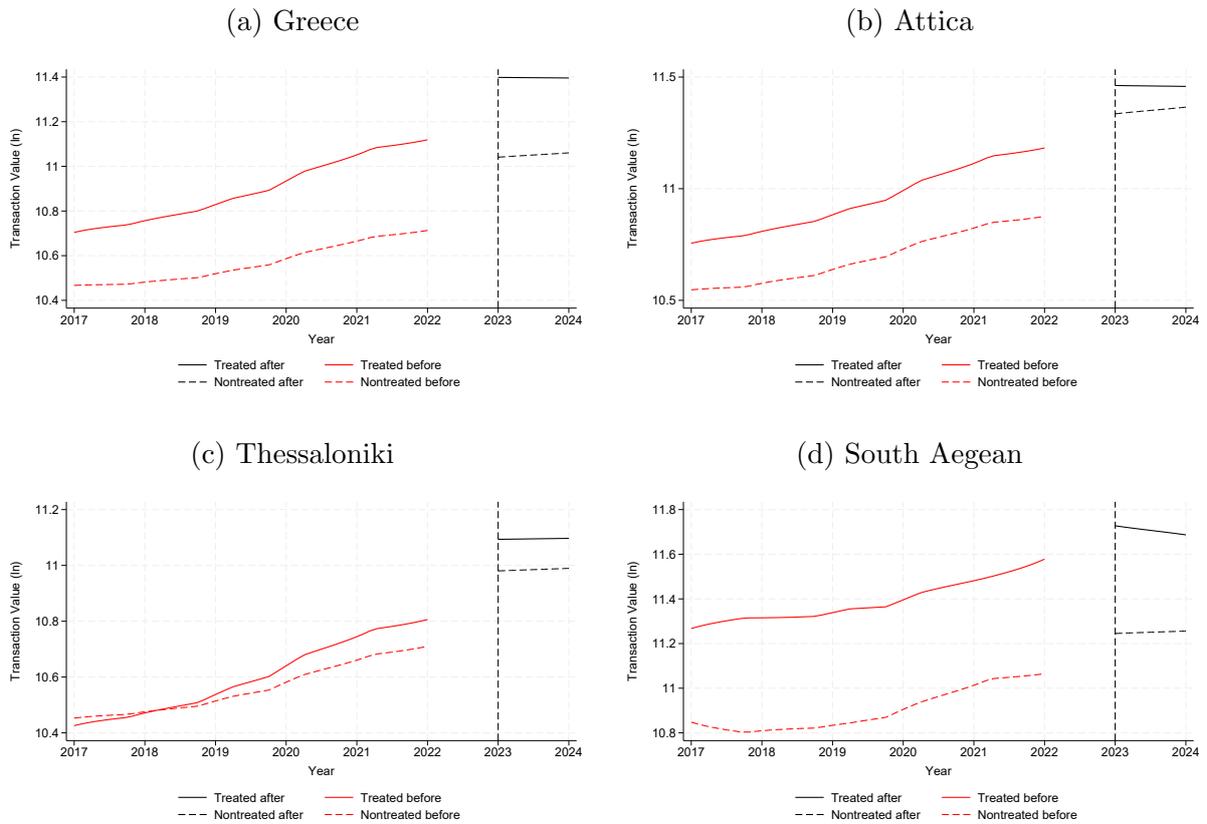
Notes: The figure reports local polynomial regressions of residential transaction values over time for treated and control municipalities. Treated municipalities are those where the minimum real estate investment required for golden visa eligibility increased from €250,000 to €500,000 under Law 5007/2022; control municipalities are those where the threshold remained unchanged. Panels correspond to (a) Greece, (b) Attica, (c) Thessaloniki, and (d) South Aegean. The pre-reform period exhibits broadly parallel trends between treated and control groups, while post-2023 divergence is visible in Attica.

Figure A2: Quarterly Event-Study Estimates of the Golden Visa Reform on Transaction Values for years 2021-2024.
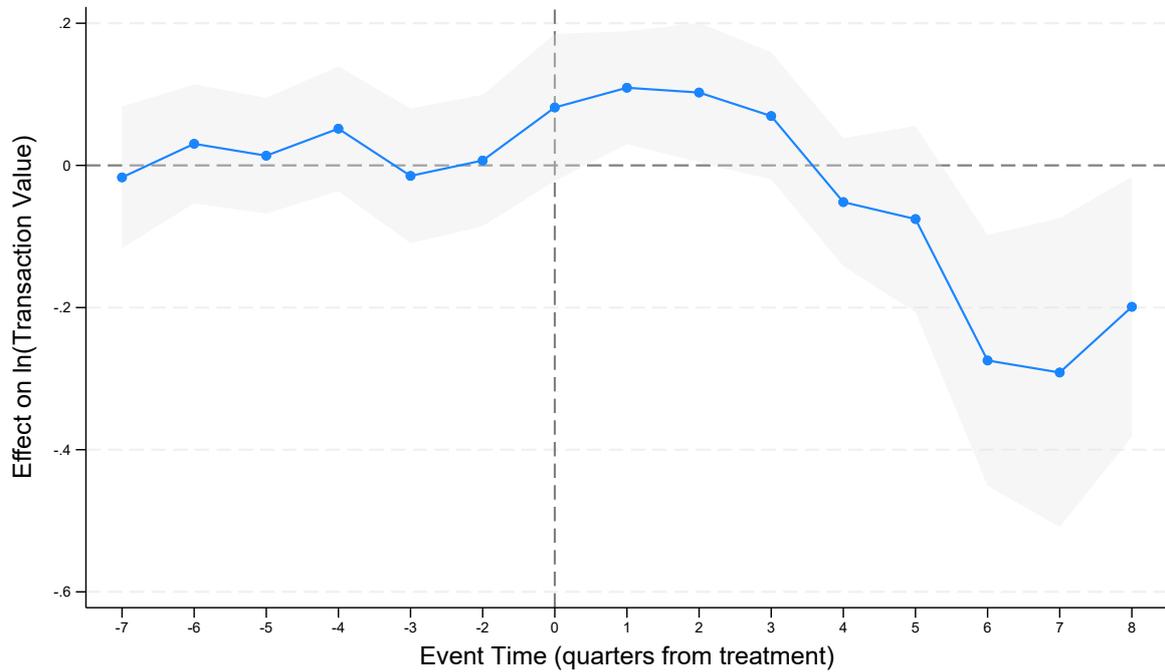
Note: The plot reports event-time coefficients from a specification in which 2022q3 (event time = −1) is the omitted baseline period. All coefficients therefore represent changes in log transaction value relative to the last pre-treatment quarter. The vertical dashed line marks the policy implementation in 2022q4 (event time = 0). Confidence intervals are based on standard errors clustered at the municipal level.

Appendix A1: Robustness to the "My Home I" programme

In 2023, the Greek government introduced the "My Home I" programme as a targeted intervention to address housing affordability challenges faced by younger households. In the context of rising purchase prices, tightening credit conditions, and persistent income constraints, the programme sought to facilitate access to homeownership for individuals aged 25–39 through the provision of subsidised, low-interest mortgage loans. My Home I was positioned as a mechanism to enhance housing affordability, promote homeownership among younger cohorts, and contribute to economic recovery through targeted credit expansion. The programme introduced subsidised mortgages, which provided low- or zero-interest loans to young first-time buyers for the purchase of primary residences priced up to €200,000 and with maximum size 150m^2 and minimum age fifteen years. Although this intervention targets a different segment of the market than the golden visa, it may generate additional demand for relatively small and older units.

To ensure that our estimates are not confounded by this concurrent policy, we augment the baseline specification in equation (9) with a difference-in-differences term for My Home eligibility. Defining $MyHomeEligible_i = 1$ if a transaction satisfies the property criteria of the programme (value $\leq$ €200,000, size $\leq 150\,\mathrm{m}^2$, age ≥ 15 years), we then estimate

$$
\begin{aligned}
P_i = {} & \alpha_0 + \alpha_1 \text{Treated}_i + \alpha_2 \text{Post}_t + \alpha_3 (\text{Treated}_i \times \text{Post}_t) \\
& + \beta_1 \text{MyHomeEligible}_i + \beta_2 (\text{MyHomeEligible}_i \times \text{Post}_t) + X_i + e_i.
\end{aligned}
\tag{10}
$$

The coefficient β_1 captures the average level difference between dwellings that meet the "My Home I" property criteria and the rest of the stock, while β_2 measures the differential post-2023 change in the prices of eligible dwellings relative to non-eligible dwellings. The coefficient of interest, α_3, remains the post-reform differential between treated and control municipalities and therefore continues to identify the effect of the golden visa reform net of the average "My Home I" price shift.[32]

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[32]Additional specifications including the triple interaction term ($\text{Treated}_i \times \text{MyHomeEligible}_i \times \text{Post}_t$) were also estimated. This term allows the price response associated with "My Home I" to differ between golden-visa-treated and control municipalities. The interaction coefficient is small and statistically imprecise, consistent with the limited overlap between the programme's targeted segment and the segment affected by the golden visa threshold. The magnitude of α_3 is not materially affected by the inclusion of this term. For parsimony, and given the absence of institutional motivation for heterogeneous interactions between the two programmes, the corresponding estimates are not reported.

Table A2: Attica Region - Robustness to the "My Home I" programme.

VARIABLES	Full time period (1)	Time Window 2021–2024 (2)
Treated × Post	-0.104***	-0.101***
	(0.035)	(0.032)
MyHomeEligible	-0.707***	-0.775***
	(0.067)	(0.085)
MyHomeEligible × Post	0.020	0.009
	(0.026)	(0.034)
SquareMeters	0.819***	0.761***
	(0.011)	(0.012)
AgeCategory 16–30	0.298***	0.354***
	(0.045)	(0.060)
AgeCategory 31–45	0.072**	0.157***
	(0.034)	(0.053)
AgeCategory 46–60	0.006	0.097*
	(0.034)	(0.051)
AgeCategory ≥61	-0.093***	-0.017
	(0.032)	(0.055)
AuxiliarySpace	0.091***	0.083***
	(0.018)	(0.018)
Floor	0.064***	0.061***
	(0.002)	(0.002)
FrontFaces	0.025***	0.017***
	(0.005)	(0.005)
ListedBuilding	0.113***	0.075***
	(0.028)	(0.021)
UncompletedBuilding	-0.116***	-0.060*
	(0.023)	(0.033)
ZoneValue	0.726***	0.684***
	(0.059)	(0.027)
Constant	2.740***	3.459***
	(0.381)	(0.181)
Observations	61,311	33,977
R-squared	0.656	0.633
FE	Yes	Yes
Controls	Yes	Yes

Notes: The dependent variable is the Ln(transaction value). Definitions
of all variables are provided in Table 1. The estimation method is OLS
with municipality and year fixed effects, and standard errors are clustered
at the municipality level. ***, **, and * denote significance at the 1%,
5%, and 10% levels.

Appendix B: Bunching analysis - Robustness checks.

Figure B1: Bunching Analysis at 500K threshold by treatment status and period.

(a) Greece

(i) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated)

(A) Pre-change	(B) Post-change

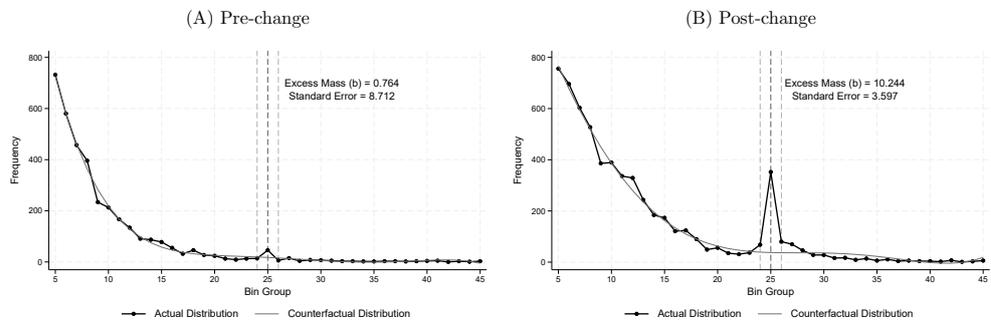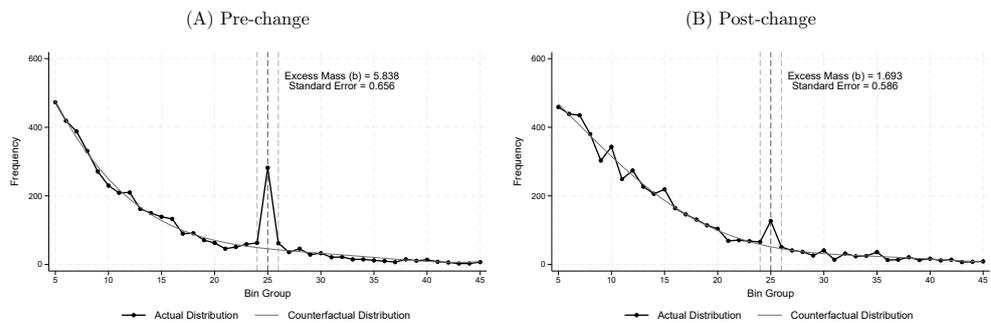(ii) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control)
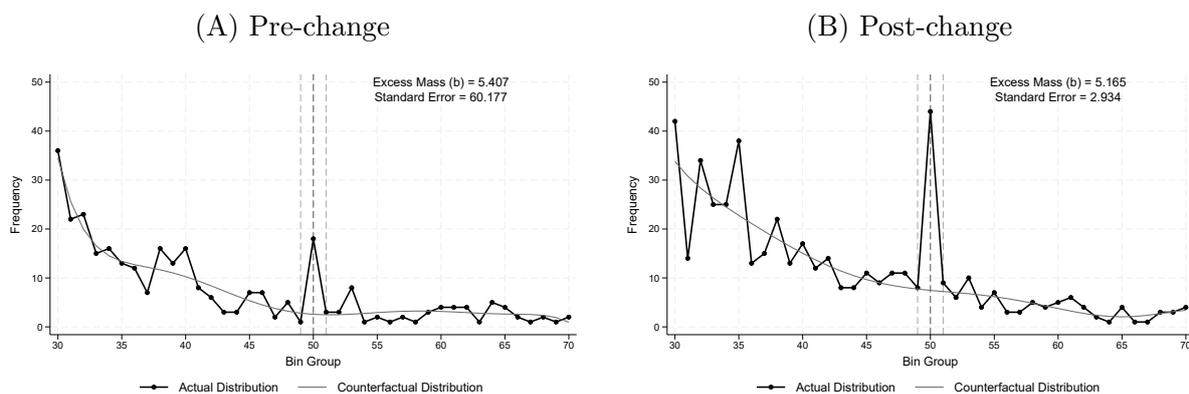
(A) Pre-change	(B) Post-change
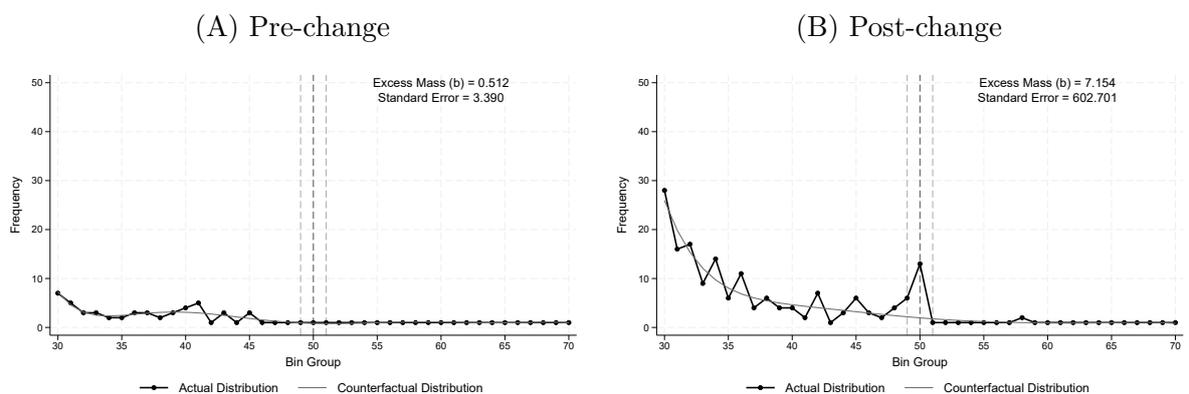
Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy.

Figure B2: Bunching Analysis at €250,000 Threshold by Treatment Status and Period –
Polynomial Degree 5.

(a) Greece

(i) Municipalities where the minimum Golden Visa investment increased to €500,000
(Treated)

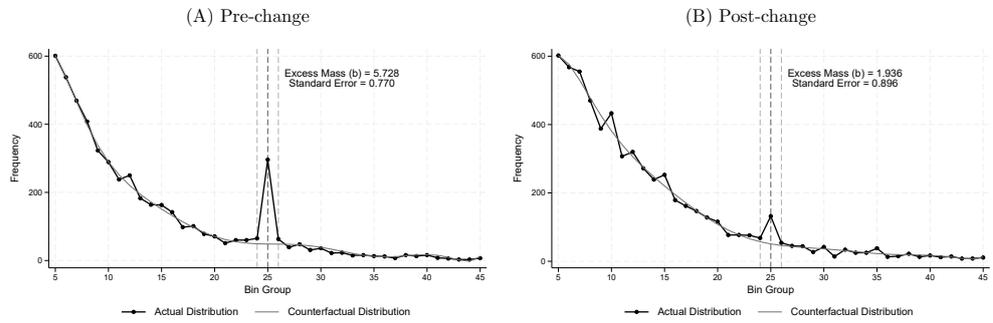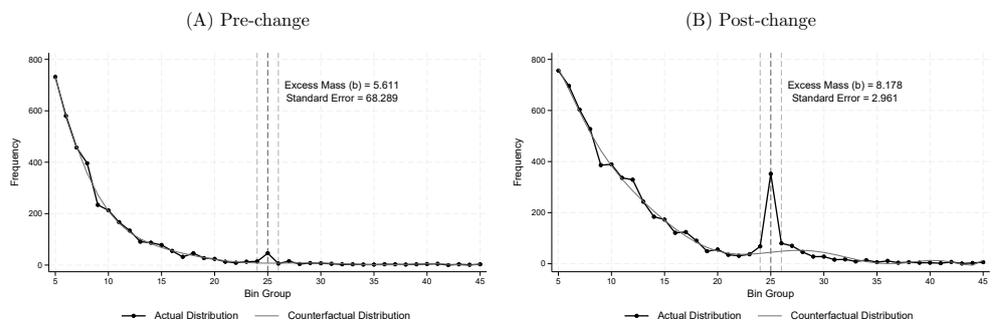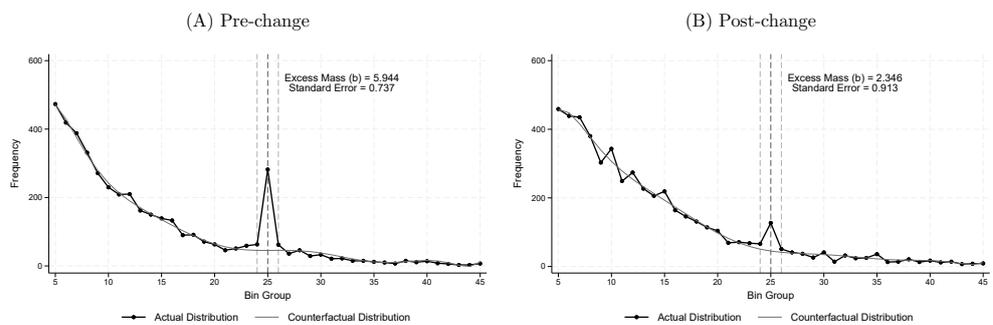(ii) Municipalities where the minimum Golden Visa investment remained at €250,000
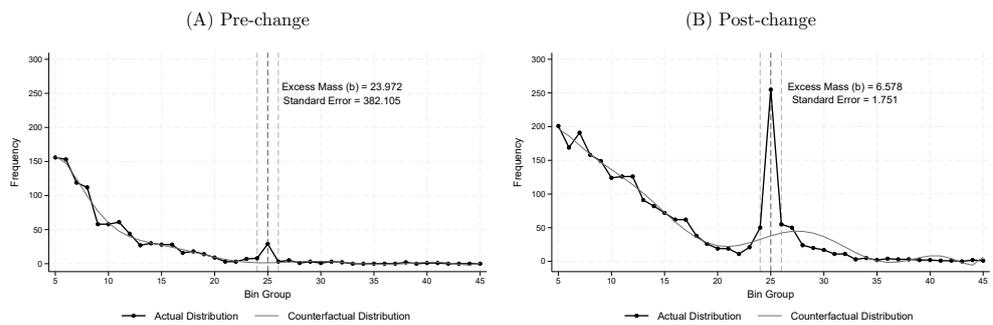(Control)

(b) Attica

(i) Municipalities where the minimum Golden Visa investment increased to €500,000
(Treated)

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000
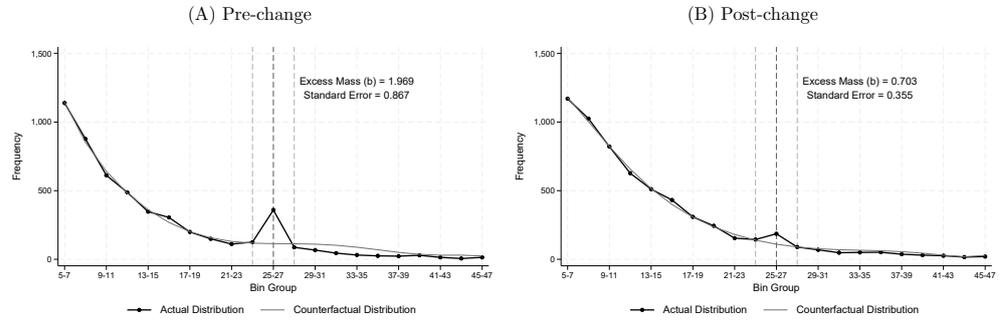(Control)

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of
the policy.

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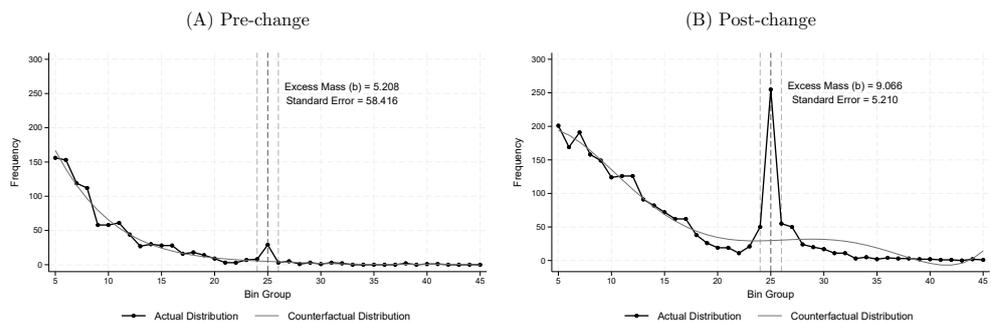
Figure B3: Bunching Analysis at €250,000 Threshold by Treatment Status and Period – Polynomial Degree 9

(a) Greece

(i) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated)

(A) Pre-change

(B) Post-change

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control)

(A) Pre-change

(B) Post-change

(b) Attica

(i) Municipalities where the minimum Golden Visa investment increased to €500,000 (Treated)

(A) Pre-change

(B) Post-change

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000 (Control)

(A) Pre-change

(B) Post-change

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy.
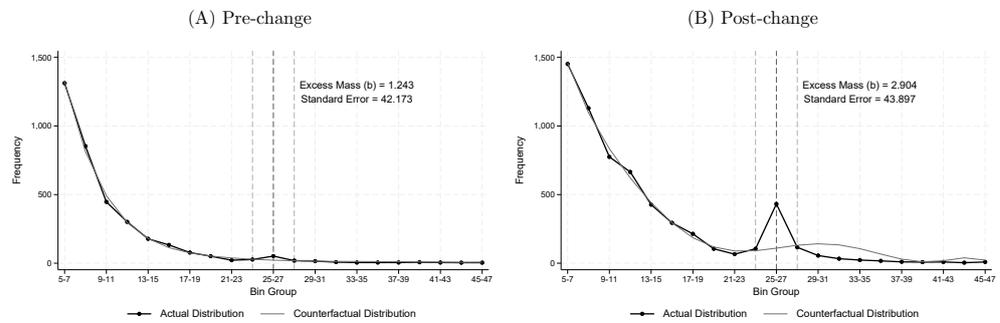
Figure B4: Bunching Analysis at €250,000 Threshold by Treatment Status and Period – Bins of €20.000

(a) Greece

(i) Municipalities where the minimum Golden Visa investment increased to €500,000
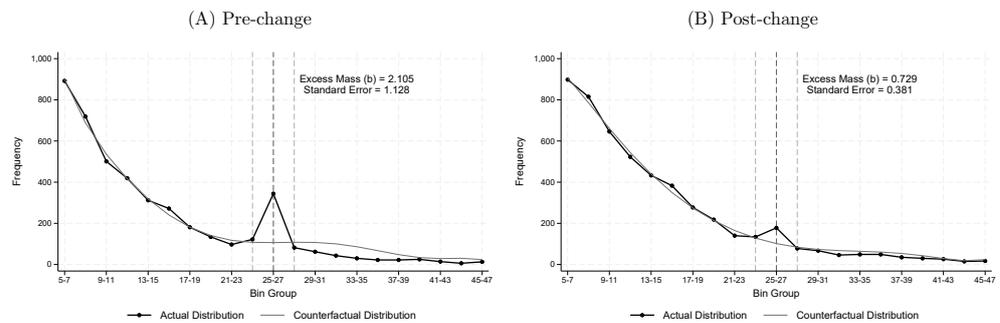(Treated)

(A) Pre-change — (B) Post-change

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000
(Control)

(A) Pre-change — (B) Post-change

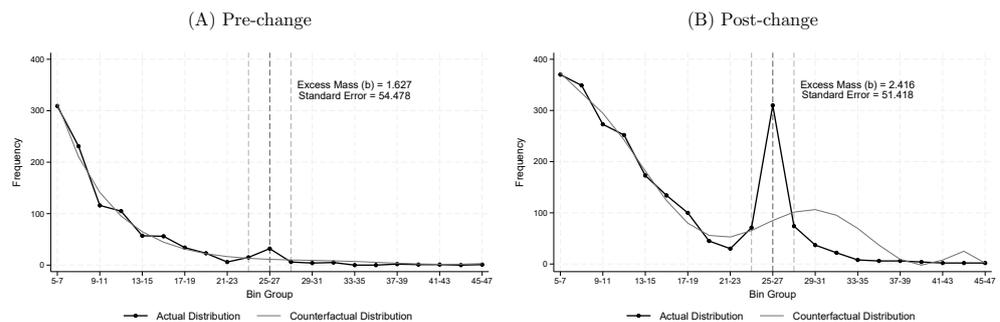### (b) Attica

(i) Municipalities where the minimum Golden Visa investment increased to €500,000
(Treated)

(A) Pre-change — (B) Post-change
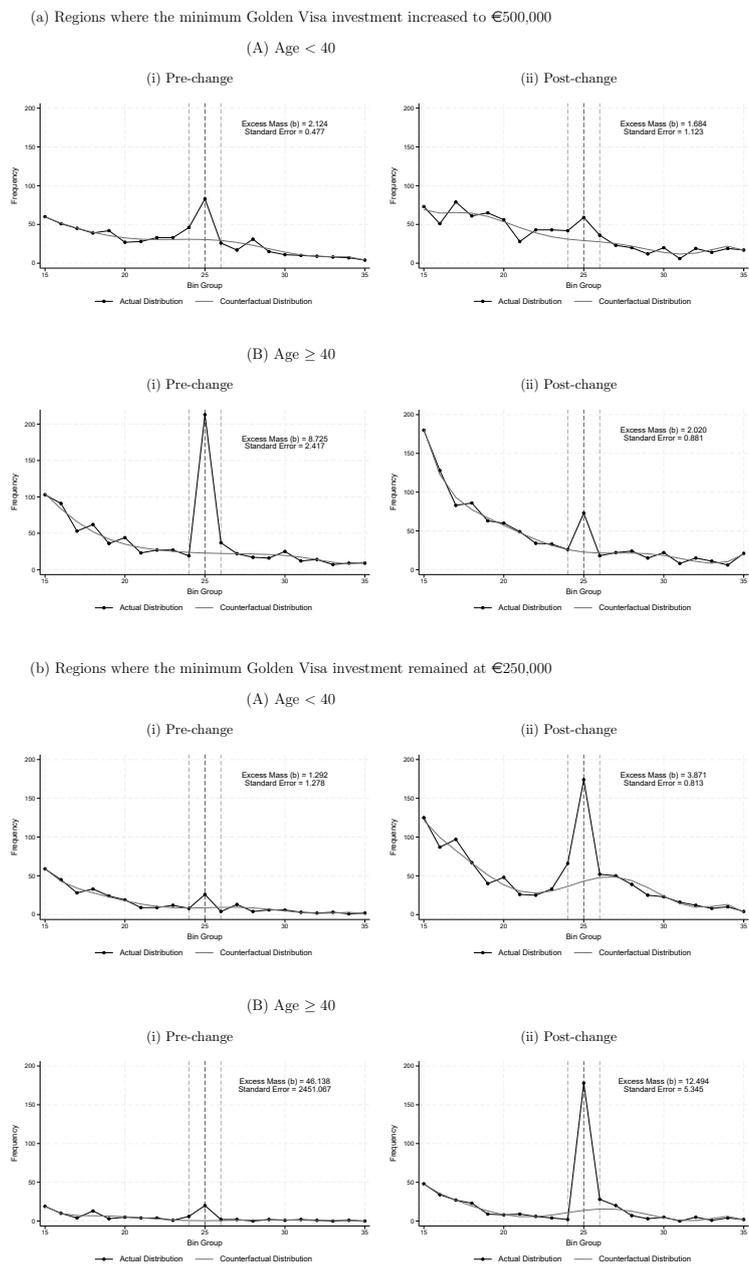

(ii) Municipalities where the minimum Golden Visa investment remained at €250,000
(Control)

(A) Pre-change — (B) Post-change

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy.

Appendix C: Bunching Heterogeneity by Property Characteristics

Figure C1: Bunching Analysis at €250,000 Threshold by Two Apartment Age Categories — Greece

(a) Regions where the minimum Golden Visa investment increased to €500,000

(A) Age < 40

(B) Age ≥ 40

(b) Regions where the minimum Golden Visa investment remained at €250,000

(A) Age < 40

(B) Age ≥ 40

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy. Estimation is conducted using 10 bins below and 10 bins above the threshold bin due to increased sparsity of transactions near the cutoff.

Figure C2: Bunching Analysis at €250,000 Threshold by Three Apartment Age Categories — Greece
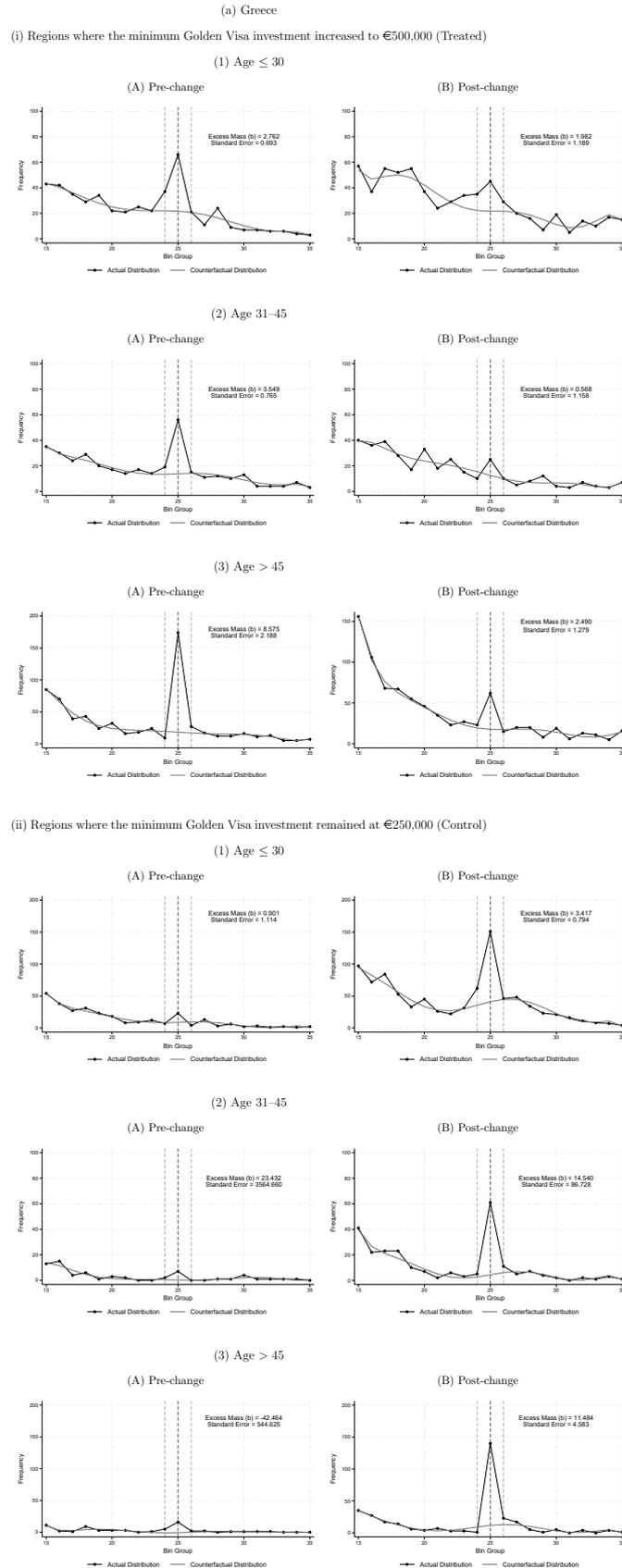
(a) Greece

(i) Regions where the minimum Golden Visa investment increased to €500,000 (Treated)

(1) Age ≤ 30

(2) Age 31–45

(3) Age > 45

(ii) Regions where the minimum Golden Visa investment remained at €250,000 (Control)
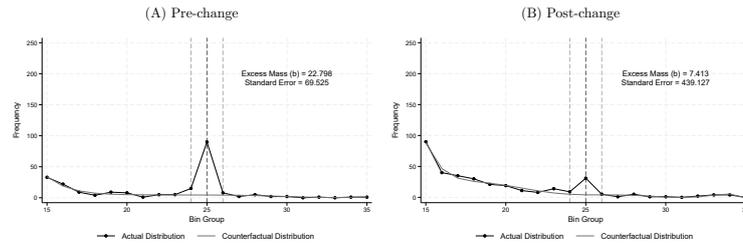
(1) Age ≤ 30

(2) Age 31–45

(3) Age > 45

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy. Estimation is conducted using 10 bins below and 10 bins above the threshold bin due to increased sparsity of transactions near the cutoff.
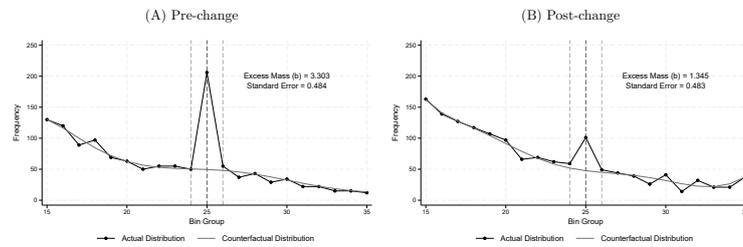
Figure C3: Bunching Analysis at €250,000 Threshold by Two Apartment Size Categories — Greece

(i) Regions where the minimum Golden Visa investment increased to €500,000 (Treated)

(1) Size < 70 sqm

(2) Size ≥ 70 sqm

(ii) Regions where the minimum Golden Visa investment remained at €250,000 (Control)

(1) Size < 70 sqm
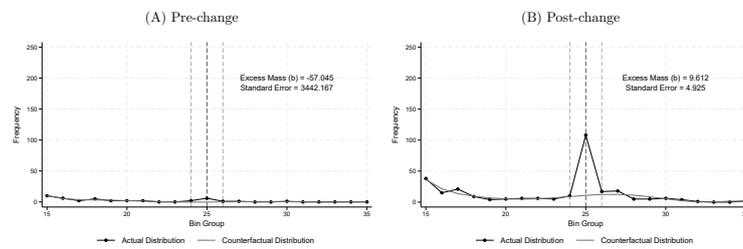
(2) Size ≥ 70 sqm
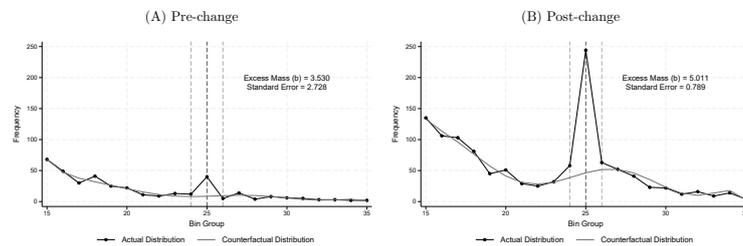
Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy. Estimation is conducted using 10 bins below and 10 bins above the threshold bin due to increased sparsity of transactions near the cutoff.

Figure C4: Bunching Analysis at €250,000 Threshold by Three Apartment Size Categories— Greece

(i) Regions where the minimum Golden Visa investment increased to €500,000 (Treated)

(1) Size ≤ 50 sqm

(A) Pre-change

Excess Mass (b) = 12.741
Standard Error = 79.883

(B) Post-change

Excess Mass (b) = 13.732
Standard Error = 1123.124

(2) Size 50–100 sqm

(A) Pre-change

Excess Mass (b) = 7.711
Standard Error = 0.818

(B) Post-change

Excess Mass (b) = 3.457
Standard Error = 1.052

(3) Size > 100 sqm

(A) Pre-change

Excess Mass (b) = 2.070
Standard Error = 0.691

(B) Post-change

Excess Mass (b) = 0.105
Standard Error = 0.495

(ii) Regions where the minimum Golden Visa investment remained at €250,000 (Control)

(1) Size ≤ 50 sqm

(A) Pre-change

Excess Mass (b) = -14.983
Standard Error = 93.666

(B) Post-change

Excess Mass (b) = 3.789
Standard Error = 3.121

(2) Size 50–100 sqm

(A) Pre-change

Excess Mass (b) = 11.594
Standard Error = 124.890

(B) Post-change

Excess Mass (b) = 8.126
Standard Error = 1.322

(3) Size > 100 sqm

(A) Pre-change

Excess Mass (b) = 1.697
Standard Error = 4.146

(B) Post-change

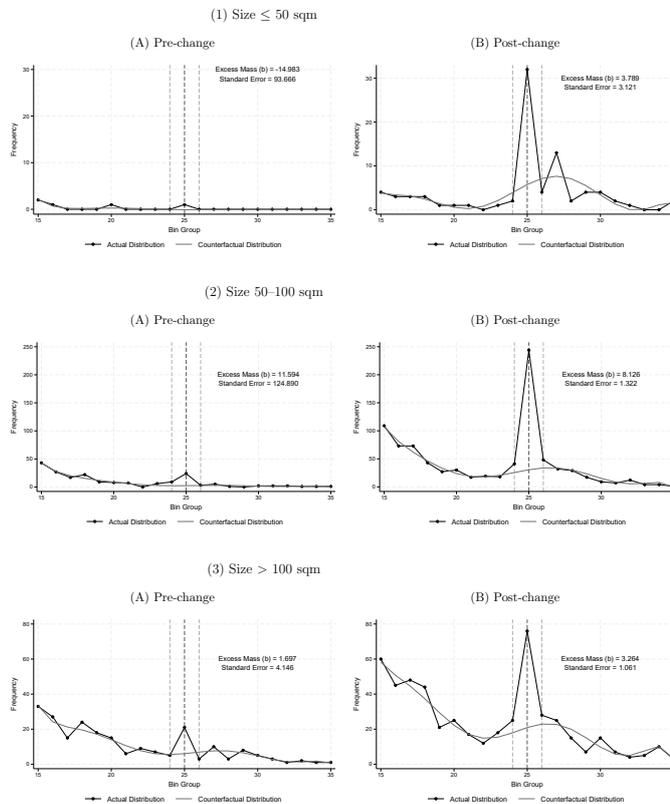Excess Mass (b) = 3.264
Standard Error = 1.061

Note: "Pre-change" refers to 2022; "Post-change" refers to 2024, one year after the implementation of the policy. Estimation is conducted using 10 bins below and 10 bins above the threshold bin due to increased sparsity of transactions near the cutoff.

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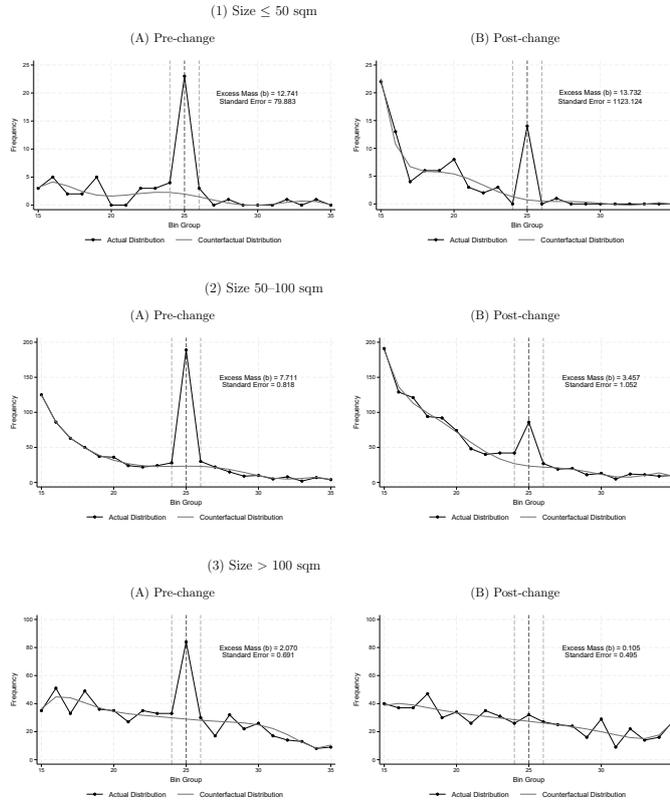
References

Adams, L., C. Kotsogiannis, and X. Zhang (2019). An evaluation of the 2008–2009 stamp duty holiday in Wales. Policy analysis report, Tax Administration Research Centre (TARC), University of Exeter.

Ahrens, L., L. Hakelberg, and T. Rixen (2022). A victim of regulatory arbitrage? automatic exchange of information and the use of golden visas and corporate shells. *Regulation & Governance 16*(3), 653–672.

Banzhaf, H. S. (2021). Difference-in-differences hedonics. *Journal of Political Economy 129*(8), 2385–2414.

Bertrand, M., E. Duflo, and S. Mullainathan (2004). How much should we trust differences-in-differences estimates? *The Quarterly Journal of Economics 119*(1), 249–275.

Besley, T., N. Meads, and P. Surico (2014). The incidence of transaction taxes: Evidence from a stamp duty holiday. *Journal of Public Economics 119*, 61–70.

Best, M. C. and H. J. Kleven (2017, 06). Housing market responses to transaction taxes: Evidence from notches and stimulus in the U.K. *The Review of Economic Studies 85*(1), 157–193.

Chetty, R., J. N. Friedman, T. Olsen, and L. Pistaferri (2011). Adjustment costs, firm responses, and micro vs. macro labor supply elasticities: Evidence from Danish tax records. *Quarterly Journal of Economics 126*(2), 749–804.

Clapp, J. M. and K. Salavei (2010). Hedonic pricing with redevelopment options: A new approach to estimating depreciation effects. *Journal of Urban Economics 67*(3), 362–377.

Clerides, S., M. Coelho, A. Klemm, and C. Kotsogiannis (2025). Drivers and effects of residence and citizenship by investment. Working paper no. 2025/008, IMF.

Eurostat (2025). Gross domestic product (GDP) at current market prices by NUTS 2 region. Online data code: nama_10r_2gdp. https://ec.europa.eu/eurostat/databrowser/view/nama_10r_2gdp/default/table?lang=en.

Eurostat (2026a). Average size of dwelling by household composition and degree of urbanisation. Online data code: ilc_lvho31. DOI: 10.2908/ilc_lvho31. https://ec.europa.eu/eurostat/databrowser/view/ilc_lvho31/default/table?lang=en.

Eurostat (2026b). Gross domestic product (GDP) and main components (output, expenditure and income). Online data code: nama_10_gdp. DOI: 10.2908/nama_10_gdp. https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp/default/table?lang=en.

Foremny, D., Z. Li, C. Martinez-Toledano, and M. Segu (2025, May). Golden visas and real estate markets. SSRN Scholarly Paper 5347820, Social Science Research Network.

Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics 225*(2), 254–277.

Khoshnoud, M., G. S. Sirmans, and E. N. Zietz (2023). The evolution of hedonic pricing models. *Journal of Real Estate Literature 31*(1), 1–47.

Kleven, H. J. (2016, Oct). Bunching. *Annual Review of Economics 8*(1), 435–464.

Kleven, H. J. and M. Waseem (2013). Using notches to uncover optimization frictions and structural elasticities: Theory and evidence from Pakistan. *Quarterly Journal of Economics 128*(2), 669–723.

Kopczuk, W. and D. Munroe (2015, May). Mansion tax: The effect of transfer taxes on the residential real estate market. *American Economic Journal: Economic Policy 7*(2), 214–57.

Langenmayr, D. and Zyska (2023). Escaping the exchange of information: Tax evasion via citizenship-by-investment. *Journal of Public Economics 221*, 104865.

Lechner, M. (2010). The estimation of causal effects by difference-in-difference methods. *Foundations and Trends in Econometrics 4*, 165–224.

Lee, S. R. and B. Glennon (2023). The effect of immigration policy on founding location choice: Evidence from canada's start-up visa program. NBER Working Paper 31634, National Bureau of Economic Research.

Malpezzi, S. (2003). Hedonic pricing models: a selective and applied review. In *Housing economics and public policy*, Volume 1, pp. 67–89.

Ministry of Migration and Asylum (n.d.). Statistics. https://migration.gov.gr/en/statistika/. Government of Greece.

Patsoulis, P., K. Eleftheriou, and C. Alexakis (2025). Golden visa programs and tourism receipts. *Annals of Tourism Research 111*, 103902.

Pereira dos Santos, J. and K. Strohmaier (2024). All that glitters? Golden visas and real estate. EU Tax Observatory Working Paper no. 23.

Petridi, C. (2022). Golden Visa Programme. Eteron. https://eteron.org/en/golden-visa-programme/. Accessed 2025-11-27.

Roussanoglou, N. (2024). Year-long house sale process. eKathimerini. https://www.ekathimerini.com/economy/real-estate/1256965/year-long-house-sale-process/. Accessed 2025-11-20.

Saez, E. (2010). Do taxpayers bunch at kink points? *American Economic Journal: Economic Policy 2*(3), 180–212.

Siatitsa, D. and T. Maloutas (2025). Growing unaffordability in the market-driven housing system of greece. In B. Egner and M.-C. Krapp (Eds.), *Housing in Crisis: Policies and Challenges in Europe*, pp. 101–119. Springer Nature Switzerland.

Sirmans, S., D. Macpherson, and E. Zietz (2005). The composition of hedonic pricing models. *Journal of Real Estate Literature 13*(1), 1–44.

Surak, K. and Y. Tsuzuki (2021). Are golden visas a golden opportunity? Assessing the economic origins and outcomes of residence by investment programmes in the eu. *Journal of Ethnic and Migration Studies 47*(15), 3367–3389.

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