

Burdens or Builders? Housing Market Effects of Afghan Refugees in Iran

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Abstract

Large refugee inflows expand demand in the host country's housing market, increasing rents for natives when supply is slow to adjust. We revisit the "burden" narrative in a setting where refugees also reduce construction costs by supplying low-cost labor. We study the impact of the approximately three-million-person inflow of Afghan refugees to Iran following the Taliban's 2021 takeover. Employing an instrumental-variables difference-in-differences (IV-DiD) design, we find no significant effects on housing expenditures and, using provincial construction records, present evidence that stronger supply responses in refugee-exposed provinces mitigated upward pressure on housing costs. The theoretical framework we develop formalizes conditions under which opposing demand and supply forces can offset one another.

Keywords: Forced Migration, Housing Market, Construction Sector
JEL codes: J15, J61, R31

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1 Introduction

International migration reshapes host economies through multiple channels. On the demand side, arrivals increase consumption of housing, goods, and local services, raising prices in sectors with limited short-run supply elasticity. On the supply side, migrants expand the labor force, alter the skill mix, influence wages, and can reduce production costs when they are willing to work at lower wages than native workers. Housing markets sit at the intersection of these forces: inflows boost demand for units and location amenities, while construction costs may fall where migrants enter building trades at scale. The net impact therefore depends on the elasticities of labor supply, construction, and land use, as well as institutional features such as zoning, permitting, and rental regulation.

In the special case of forced displacement, refugee inflows are sudden, large in scale, and often directed toward host economies with limited capacity. These shocks also generate sharp cross-regional differences in exposure, depending on entry points, pre-existing networks, and labor-market absorptive capacity. As a result, the short-run incidence of forced-migration inflows often falls on housing costs, with medium-run outcomes mediated by supply responsiveness, time-to-build frictions, and policy constraints.

This paper studies a setting where refugees, while increasing demand for housing, also contribute to supply by lowering construction costs through additional labor. After the 2021 Taliban takeover, Iran received nearly three million Afghan refugees, creating a sudden shock to housing demand. At the same time, Afghan migrants—estimated to constitute about 60–70 percent of construction workers in Iran—have been central to the country’s housing supply. Using the Household Expenditure and Income Survey (HEIS) alongside provincial construction data, we find that the inflow did not substantially raise housing costs relative to comparable contexts, as a substantial expansion in residential construction offset what would otherwise have been upward pressure on rents.

We develop a simple two-sector model in which refugees supply labor to the construction sector while simultaneously increasing demand for housing and the consumption good. The model predicts that when a sufficiently large share of refugees is employed in construction, the resulting supply response can offset the demand effect, yielding muted or negligible changes in rents. This implies that greater refugee employment in construction should ex-

pand the residential housing supply and mitigate upward pressure on rents.

Empirically, the paper examines both sides of the market. First, using HEIS data, we estimate how Afghan inflows affected Iranian households' spending across major expenditure categories. Second, using provincial construction-permit data, we assess how these same inflows influenced housing-supply indicators such as permits issued, land area, floor space, and the number of residential units. For both analyses, we employ an instrumental-variables difference-in-differences (IV-DiD) design to address the endogeneity of refugee settlement. The first instrument is a shift-share measure based on the 1996 distribution of Afghans across provinces. The second instrument exploits a 2007 regulation issued by Iran's High National Security Council that prohibited Afghan residence in sixteen of the country's thirty provinces, creating policy-driven variation. Together, these instruments generate plausibly exogenous differences in post-2021 refugee exposure across provinces.

The results reveal a nuanced picture. On the household side, neither the baseline nor the IV-DiD estimates show a statistically significant increase in housing expenditures or other major consumption categories following the inflow. Housing quality indicators, such as the number of rooms and floor area, remain unchanged as well. The only consistent adjustment occurs in transportation expenditures, which decline in more exposed provinces. This pattern suggests that households responded along flexible, non-housing margins rather than facing broad inflationary pressures or reductions in living standards.

The supply-side analysis offers a likely explanation for this muted demand response. Provinces with higher Afghan exposure exhibit clear increases in construction-related activity after 2021. The IV estimates reveal statistically significant growth in both total and residential permits, indicating that more-exposed provinces accelerated the housing production process. Given that labor accounts for a large share of construction costs (often 20–40 percent of construction budgets) and Afghans constitute a substantial fraction of the sector's workforce, the inflow appears to have eased labor constraints and enabled these provinces to expand construction capacity.

The evidence points to two opposing forces operating simultaneously: an inflow that could have raised demand for housing, and a supply-side expansion that grew rapidly enough to absorb it. The resulting equilibrium effect is small, consistent with the model's prediction that strong refugee participation in construction can neutralize price pressures. This mech-

anism highlights the role of labor-market absorption in shaping housing outcomes during refugee shocks and suggests that forced migration need not translate into rising rents when newcomers directly contribute to housing production.

Related Literature. This study contributes to a growing body of research examining the multifaceted consequences of forced migration for host societies. Existing work has explored how refugee inflows affect labor markets ([Altındağ, Bakış, and Rozo, 2020](#)), health outcomes ([Ibáñez, Rozo, and Urbina, 2021](#)), and political behavior ([Rozo and Vargas, 2021](#)), as well as social and behavioral responses among natives ([Chatruc and Rozo, 2024](#)). Recent contributions have further demonstrated that migration policies can shape demographic and behavioral margins: [Amuedo-Dorantes, Ibáñez, Rozo, and Traettino \(2024\)](#) documents how the regularization of immigrant status influences fertility decisions, [Ibáñez, Rozo, and Bahar \(2020\)](#) shows that legal regularization affects crime reporting patterns among migrants, and [Ibáñez, Moya, Ortega, Rozo, and Urbina \(2024\)](#) looks for the same regularization effects on general well-being of immigrants.

A second strand of research studies immigration's effects on housing markets. Classic work by [Saiz \(2003\)](#) and [Saiz \(2007\)](#) finds that immigration raises rents and house prices, particularly where land and supply are inelastic. Similar patterns emerge elsewhere: [Gonzalez and Ortega \(2013\)](#) for Spain, [Akgündüz, Hacıhasanoğlu, and Yılmaz \(2023\)](#) for Turkey, and [Trojanek and Gluszak \(2022\)](#) for Poland, where refugee inflows led to rent increases of up to 17%. These studies highlight migration's demand-side channel, whereas this paper asks whether Iran's experience differs due to refugees' direct contribution to housing supply.

Finally, this work contributes to an emerging literature on the productive role of immigrant labor. [Howard, Wang, and Zhang \(2024\)](#) show that deportations in U.S. counties reduced homebuilding and increased housing costs, while [Lin and Peri \(2025\)](#) document that the exclusion of Japanese farmers led to sharp declines in agricultural output. These studies underscore that immigrants are not only consumers but also essential contributors to production. By focusing on Afghan refugees—who constitute a substantial share of Iran's construction workforce—our study bridges the forced-migration and housing-market literatures through a joint analysis of demand and supply channels in a developing-country setting that has experienced one of the largest refugee inflows of recent decades.

Among these studies, [Rozo and Sviatschi \(2021\)](#) stands out as the most relevant to our paper. Their analysis of Syrian refugees in Jordan shows that large inflows increased housing expenditures and rents, particularly in areas near camps where construction was restricted. We implement an alternative identification strategy¹ to study the impact of Afghan refugees on both sides of the housing market. Our quarterly provincial construction-permit data enable us to assess how the inflow affected housing supply in more exposed provinces, and to examine on the demand side whether the concentration of Afghan refugees in construction mitigated upward pressure on rents and house prices.

The paper is structured as follows. [Section 2](#) provides background on the 2021 Afghan displacement, the role of Afghan labor in the construction sector, and the data that allow us to study both household expenditures and building activity. [Section 3](#) develops a theoretical framework that highlights how a refugee inflow can generate offsetting demand and supply forces in the housing market. [Section 4](#) outlines the empirical strategy, while [Section 5](#) and [Section 6](#) present the main results and robustness checks. [Section 7](#) offers a brief discussion of policies concerning Afghan migrants in the aftermath of the Iran–Israel conflict. [Section 8](#) concludes.

2 Background and Data

2.1 Taliban Takeover, Refugees, and Iran

In mid–2021 Afghanistan experienced a sudden and exceptionally fast political and military collapse. After the announcement and then the implementation of the U.S. and NATO withdrawal, the Taliban launched a countrywide offensive in the spring and summer of 2021, capturing most provincial capitals in a matter of weeks, often through negotiated surrenders

¹Our identification strategy differs from that of [Rozo and Sviatschi \(2021\)](#), who exploit geographic variation in Jordanian provinces’ proximity to refugee camps. Specifically, they use distance to refugee camps as a source of quasi-experimental variation, arguing that locations closer to camps experienced larger inflows of Syrian refugees due to mobility restrictions and settlement patterns within Jordan. This spatial discontinuity allows them to compare housing markets near and far from camps, under the assumption that distance is unrelated to pre-existing housing market trends. In contrast, we implement an instrumental-variables difference-in-differences (IV–DiD) design based on pre-2021 Afghan settlement patterns and policy-driven restrictions on Afghan residence across Iranian provinces. This approach leverages temporal shocks in refugee inflows and cross-sectional variation in predicted exposure, rather than spatial proximity to camps, to identify causal effects.

rather than prolonged fighting. The advance culminated on 15 August 2021, when Taliban forces entered Kabul and President Ashraf Ghani left the country, bringing the twenty-year Republic to an abrupt end ([Council on Foreign Relations, 2023](#); [UK House of Lords Library, 2021](#)). The key feature of this episode for our purposes is its *speed*: international agencies and even U.S. intelligence had anticipated a government fall over several months, but the actual collapse took place in days, creating what was effectively a sudden and largely unanticipated political shock.

The takeover immediately generated fears of persecution, economic breakdown, and loss of basic freedoms, especially for women and for people associated with the previous government, foreign forces, or civil society. As a result, large numbers of Afghans tried to leave the country at once. While the images from Kabul airport captured the world's attention, the bulk of displacement happened in the more ordinary way it has always happened in Afghan crises: through land borders into neighbouring countries, especially Pakistan and Iran. UNHCR's Afghanistan situation reports note that, alongside the millions of Afghans already abroad, hundreds of thousands of new arrivals were recorded in Iran and Pakistan after August 2021, on top of conflict-induced internal displacement inside Afghanistan ([Migration Policy Institute, 2022](#)).

What makes Iran central to this story is that it was already one of the two main destinations for Afghans before 2021. Since the first Soviet invasion in 1979, Iran has hosted successive waves of Afghan refugees, so that by the late 2010s it was routinely listed by UNHCR among the world's largest refugee-hosting countries. In 2024–25 UNHCR and affiliated sources report roughly 3–3.7 million Afghans of different legal statuses in Iran (Amayesh card holders, other documented categories, and a large number of undocumented or newly arrived Afghans), making Iran the single largest host of Afghans in the world ([European Union Agency for Asylum, 2023](#)). This long presence means that the 2021 inflow did not arrive in a vacuum: it was layered on top of a four-decade history of Afghan migration to Iran driven by war in Afghanistan and modulated by Iran's own regularization schemes, such as the Amayesh system introduced in the early 2000s ([Encyclopaedia Iranica, 2020](#)).

Because this population is mostly urban and of working age ([Figure 1](#)), and is gender-balanced unlike many other forced-migration instances ([Figure 2](#)), Afghans in Iran have been pulled into labour-market segments with high demand and low entry barriers. Under the

Amayesh system, work permits restrict Afghans to a narrow set of labour-intensive occupations, making construction one of the few sectors they can legally—or informally—enter. Consistent with this institutional structure, Iranian and international studies show that the construction sector has long relied on Afghan workers, who often accept physically demanding work, informal contracts, and lower wages than Iranian workers ([Clingendael – Netherlands Institute of International Relations, 2025](#); [Moughari, 2008](#)). These studies also note that construction is among the sectors most visibly affected when Afghans are expelled or deported, underscoring its dependence on their labour. This setting makes construction a natural channel through which refugee inflows can influence both housing supply and, indirectly, housing prices. [Figure 3](#) illustrates the fact documented by [Hoseini and Dideh \(2022\)](#) that Afghan refugees in Iran have historically been highly concentrated in the construction sector.

2.2 Data

The empirical analysis combines several datasets that together allow for a comprehensive examination of both the demand and supply sides of Iran’s housing market in response to the post-2021 inflow of Afghan refugees. All data sources are compiled from the Statistical Center of Iran (SCI) and the United Nations High Commissioner for Refugees (UNHCR).

The primary dataset for the demand-side analysis is the *Household Expenditure and Income Survey* (HEIS), an annual nationally representative survey conducted by the SCI. The HEIS provides detailed information on household demographics (e.g. number of household members, gender and marriage status of household head), income, and expenditures across categories such as housing, food, durables, transportation, and education. For this study, the main outcome of interest is household housing expenditure—measured as the rent paid by tenant households or the *imputed rental* value for owner-occupiers. The sample includes data from 2018 to 2023, covering both the pre- and post-2021 periods surrounding the Taliban takeover. The survey also contains rich demographic controls such as household size, number of dependents, education and marital status of the household head, number of income earners, and indicators of urbanization, which are used in our analysis as control variables.

In addition to expenditure measures, the HEIS provides information on the physical quality of the dwelling. Two variables in particular — the *number of rooms* and the *floor area of the*

unit — serve as standard indicators of housing quality. Including these outcomes in the analysis allows us to examine whether the post-2021 Afghan inflow affected the size or quality of dwellings occupied by Iranian households, beside changes in housing expenditures. These variables help capture adjustments in living conditions, such as changes in crowding or usable space, that may not be reflected directly in rental or imputed rent values. The survey also provides official household sampling weights, which are used in all empirical analyses.

To capture variation in refugee presence across provinces, we draw on the *Labor Force Survey* (LFS), the only dataset in Iran that records respondents' nationality. Aggregated to the province–year level, the LFS provides both the number and the share of Afghan nationals in the population, which we use as our primary measure of actual refugee exposure.

Our supply-side analysis uses administrative data from the Statistical Center of Iran (SCI) on construction permits issued at the province level. These quarterly records provide information on the number of permits and measures of construction scale—specifically, land area, floor space, and the number of units approved in those permits. Because permits authorize new construction rather than capture existing dwellings, these outcomes reflect short-run adjustments in housing supply in response to changes in demand and labor market conditions. The period of coverage aligns with the HEIS sample, enabling consistent post-2021 comparisons across provinces.

All supply-side variables refer to issued construction permits and are reported separately for total permits and residential permits. For each category, we use parallel measures of construction activity: the number of permits, permitted land area, permitted floor area, and the number of authorized units.

We construct two measures of pre-settlement Afghan presence from the 1996 Population and Housing Census conducted by SCI. The first is the share of Afghans in province p relative to the total Afghan population in Iran in 1996; this measure, denoted $AfghanPresettlement_p$, serves as the main instrument in the IV–DiD specification. The second measure, used in robustness checks, is the share of Afghans in province p relative to that province's total population in 1996, capturing the intensity of historical Afghan settlement within each province. This measure has been used in robustness checks and is similarly derived from the 1996 census data.

Together, these datasets allow us to examine both demand- and supply-side responses to the post-2021 Afghan inflow. Tables [Table 1](#) and [Table 2](#) provide summary statistics for the household consumption sample and the construction permit data over 2018–2023. The HEIS figures show a steady increase in housing and total expenditures across years, alongside a gradual decline in household size and demographic counts, consistent with broader socio-economic trends in Iran. The construction statistics reveal substantial year-to-year variation in the number and scale of issued permits, with noticeable movements in both total and residential categories. These snapshots set the stage for the empirical work by showing the baseline levels and variation in the key outcomes before any econometric analysis.

Table 1: Summary Statistics: Household Expenditure and Income Survey (2018–2023)

	2018		2019		2020		2021		2022		2023	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Log Housing Expenditure	17.84	1.03	18.12	1.03	18.45	1.00	18.88	0.98	19.36	1.00	19.86	1.01
Log Total Expenditure	19.12	0.75	19.34	0.73	19.62	0.73	20.04	0.72	20.47	0.70	20.86	0.73
Log Food Expenditure	18.01	1.07	18.23	1.32	18.54	1.39	18.95	1.45	19.42	1.25	19.69	1.50
Log Durables Expenditure	12.96	6.50	12.56	6.87	12.37	7.27	12.70	7.42	13.36	7.11	13.85	7.13
Log Education Expenditure	7.29	7.56	7.08	7.58	6.91	7.55	6.95	7.63	5.99	7.69	6.26	7.90
Log Transportation Expenditure	15.31	3.70	15.32	4.02	15.10	4.76	15.58	4.58	15.91	4.65	16.19	4.69
Log Number of Rooms	1.51	0.22	1.52	0.21	1.52	0.20	1.52	0.20	1.51	0.20	1.51	0.20
Log Floor Area (m ²)	4.49	0.42	4.49	0.41	4.49	0.39	4.50	0.38	4.51	0.38	4.51	0.37
Household Size	3.42	1.40	3.40	1.39	3.37	1.39	3.32	1.38	3.27	1.38	3.22	1.39
Number of Males in HH	1.72	1.00	1.70	1.01	1.68	1.00	1.66	1.00	1.63	1.01	1.59	1.01
Number of Children <14	0.75	0.96	0.71	0.95	0.68	0.92	0.65	0.91	0.64	0.92	0.61	0.91
Number of Adults 65+	0.25	0.53	0.27	0.56	0.28	0.57	0.29	0.57	0.29	0.57	0.29	0.58
Number of Income Earners	0.63	0.69	0.61	0.68	0.61	0.68	0.60	0.68	0.60	0.68	0.58	0.69
Total Households	40,528		39,840		39,078		39,526		39,475		39,351	
Weighted Population	87,849,736		89,138,978		90,040,438		90,515,843		90,962,099		91,066,815	

Table 2: Summary Statistics: Quarterly Construction Outcomes (2018–2023)

	2018		2019		2020		2021		2022		2023	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Log Number of Total Permits	6.73	0.76	6.84	0.68	7.00	0.68	6.66	0.70	6.70	0.70	6.71	0.84
Log Number of Residential Permits	6.55	0.76	6.67	0.72	6.83	0.70	6.47	0.71	6.53	0.70	6.56	0.86
Log Sum of Land Area (All Permits)	12.47	0.88	12.54	0.73	12.72	0.82	12.53	0.87	12.57	0.85	12.48	0.94
Log Sum of Land Area (Residential)	12.09	0.83	12.24	0.74	12.40	0.77	12.19	0.87	12.25	0.81	12.22	0.94
Log Sum of Floor Area (All Permits)	12.74	0.94	12.84	0.87	13.11	0.87	12.89	0.89	12.95	0.83	12.98	0.96
Log Sum of Floor Area (Residential)	12.48	0.93	12.60	0.87	12.88	0.87	12.63	0.90	12.72	0.82	12.78	0.96
Log Number of Total Units	7.52	0.92	7.65	0.84	7.90	0.84	7.67	0.83	7.76	0.80	7.81	0.95
Log Number of Residential Units	7.40	0.92	7.51	0.86	7.78	0.83	7.54	0.83	7.64	0.79	7.70	0.96
Total Observations	124		124		124		124		124		124	

3 Theoretical Framework

This section presents a parsimonious model in which refugee inflows affect rents through two channels: they increase housing demand when absorbed in the consumption sector and relax supply when absorbed into construction.

Environment and Labor Allocation. The economy produces a numeraire consumption good C and a housing good H (sold at price p). Population consists of N natives and M immigrants, each supplying one unit of labor. Natives allocate between construction and consumption, $N_H + N_C = N$. A share s of immigrants works in construction and $1 - s$ in consumption, so

$$L_H = N_H + sM, \quad L_C = N_C + (1 - s)M.$$

Preferences and Demand. Agents have Cobb–Douglas utility

$$U(H, C) = H^\beta C^{1-\beta}, \quad 0 < \beta < 1,$$

and face $pH + C = y$. Standard optimization implies housing expenditure equals βy , so individual housing demand is $H = \beta y/p$. Aggregating over income Y yields

$$H^D = \frac{\beta Y}{p}.$$

Technology and Wages. Housing uses labor and fixed land \bar{K} :

$$H = \theta L_H^{1-\alpha}, \quad \theta = \bar{K}^\alpha A_H^{1-\alpha}, \quad 0 < \alpha < 1.$$

Construction wages equal marginal products,

$$w_H = p(1 - \alpha)\theta L_H^{-\alpha},$$

while the consumption sector has $C = A_C L_C$ and pays $\bar{w} = A_C$.

Equilibrium Rents. Aggregate income is $Y = w_H L_H + \bar{w} L_C$. Housing market clearing $H^S = H^D$ implies

$$\theta L_H^{1-\alpha} = \frac{\beta Y}{p}.$$

Substituting w_H and rearranging delivers

$$p = \frac{\beta \bar{w}}{\theta [1 - \beta(1 - \alpha)]} \cdot \frac{L_C}{L_H^{1-\alpha}}. \quad (1)$$

More labor in consumption raises rents by expanding the number of housing consumers; more labor in construction lowers rents by expanding supply.

Replacing L_C , L_H , and θ gives the refugee-exposure form:

$$p = \frac{\beta \bar{w}}{\bar{K}^\alpha A_H^{1-\alpha} [1 - \beta(1 - \alpha)]} \cdot \frac{N_C + (1 - s)M}{(N_H + sM)^{1-\alpha}}. \quad (2)$$

Comparative Statics. Differentiating $\ln p$ with respect to M yields

$$\frac{\partial \ln p}{\partial M} = \frac{1 - s}{N_C + (1 - s)M} - (1 - \alpha) \frac{s}{N_H + sM}. \quad (3)$$

The first term is the demand effect (extra consumers), the second the supply effect (extra builders). Immigration is rent-neutral when these terms offset:

$$\frac{1 - s}{N_C + (1 - s)M} = (1 - \alpha) \frac{s}{N_H + sM}. \quad (\star)$$

Solving (\star) yields the critical construction share

$$s^*(M) = \frac{-D + \sqrt{D^2 + 4\alpha M N_H}}{2\alpha M}, \quad D = N_H + (1 - \alpha)N_C - \alpha M,$$

which determines when the supply response is strong enough to neutralize demand pressures.

Interpretation and Link to the Empirics. Up to constants, [Equation 2](#) implies

$$p \propto \frac{N_C + (1 - s)M}{(N_H + sM)^{1-\alpha}}.$$

This shows that immigration influences rents through two opposing mechanisms:

1. **Demand effect:** more workers in the *consumption* sector increase the number of housing consumers, raising rents;
2. **Supply effect:** more workers in *construction* expand housing supply, lowering rents.

If $s < s^*(M)$, the demand effect dominates and rents increase; if $s > s^*(M)$, the supply response dominates and rents may remain unchanged or even fall. This mechanism provides the theoretical foundation for our empirical analysis: in contexts where refugees are substantially absorbed into the construction sector—such as in Iran—the equilibrium adjustment may lead to muted or null effects of refugee inflows on housing costs.

4 Methodology and Identification

4.1 Household Side Analysis

To empirically examine how the inflow of Afghan refugees after the 2021 Taliban takeover affected the housing expenditures of Iranian households, we compare changes in household expenditures before and after 2021 across provinces that were differentially exposed to Afghan arrivals, while controlling for province- and time-specific unobservables. Because the settlement patterns of newly arrived Afghans are likely endogenous, we estimate an *instrumental-variables difference-in-differences* (IV-DiD) model.

Our treatment variable is the interaction between the post-2021 period and the contemporaneous provincial share of Afghans in the total population. This interaction captures the degree to which each province was exposed to the post-2021 surge in Afghan arrivals, based on the actual (time-varying) intensity of Afghan presence in each province during the study period. Formally, the endogenous treatment intensity is defined as:

$$treatment_{pt} = Post_t \times AfghanShare_{pt}, \quad (4)$$

where $Post_t$ equals one for the post-2021 years and zero otherwise, and $AfghanShare_{pt}$ denotes the fraction of Afghan nationals in the total population of province p in year t .

Since provinces with higher pre-existing Afghan shares may differ systematically from others in ways that also influence expenditures—such as labor market structure or urban development— $treatment_{pt}$ is likely endogenous. To address this, we use two instruments that generate plausibly exogenous variation in exposure to the post-2021 inflow.

The first instrument builds on the approach of [Saiz \(2007\)](#) and follows the logic used by [Rozo and Sviatschi \(2021\)](#), exploiting the historical distribution of Afghans across Iranian provinces in 1996, long before the Taliban’s 2021 return to power. Let $A_{p,1996}$ denote the number of Afghans living in province p in 1996, and A_{1996} the total Afghan population in Iran in that year. The historical pre-settlement exposure of province p is then defined as:

$$AfghanPreSettlement_p = \frac{A_{p,1996}}{A_{1996}} \quad (5)$$

This instrument builds on the idea developed by [Card \(2001\)](#) and [Altonji and Card \(1991\)](#), and reviewed by [Lewis and Peri \(2015\)](#), that earlier migrant networks play a central role in shaping subsequent migration patterns. In our context, provinces that hosted larger Afghan communities in 1996 are expected to receive larger inflows when displacement from Afghanistan rises, even though those initial settlement patterns were determined long before the recent shock.² [Figure 4](#) and [Figure 5](#) show the correlation between the provincial share of Afghan nationals in 1996 and their shares in 2020 (before the Taliban’s return) and 2023 (after the Taliban’s return), respectively.

To create an instrument consistent with the DiD structure, this pre-settlement measure is interacted with the post-period dummy:

$$IV_{1,pt} = Post_t \times AfghanPreSettlement_p \quad (6)$$

This interaction isolates exogenous differences in exposure to the post-2021 inflow that arise

²A serious concern regarding historical settlement–share instruments is raised by [Jaeger, Ruist, and Stuhler \(2018\)](#), who argue that in settings where migration flows are stable over time, such instruments may conflate short-term and long-term effects. This critique applies to environments with continuous, predictable migration, where past migrant shares correlate with both pre-existing trends and future outcomes. Our context, however, is not subject to this concern. The post-2021 inflow of Afghan refugees did not follow a stable or incremental pattern; it was triggered by a dramatic political and humanitarian shock—the Taliban’s return to power, the collapse of the Afghan government, the abrupt cutoff of international aid, and a rapid increase in hunger and extreme poverty. These events produced a large, sudden, and unanticipated displacement wave. In such a setting, historical Afghan settlement shares provide a valid source of variation in exposure to the refugee shock, as they shape resettlement networks without being confounded by pre-existing economic trajectories.

from historical Afghan networks and the magnitude of each year’s displacement shock.

The second instrument exploits a regulation introduced in 2007 by Iran’s *High National Security Council*, which prohibited Afghan residence in 16 provinces for national-security reasons, as shown in [Figure 6](#). Because these restrictions were implemented long before the 2021 shock, they provide exogenous variation in the extent to which each province could receive new Afghan inflows after 2021. The sharp decline in the Afghan population residing in Sistan-and-Baluchestan—the southeastern border province—between 1996 and the 2020s reflects the impact of this policy.

Let $Banned_p$ be a dummy equal to one if province p was included in the 2007 restriction list, and zero otherwise. The second instrument is constructed as:

$$IV_{2,pt} = Post_t \times Banned_p \quad (7)$$

This instrument exploits the contrast between banned and non-banned provinces in the post-2021 period, reflecting policy-induced limits on refugee settlement.

The empirical specification builds on a Difference-in-Differences (DiD) setup that interacts the post-2021 period with the (time-varying) Afghan share in each province. The estimating equation takes the following form:

$$\log(Y_{ipt}) = \alpha + \beta(Post_t \times AfghanShare_{pt}) + X'_{ipt}\gamma + \mu_p + \lambda_t + \varepsilon_{ipt}. \quad (8)$$

In this specification, Y_{ipt} denotes the expenditure category or dwelling quality variable Y for household i in province p and year t . The interaction term $Post_t \times AfghanShare_{pt}$ measures how provinces with larger Afghan presence in a given year were differentially affected after 2021. The coefficient β_1 is therefore the parameter of interest, capturing the effect of the 2021 Afghan inflow on Iranian households’ expenditures. The vector X_{ipt} contains household-level controls such as household size, demographic composition, number of income earners, education and marital status of the household head. It also includes night-light intensity and population density. Province fixed effects (μ_p) account for time-invariant provincial heterogeneity, and year fixed effects (λ_t) capture nationwide macroeconomic trends or policy shifts.

The model is estimated using a two-stage least squares (2SLS) framework with the two

instruments described above, $IV_{1,pt}$ and $IV_{2,pt}$:

$$\begin{aligned} \text{First Stage: } (Post_t \times AfghanShare_{pt}) &= \pi_0 + \pi_1 IV_{1,pt} + \pi_2 IV_{2,pt} \\ &+ X'_{ipt} \delta + \mu_p + \lambda_t + u_{ipt} \end{aligned} \quad (9)$$

$$\begin{aligned} \text{Second Stage: } \log(Y_{ipt}) &= \alpha + \beta (Post_t \times \widehat{AfghanShare}_{pt}) \\ &+ X'_{ipt} \gamma + \mu_p + \lambda_t + \varepsilon_{ipt} \end{aligned} \quad (10)$$

The coefficient β captures how provinces with a higher (time-varying) Afghan share experienced different changes in household expenditures after 2021 compared to others. All regressions incorporate province and year fixed effects, with standard errors clustered at the province level to account for serial correlation. Estimates are weighted using the official HEIS sampling weights to ensure that results are representative at the provincial–year level.

4.2 Supply-Side Analysis

To examine whether the post-2021 Afghan inflow affected the supply side of the housing market, we estimate an analogous IV-DiD model using supply-side housing variables. Administrative data on construction permits are provided quarterly at the provincial level by SCI and cover the same period as the demand-side analysis. For each province–quarter, the data report the number of construction permits issued, the total land area covered by those permits, the total floor space, and the number of associated housing units. Among these outcomes, the number of residential permits is the most direct indicator of housing-supply expansion and therefore serves as our primary outcome of interest.

The estimating equation follows the same specification as before:

$$\log(Y_{ptq}) = \alpha + \beta_1 (Post_t \times AfghanShare_{pt}) + X'_{pt} \gamma + \mu_p + \lambda_t + \theta_q + \varepsilon_{pt}, \quad (11)$$

where Y_{ptq} denotes the construction outcome in province p , year t , and quarter q . The vector X_{pt} contains time-varying provincial controls such as night-light intensity and population density. Province fixed effects (μ_p), year fixed effects (λ_t), and quarter fixed effects (θ_q) are

included to absorb, respectively, time-invariant provincial characteristics, nationwide annual shocks, and seasonal patterns common across provinces.

As in the household analysis, the interaction ($Post_t \times AfghanShare_{pt}$) may be endogenous if Afghan inflows respond to local economic or construction conditions. Therefore, We estimate the model using the same two instruments as before: the historical pre-settlement exposure and the banned-province regulation. The 2SLS system is given by:

$$\begin{aligned} \text{First Stage: } (Post_t \times AfghanShare_{pt}) &= \pi_0 + \pi_1 IV_{1,pt} + \pi_2 IV_{2,pt} \\ &+ X'_{pt} \delta + \mu_p + \lambda_t + \theta_q + u_{ptq}, \end{aligned} \quad (12)$$

$$\begin{aligned} \text{Second Stage: } \log(Y_{ptq}) &= \alpha + \beta (Post_t \times \widehat{AfghanShare}_{pt}) + X'_{pt} \gamma \\ &+ \mu_p + \lambda_t + \theta_q + \varepsilon_{ptq}. \end{aligned} \quad (13)$$

The coefficient β captures how provinces with larger contemporaneous Afghan shares responded in terms of construction activity after 2021, relative to provinces with lower exposure, after netting out fixed differences and time shocks.

5 Results

5.1 Household Expenditures

Table 3 reports the estimated effects of the post-2021 Afghan inflow on household expenditures and dwelling quality. The outcome variables we study are the logarithms of household expenditures on several categories, including housing, food, durables, education, and transportation. In addition to these expenditure measures, we also use logarithms of two dwelling-quality variables from the household-level HEIS—the number of rooms and the floor area of the dwelling—to ensure that any muted price effect is not masking adjustments in housing quality. These variables allow us to capture whether households responded to potential rent pressures by occupying smaller or lower-quality units, even if their observed housing expenditures did not change. Panel A presents the baseline DiD estimates, and Panel B shows the

corresponding IV–DiD results.

Table 3: Effects of Post-2021 Afghan Inflows on Household Expenditures and Dwelling Quality

Panel A: Baseline DiD								
	<i>Dependent variable (log)</i>							
	Housing	Total	Food	Durables	Education	Transportation	Rooms	Floor
Post × Afghan share	0.002 (0.008)	-0.0003 (0.004)	0.004 (0.006)	0.039 (0.051)	-0.051 (0.039)	-0.045** (0.022)	0.001 (0.002)	-0.002 (0.002)
Observations	237,797	237,797	237,797	237,797	237,797	237,797	237,797	237,797
R ²	0.738	0.686	0.281	0.198	0.367	0.235	0.196	0.216

Panel B: IV–DiD (2SLS)								
	<i>Dependent variable (log)</i>							
	Housing	Total	Food	Durables	Education	Transportation	Rooms	Floor
Post × Afghan share	0.011 (0.010)	0.003 (0.005)	0.006 (0.008)	0.017 (0.080)	-0.035 (0.049)	-0.067** (0.030)	0.003 (0.002)	-0.001 (0.002)
Observations	237,797	237,797	237,797	237,797	237,797	237,797	237,797	237,797
R ²	0.738	0.686	0.281	0.198	0.367	0.235	0.195	0.216

Note: *p<0.1; **p<0.05; ***p<0.01. Cluster-robust standard errors at the province level in parentheses. All regressions include province and year fixed effects. Panel A reports the baseline Difference-in-Differences (OLS) estimates (Equation 8), while Panel B reports the IV-DiD (2SLS) results corresponding to the specification in Equation 10. IV model uses instruments Post×Afghan share 1996 and Post×Banned. The First Stage F-statistic is 98.18 clustered robust.

In the baseline estimates (Panel A), the interaction term is statistically insignificant for all major expenditure categories except transportation. The coefficient on transportation expenditures is negative and significant (−0.045), indicating that households in more-exposed provinces reduced spending on travel-related items following the inflow. All other coefficients, including those for housing expenditures, total consumption, food, durables, and education, remain close to zero and statistically insignificant. Housing quality indicators—the number of rooms and floor area—also show no systematic change.

The IV estimates in Panel B confirm the baseline pattern. The coefficient on housing expenditures increases relative to the OLS specification but remains statistically insignificant (0.011), indicating that the post-2021 Afghan inflow did not lead to a detectable rise in housing spending. All other expenditure categories and housing-quality measures are likewise insignificant, with coefficients that are either small in magnitude or imprecisely estimated. The only clear departure from this pattern occurs in transportation, where the coefficient is negative and statistically significant: a one–percentage-point increase in the Afghan share in post 2021 reduces transportation spending by approximately 6.7 percent. Transportation is arguably the most flexible component of the household budget—easier to adjust in the short run

than housing, durables, or education—which makes it plausible that this category responds first. Overall, these results show that the inflow did not affect households’ core spending patterns or observable dwelling characteristics, aside from a marked decline in transportation expenditures in more exposed provinces.

The only robust change occurs in transportation expenditures. This pattern is plausible because transportation is a flexible and easily adjustable component of household spending. Even without changes in housing costs, households in more-exposed provinces may have perceived greater uncertainty or competition for local resources and responded by curbing non-essential mobility, reducing travel costs rather than altering core expenditure categories. In fact, the first and least disruptive adjustment households can make in response to such an inflow is to scale back non-essential expenditures, such as trips.

One core intuition behind our results is that, unlike the findings in [Rozo and Sviatschi \(2021\)](#) for Jordan, the muted effect of Afghan inflows on housing costs in Iran is accompanied by similarly muted effects on other expenditure categories. In their study, expenditures on education and food decline sharply, indicating substantial welfare losses for native households. By contrast, in our setting only transportation shows a negative and statistically significant effect, suggesting that once the housing-market pressure is offset, the broader welfare burden on native households largely dissipates.

5.2 Supply-Side Results

Given the muted effects of the Afghan inflows on housing expenditures, we next examine whether the shock induced adjustments on the supply side of the housing market. If the inflow expanded access to low-cost construction labor, provinces more exposed to Afghan arrivals may have responded by initiating additional building projects. Our main focus is therefore on permit issuance, which represents the first and most immediate step in the housing production pipeline.

Panel A in [Table 4](#) presents the baseline DiD estimates, and Panel B shows the corresponding IV–DiD estimates. In both cases, the coefficient of interest is the interaction term $Post \times Afghan\ share$, which captures whether more-exposed provinces experienced differential changes in construction activity after 2021.

Table 4: Effects of Post-2021 Afghan Inflows on Construction Outcomes

Panel A: Baseline DiD (no IV)

	<i>Dependent variable (log)</i>							
	Tot. Permits	Resid. Permits	Tot. Land	Resid. Land	Tot. Floor	Resid. Floor	Tot. Units	Resid. Units
Post × Afghan share	0.017 (0.016)	0.015 (0.017)	0.033** (0.014)	0.047*** (0.015)	0.013 (0.014)	0.013 (0.013)	0.010 (0.012)	0.011 (0.012)
Observations	744	744	744	744	744	744	744	744
R ²	0.859	0.846	0.785	0.806	0.883	0.875	0.867	0.853

Panel B: IV–DiD (2SLS with two instruments)

	<i>Dependent variable (log)</i>							
	Tot. Permits	Resid. Permits	Tot. Land	Resid. Land	Tot. Floor	Resid. Floor	Tot. Units	Resid. Units
Post × Afghan share	0.046** (0.020)	0.045** (0.020)	0.043** (0.022)	0.053** (0.024)	0.031 (0.022)	0.029 (0.022)	0.027 (0.022)	0.030 (0.022)
Observations	744	744	744	744	744	744	744	744
R ²	0.857	0.844	0.785	0.806	0.882	0.875	0.866	0.852

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$. Cluster-robust standard errors at the province level in parentheses. All regressions include province and year fixed effects. Panel A reports the baseline Difference-in-Differences (OLS) estimates (Equation 11). Panel B reports the 2SLS (IV–DiD) estimates using $Post \times Afghan\ share$ 1996 and $Post \times Banned$ provinces as instruments (Equation 13). Outcomes refer to characteristics of issued construction permits. Total and residential permits are reported separately. The F-statistic of the first stage is 58.88 (cluster-robust).

In the baseline estimates (Panel A), the coefficients on total permits and residential permits are positive, though not statistically significant. This pattern suggests that more-exposed provinces may have started to expand the permitting process, but the effect did not reach conventional significance levels at this stage. Other supply-side measures, particularly residential land and total land, exhibit statistically significant increases, indicating that provinces were preparing additional land resources for future construction.

The IV estimates in Panel B sharpen this picture considerably. Once endogeneity concerns are addressed, the coefficient on $Post \times Afghan\ share$ becomes statistically significant for both total permits and residential permits at the 5 percent level. A one–percentage–point increase in the Afghan population share after 2021 corresponds to 4.6 percent more total permits and 4.5 percent more residential permits, indicating that provinces experiencing larger inflows initiated more construction projects. This holds for parallel outcomes of total and residential land too. A one–percentage–point increase in Afghan population share post 2021, will increase sum of land area in total permitted projects by 4.3 percentage and in residential permitted projects by 5.3 percentage. The rest of parallel outcomes are also positive but not statistically significant.

These results suggest that provinces with stronger Afghan presence issued significantly more construction permits after 2021, consistent with a labor-driven expansion in the housing supply pipeline. What emerges from the IV estimates is a suggestive supply-side mechanism: the arrival of Afghan refugees coincided with a measurable increase in total and residential permits, indicating that provinces integrated with Afghan labor accelerated the administrative phase of housing production. Rather than allowing demand pressures to spill over into higher housing expenditures, these provinces appear to have responded by expanding construction capacity at the permit-approval stage. This pattern aligns with the idea that the inflow facilitated a scaling-up of planned housing activity.

6 Robustness Checks

This section evaluates the robustness of our identification strategy using an alternative measure of exposure based on historical Afghan settlement patterns. Following [Rozo and Svitschi \(2021\)](#), we construct a measure of pre-settlement exposure ($AfghanSettleShare_{p,1996}$) defined as the share of Afghans in the total population of province p in 1996. The premise is that provinces hosting more Afghans historically should be more exposed to the post-2021 inflow, even in the absence of explicit policy treatment.

To implement these robustness checks, we rely on the idea that historical Afghan settlement patterns can predict contemporary exposure to refugee inflows. As illustrated in [Figure 4](#) and [Figure 5](#), provinces with higher Afghan presence in 1996 tend to host larger Afghan populations both before and after the 2021 inflow. This persistence motivates the use of the 1996 settlement distribution as a continuous measure of pre-exposure.

An adjustment is required due to the 2007 residential ban issued by Iran’s High National Security Council, which prohibited Afghan residence in a subset of provinces on security grounds. [Figure 6](#) maps the scope of these restrictions. Comparing this with [Figure 5](#) shows that only one province—Sistan and Baluchestan, the southeastern border province—both had a non-negligible Afghan population share in 1996 (exceeding 0.2 percent) and was later designated as a banned settlement area. As a result, post-2007 refugee settlement in this province may no longer reflect historical exposure in an exogenous way. To preserve the validity of our identification strategy, we therefore exclude Sistan and Baluchestan from all robustness

exercises based on the pre-settlement measure, ensuring that the 1996 share captures genuine historical settlement rather than displacement induced by the ban.

6.1 Difference-in-Differences with Pre-Settlement Exposure

For the first robustness specification, we interact the post-2021 dummy with the pre-settlement exposure measure

$$AfghanSettleShare_{p,1996} = \frac{Afghans_{p,1996}}{Population_{p,1996}},$$

and estimate

$$\log(Y_{ipt}) = \beta^{\text{DiD}} (Post_t \times AfghanSettleShare_{p,1996}) + \gamma' X_{ipt} + \delta_p + \lambda_t + \varepsilon_{ipt}, \quad (14)$$

using identical outcomes, controls, and fixed effects to those in the baseline analysis.

The robustness checks based on this continuous pre-settlement exposure measure provide little evidence of meaningful adjustments in household expenditures or dwelling quality following the 2021 Afghan inflow. As reported in [Table 5](#), none of the coefficients on $Post \times AfghanSettleShare$ are statistically significant at conventional levels, and their magnitudes remain small across all outcomes. Housing expenditures show a positive but imprecisely estimated coefficient (0.018), while food, total consumption, durables, education, and both measures of dwelling quality—number of rooms and floor area—exhibit no discernible response. Transportation displays a negative point estimate, though it is not precisely estimated in this specification.

The supply-side robustness results based on the same pre-settlement measure are broadly consistent with the mechanism highlighted in the main findings. As shown in [Table 6](#), provinces with greater historical Afghan presence experienced positive post-2021 changes in both total permits and residential permits. Although these coefficients fall just short of conventional significance thresholds, their magnitudes are substantively meaningful and closely mirror the pattern identified in the IV–DiD estimates. This suggests that historically exposed provinces became more active in initiating construction projects following the Afghan inflow, consistent with the idea that access to migrant labor reduced the effective cost of expanding the housing stock.

6.2 Dynamic Difference-in-Differences (Event Study)

The second robustness check estimates the dynamic version of this design by interacting the pre-settlement exposure measure with each year indicator, using 2020 as the reference year:

$$\ln Y_{ipt} = \sum_{\tau=t_0} \beta_{\tau} (AfghanSettleShare_{p,1996} \times 1\{t = \tau\}) + \gamma' X_{ipt} + \delta_p + \lambda_t + \varepsilon_{ipt}. \quad (15)$$

Both specifications use the same sample and controls as the baseline regressions and cluster standard errors at the province level. The resulting event-study coefficients form the basis of the robustness figures presented later in this section.

The dynamic results for household expenditures, shown in [Figure 7](#), indicate that pre-2021 coefficients fluctuate around zero, with confidence intervals comfortably covering zero across all outcomes, supporting the parallel-trends assumption. After 2021, no systematic divergence emerges: the coefficients remain statistically indistinguishable from zero throughout the post-period. Transportation shows a mild downward shift—consistent with the negative point estimate in the DiD specification—but the effect remains imprecisely estimated. Overall, the household side of the market exhibits no systematic adjustment to the Afghan inflow when identification relies on historical settlement exposure, suggesting that demand-side pressures were modest and did not translate into measurable changes in expenditures or housing quality.

The dynamic construction results in [Figure 8](#) tell a complementary story. Prior to 2021, the coefficients for both total and residential permits hover around zero with wide confidence intervals, supporting the parallel-trends assumption. Beginning in 2021, however, both series trace an upward trajectory, indicating a gradual intensification of permitting activity in historically exposed provinces. Land-related outcomes show a similar post-2021 increase.

Overall, these robustness exercises indicate that even when exposure is measured solely by historical settlement shares—rather than the IV–DiD approach—provinces more connected to Afghan communities respond to the inflow by expanding the volume and scale of approved construction projects, most clearly reflected in the upward movement of total and residential permits.

7 Discussion

The policy environment in Iran has changed dramatically since mid-2025. Following the escalation of the Iran–Israel conflict in June 2025, more than 1.5 million Afghans were deported from Iran within a very short period of time. According to [BBC News \(2025\)](#), “daily returns peaked at about 50,000 people in early July, according to the United Nations – often after arduous journeys.” This sudden and large-scale removal of Afghan migrant workers has raised widespread concerns among Iranian economic analysts. Sectors such as construction and agriculture, which rely heavily on Afghan labor, face immediate and significant labor shortages. As previously mentioned, Afghans account for nearly 70 percent of the workforce in the construction sector, implying that their mass deportation can generate substantial increases in production costs and threaten the already fragile state of housing construction during a period of economic recession.

The consequences extend beyond construction. The highest monthly inflation in August and September 2025 was recorded for fruits and vegetables, a subsector that is also heavily dependent on Afghan agricultural labor. Evidence reported by local news outlets explicitly links this sudden price surge to the deportation of Afghan workers, noting that labor shortages magnified the effects of weather shocks and power outages.

These recent developments in Iran mirror a broader set of findings in the economics literature. The observed labor shortages, rising production costs, and sharp price increases following the mass deportation of Afghans are fully consistent with the evidence documented by [Howard et al. \(2024\)](#), who show that deportations in U.S. counties reduced homebuilding and increased housing costs, and by [Lin and Peri \(2025\)](#), who demonstrate that the exclusion of Japanese farmers led to sizable declines in agricultural output. These studies highlight that immigrants play a central productive role, not only as consumers but as essential contributors to key sectors of the economy. The Iranian case reinforces this insight: Afghan workers form the backbone of both the construction and agricultural sectors, and their sudden removal exposes the underlying dependence of these industries on migrant labor.

As more post-2025 data become available, this setting offers fertile ground for future research. The same empirical framework developed in this paper could be extended to study the medium-run consequences of the deportations on housing prices, construction activity,

agricultural output, food prices, and local labor markets. It may also be possible to examine whether the removal of Afghan workers alters the dynamics of informal labor markets, accelerates mechanization, or reshapes provincial migration patterns within Iran. These questions lie beyond the scope of the present study but represent important avenues for understanding the long-term economic implications of forced migrant expulsions.

8 Conclusion

This paper shows that one of the largest episodes of forced displacement in recent history—the post-Taliban takeover inflow of Afghan refugees into Iran—did not generate the housing-market pressures commonly documented elsewhere. Despite a sudden population shock, housing expenditures and observable dwelling quality remained largely unchanged, and the only systematic adjustment in household budgets appears in transportation spending, a margin that is flexible rather than structural. These muted demand-side effects stand in sharp contrast to findings from other contexts where refugee inflows quickly translated into higher rents and reduced household welfare.

The analysis of construction outcomes provides evidence of a mechanism that can account for this pattern. Provinces more exposed to the post-2021 inflow experienced higher levels of construction activity, particularly in residential and total permits. This response aligns with the well-documented concentration of Afghan workers in the construction sector and suggests that housing supply expanded more rapidly in provinces receiving a larger share of refugees, thereby limiting upward pressure on housing costs.

The Iranian case therefore refines the standard “burden” narrative linking forced migration to housing crises. Refugees are not merely consumers of scarce housing—they are also “builders,” and when institutional and labor-market structures channel them into construction, the equilibrium price effects of large inflows may be unexpectedly small. This insight has important implications for middle-income countries facing sudden displacement shocks: the consequences of refugee inflows depend not only on their size but also on where newcomers work. Future research can extend this study to the post-2025 deportations of Afghan workers, a reversal that offers a natural experiment for examining how the sudden withdrawal of migrant labor affects housing supply, inflation, and the resilience of urban markets.

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Figures

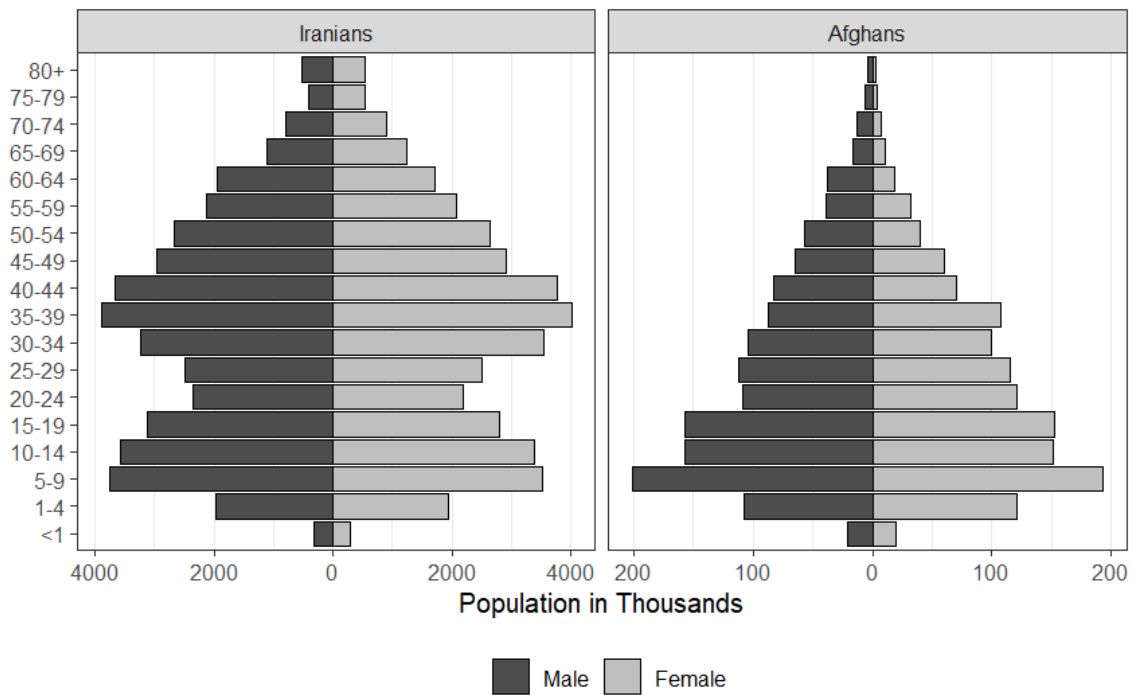


Figure 1: Age and Gender Distribution, LFS 2023; This figure displays the age and gender composition of Afghans residing in Iran based on the 2023 Labor Force Survey.

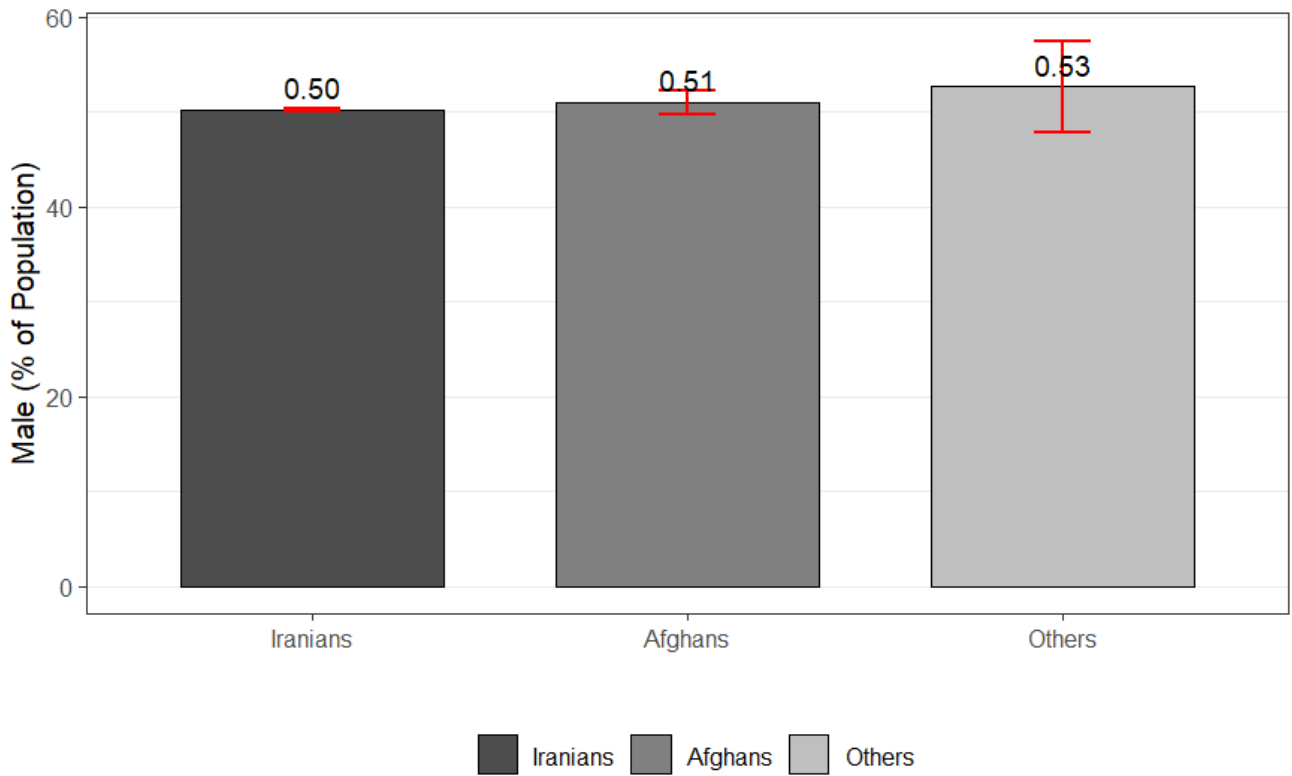


Figure 2: Male (% of population), LFS 2023; This figure reports the provincial male share of the population in 2023 using data from the Labor Force Survey. The male shares are broadly similar for Iranian and Afghan residents, indicating no notable gender imbalance between the two groups.

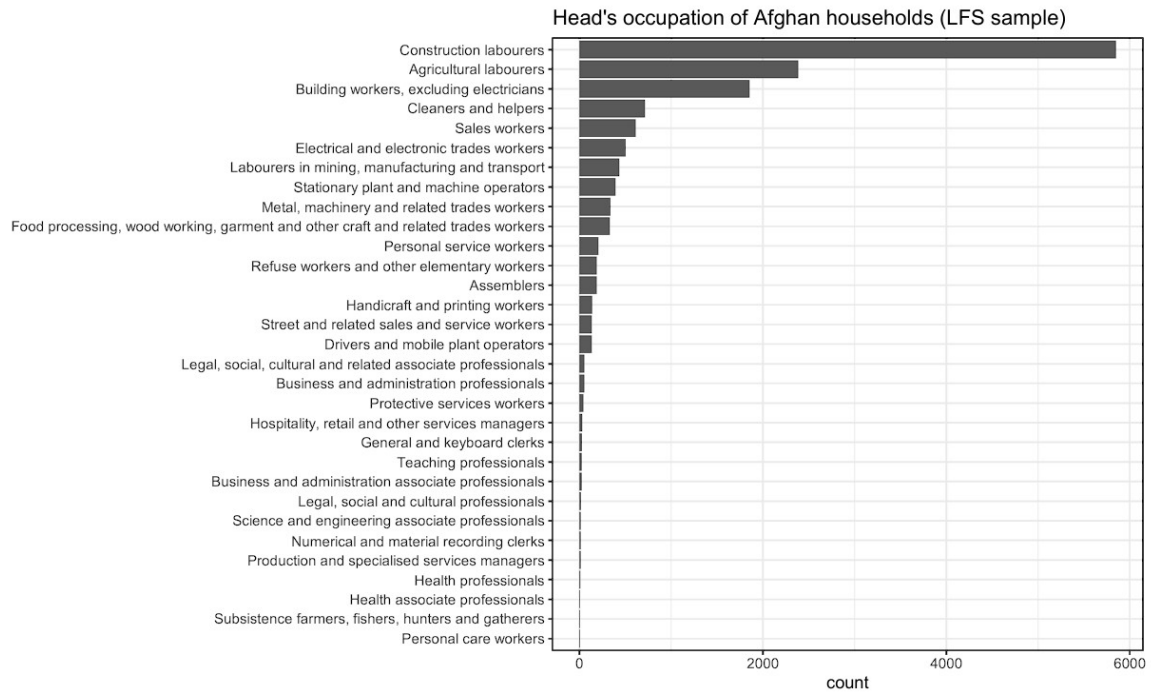


Figure 3: Head's Occupation of Afghan Households (LFS Sample). Source: [Hoseini and Dideh \(2022\)](#), This figure documents the occupational distribution of Afghan household heads, showing that a dominant share is employed in construction and related manual sectors. Given work-permit restrictions and limited access to other formal occupations, construction emerges as the primary employment channel available to Afghans. This sectoral concentration suggests a mechanism through which refugee inflows reduce construction labor costs and facilitate supply-side expansion in the housing market.

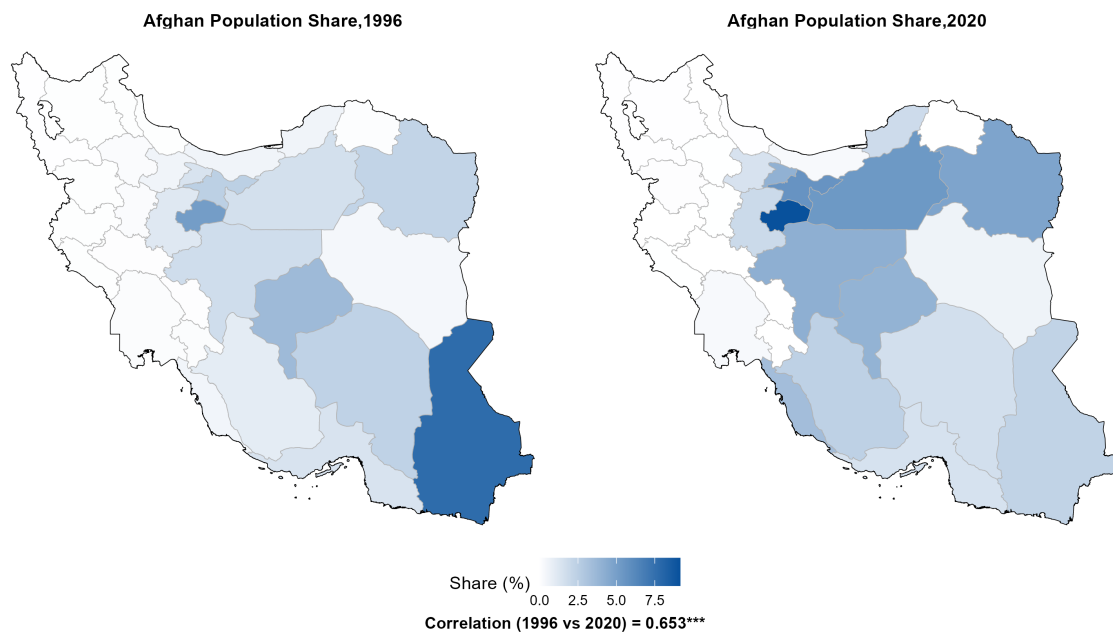


Figure 4: Comparison of Afghan Population Share Across Provinces in 1996 and 2020; This figure compares the provincial distribution of Afghan residents in 1996 and 2020. The persistence of provincial settlement patterns provides the variation used to construct the pre-settlement exposure variable. Data Source: Statistical Center of Iran, Sarshomari 1375 (1996 census) and LFS (2020).

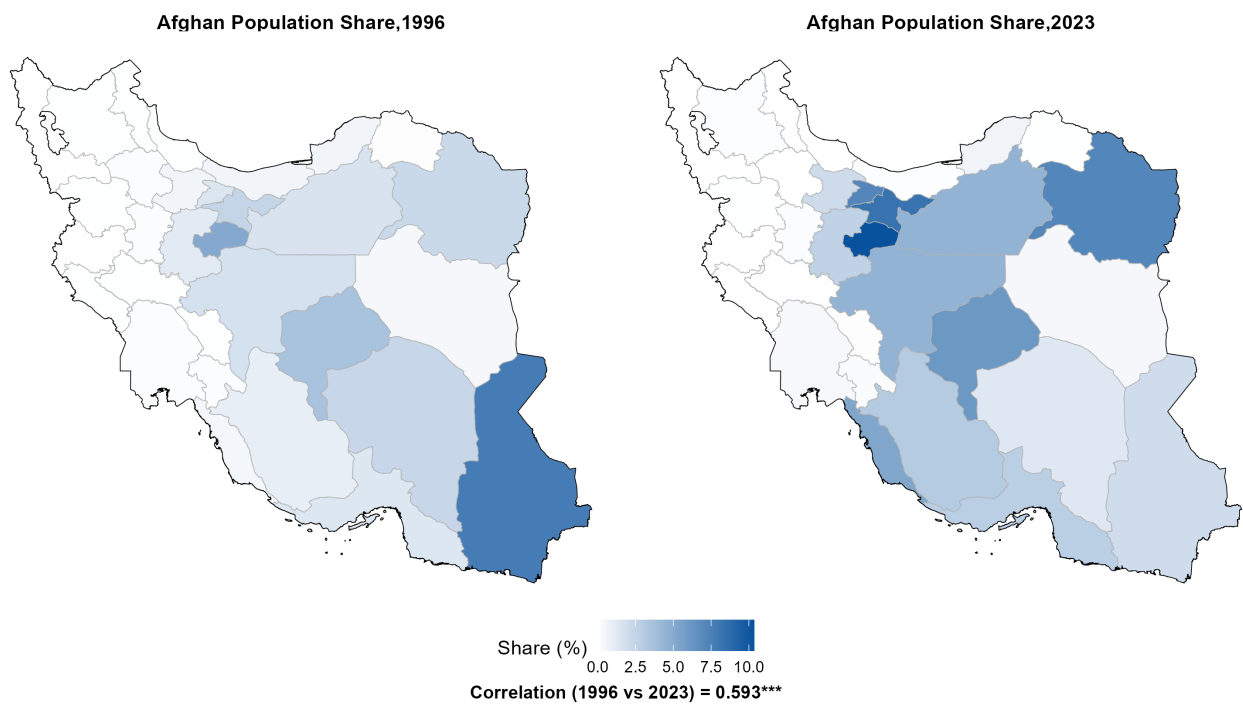


Figure 5: Comparison of Afghan Population Share Across Provinces in 1996 and 2023; The figure updates the distribution in Figure 4 using 2023 LFS data, showing a continued concentration of Afghans in historically exposed provinces, validating the persistence needed for the empirical design.

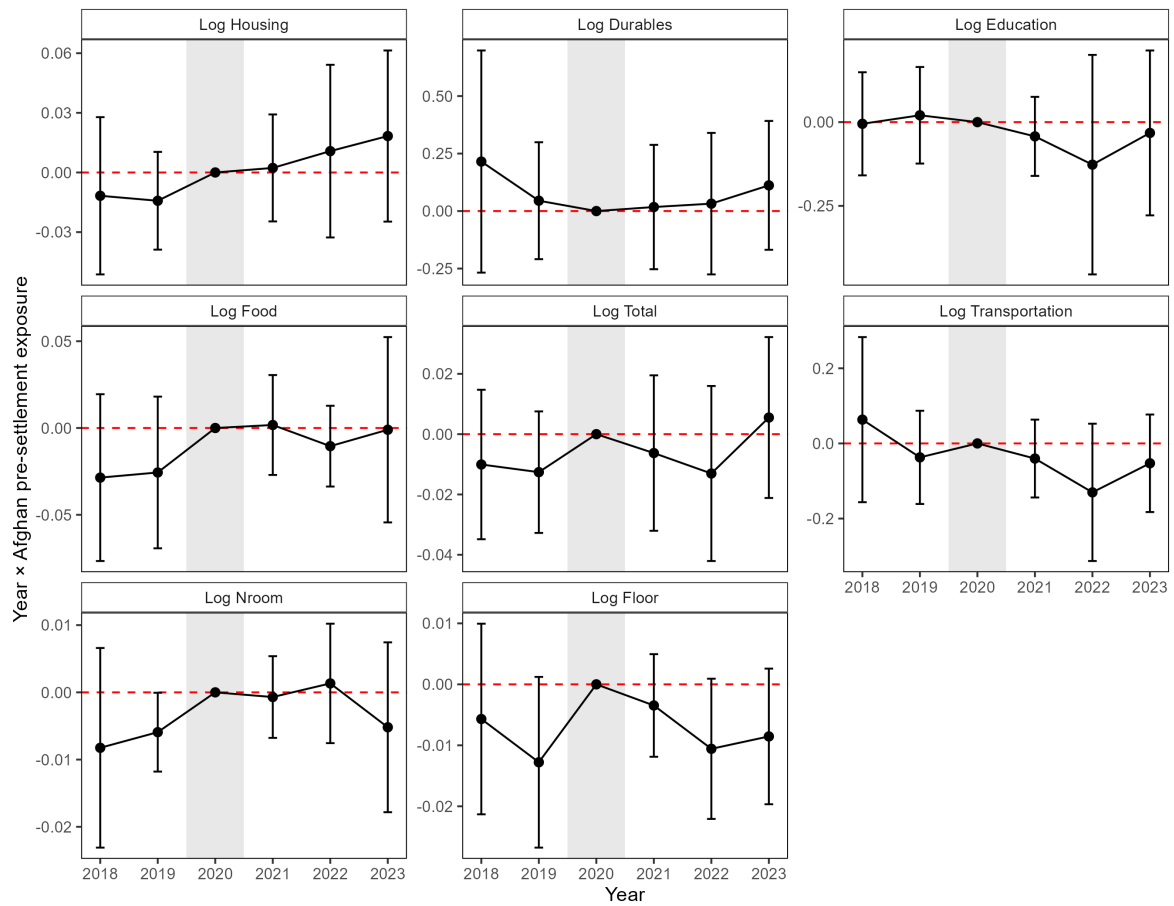


Figure 7: Event Study Using the Afghan Pre-Settlement Exposure, Consumption Outcomes and Dwelling Quality; dynamic estimates of Afghan pre-settlement exposure interacted with year dummies for household consumption and housing characteristics (Equation 15). Coefficients exhibit no pre-trends and no post-2021 rise in housing costs or dwelling size. Data Source: Household Expenditure and Income Survey (HEIS).

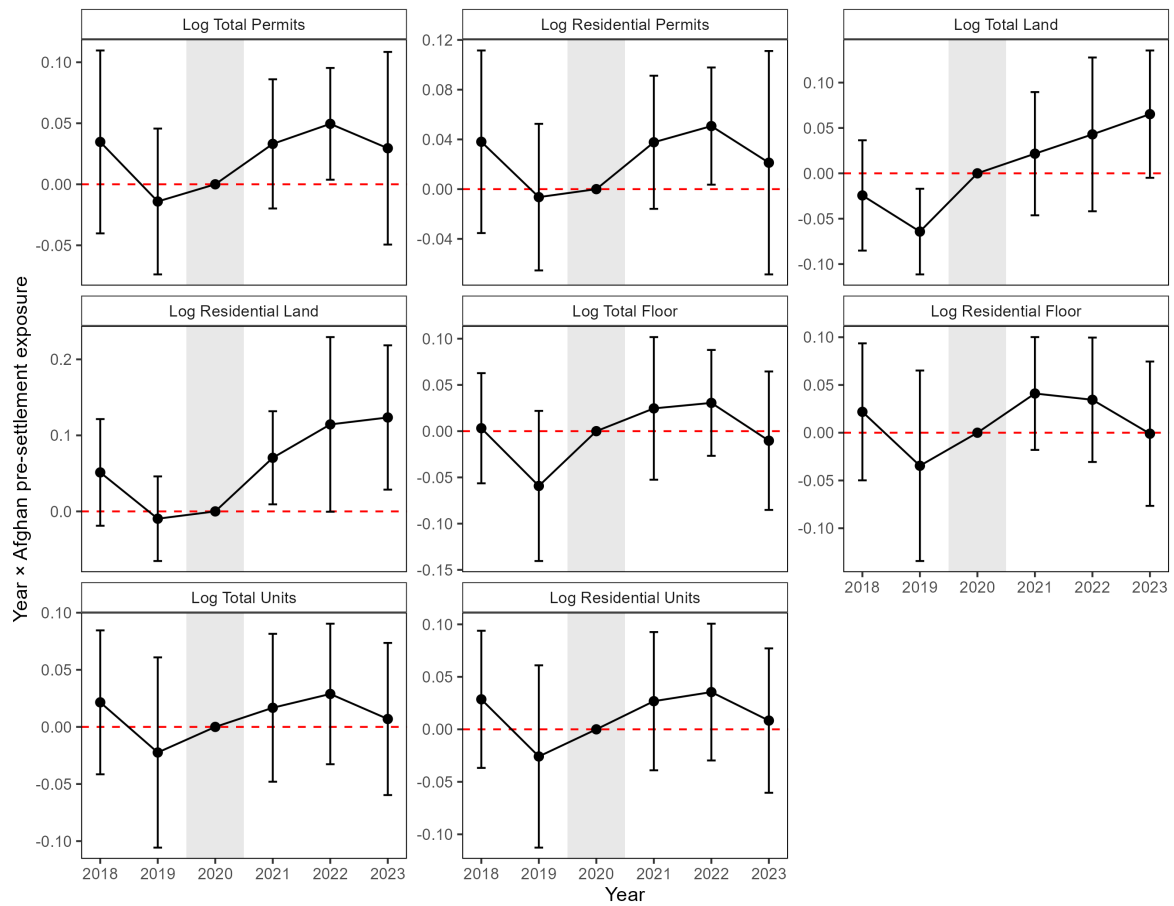


Figure 8: Event Study Using the Afghan pre-settlement exposure and construction outcomes; dynamic responses of provincial construction activity to Afghan pre-settlement exposure (Equation 15). Post-2021 coefficients rise for permits, floor area, land area, and units authorized, consistent with increased construction activity. Data Source: Construction Permit Records, Statistical Center of Iran.

Extra Tables

Table 5: Continuous DiD: Afghan pre-settlement exposure, Consumption Outcomes and Dwelling Quality

	<i>Dependent variable (log)</i>							
	Housing	Total	Food	Durables	Education	Transportation	NRooms	Floor Area
Post × Afghan Settle Share	0.018 (0.021)	0.002 (0.009)	0.012 (0.015)	-0.013 (0.132)	-0.073 (0.103)	-0.078 (0.066)	0.002 (0.004)	-0.002 (0.005)
Observations	229,162	229,162	229,162	229,162	229,162	229,162	229,162	229,162
R ²	0.734	0.684	0.292	0.181	0.373	0.205	0.177	0.195

Note: *p<0.1; **p<0.05; ***p<0.01. Cluster-robust standard errors at the province level in parentheses. The results corresponding to the specification in Equation 14. Year and province fixed effects included.

Table 6: Continuous DiD: Afghan pre-settlement exposure and construction outcomes

	<i>Dependent variable (log)</i>							
	Tot. Permits	Resid. Permits	Tot. Land	Resid. Land	Tot. Floor	Resid. Floor	Tot. Units	Resid. Units
Post × Afghan Settle Share	0.032 (0.042)	0.027 (0.042)	0.072** (0.028)	0.090*** (0.032)	0.034 (0.039)	0.030 (0.036)	0.019 (0.033)	0.024 (0.033)
Observations	720	720	720	720	720	720	720	720
R ²	0.861	0.849	0.795	0.812	0.885	0.878	0.869	0.856

Note: *p<0.1; **p<0.05; ***p<0.01. Cluster-robust standard errors at the province level in parentheses. The results corresponding to the specification in Equation 14. Quarter, year and province fixed effects are included. Outcomes refer to characteristics of issued construction permits. Total and residential permits are reported separately.