

# **Burdens or Builders?**

## **Housing Market Effects of Afghan Refugees in Iran**

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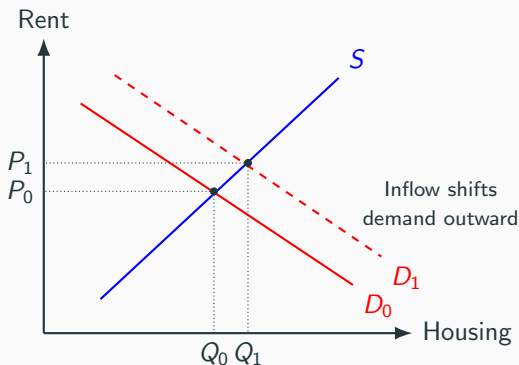
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# Is a Refugee Crisis Always a Housing Crisis?

## Canonical view in the literature

- Refugee and immigrant inflows increase housing demand
- With housing supply fixed in the short run, rents increase
- This pattern has been documented in both developed and developing countries



# Only if Supply is Unresponsive

## Why price effects may be muted

- Inflows can also affect housing supply
- Refugees may expand construction labor or induce new building
- When supply responds, rent increases can be small or even absent



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## **Iran; a major host country**

- Decades-long destination for Afghan refugees
- Hosts one of the largest Afghan populations worldwide
- Mainly because of the similarities in culture and language

## **A sudden and exogenous shock in 2021**

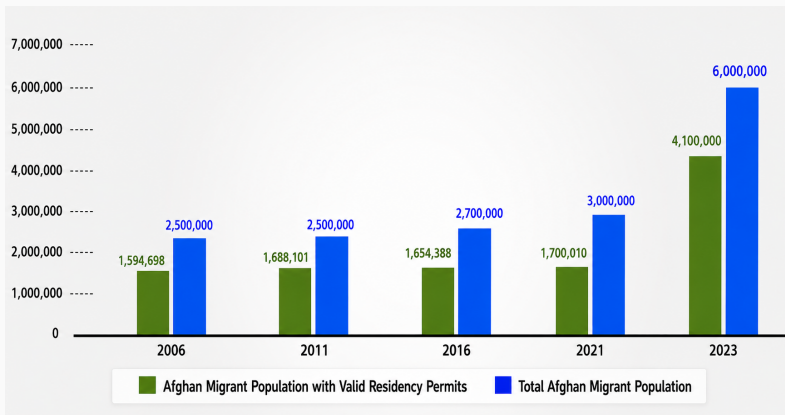
- Taliban takeover in August 2021
- Sharp, unanticipated refugee inflow into neighboring countries
- Over 3 million Afghans headed to their western neighbor
- Concentrated settlement across provinces

# Afghans Cling to Moving US Air Force Jet



# Afghan Refugees in Iran

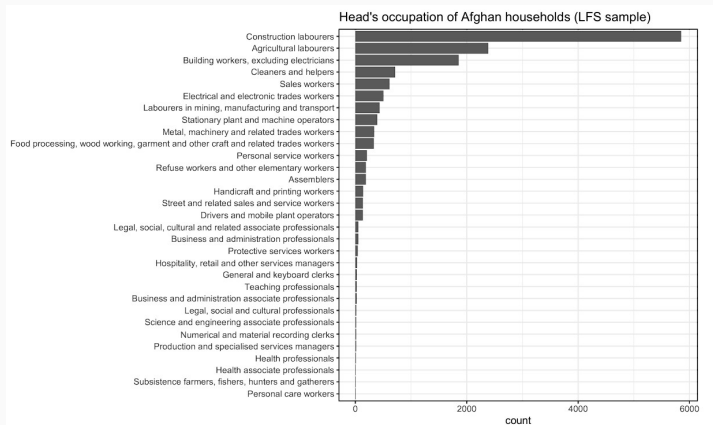
Afghan population in Iran nearly doubled between 2020 and 2023.



**Figure 1:** Afghan Migrant Population in Iran over the last two decades  
(Source: Diaran Association).

# Construction Employment

Historically—and by the enforcement of law—Afghans have been disproportionately employed in the housing sector.



**Figure 2:** Occupational distribution of Afghan household heads ([Hoseini and Jahandideh, 2022](#)).

- **Forced migration and host-society outcomes**

Rozo and Sviatschi (2021); Altındağ, Bakış, and Rozo (2020); Ibáñez, Rozo, and Urbina (2021); Rozo and Vargas (2021); Chatruc and Rozo (2024); Amuedo-Dorantes et al. (2024); Ibáñez, Rozo, and Bahar (2020); Ibáñez et al. (2024)

- **Immigrants and housing markets**

Saiz (2003, 2007); Gonzalez and Ortega (2013); Akgündüz, Hachasanoglu, and Yılmaz (2023); Trojanek and Gluszak (2022)

- **Immigrants' labor supply**

Howard, Wang, and Zhang (2024); Lin and Peri (2025)

## Question

- Did the post-2021 Afghan refugee inflow increase housing costs in Iran? Or did refugee participation in construction offset demand pressure?

## Empirical setting

- A large, sudden inflow after the Taliban takeover in August 2021
- Province-level variation in refugee exposure across Iran

## Approach

- Combine HEIS, LFS, 1996 Census, and construction permit records, 2018–2023
- Estimate IV difference-in-differences using:
  - pre-2021 Afghan settlement networks
  - residence restrictions in banned provinces

# Main Findings

1. Refugee-exposed provinces experience small increases in housing expenditures.
2. Refugee exposure increases construction activity: both residential and non-residential permits, which is consistent with the idea of reducing construction cost.
3. The evidence is consistent with a **supply response** offsetting demand pressure.

Refugees were not only a demand shock; they were also a production shock.

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- **HEIS (Household Expenditure and Income Survey):**
  - Annual household data: consumption, income, rental spending by province
  - Covers pre/post-2021, includes household-level controls
  - Does not include nationality
- **LFS (Labor Force Survey) & 1996 Census:**
  - **LFS:** Annual province-level counts of Afghans and Iranians
  - **1996 Census:** Provides baseline Afghan settlement shares by province, used as an **instrumental variable (IV)** Afghan inflows
  - Both include nationality
- **Construction Statistics (Statistical Center of Iran):**
  - Quarterly province-level data on construction permits

# Summary Statistics

**Table 1: Summary Statistics: Household Consumption and Construction Outcomes, 2018–2023**

Variable	2018		2019		2020		2021		2022		2023	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<b>Panel A: Household Consumption</b>												
Log Housing Expenditure	17.841	1.031	18.123	1.026	18.453	1.005	18.880	0.981	19.360	1.002	19.860	1.008
Log Total Expenditure	19.121	0.751	19.341	0.731	19.623	0.728	20.041	0.716	20.473	0.700	20.857	0.731
Log Food Expenditure	18.015	1.073	18.229	1.323	18.536	1.395	18.949	1.452	19.421	1.247	19.687	1.501
Log Durables Expenditure	12.964	6.500	12.561	6.874	12.374	7.268	12.702	7.417	13.356	7.115	13.853	7.126
Log Education Expenditure	7.289	7.560	7.078	7.583	6.910	7.555	6.949	7.634	5.997	7.691	6.260	7.903
Log Transportation Expenditure	15.313	3.699	15.321	4.021	15.097	4.759	15.582	4.576	15.908	4.646	16.192	4.687
Log Number of Rooms	1.515	0.222	1.520	0.211	1.521	0.203	1.522	0.201	1.506	0.205	1.508	0.202
Log Floor Area (m <sup>2</sup> )	4.492	0.423	4.493	0.411	4.491	0.389	4.501	0.383	4.507	0.377	4.509	0.374
Household Size	3.420	1.404	3.399	1.394	3.366	1.393	3.319	1.385	3.273	1.381	3.216	1.387
Number of Males in HH	1.718	1.001	1.700	1.007	1.678	1.000	1.660	1.000	1.635	1.007	1.599	1.006
Number of Children < 14	0.748	0.958	0.710	0.946	0.677	0.924	0.653	0.915	0.639	0.920	0.614	0.906
Number of Adults 65+	0.246	0.535	0.271	0.563	0.278	0.567	0.288	0.575	0.290	0.574	0.299	0.577
Number of Income Earners	0.626	0.693	0.608	0.682	0.608	0.680	0.603	0.684	0.604	0.679	0.585	0.688
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	
<b>Panel B: Construction Outcomes</b>												
Residential Permits	6.554	0.764	6.670	0.724	6.829	0.695	6.474	0.713	6.530	0.704	6.558	0.857
Non-Residential Permits	4.865	0.773	4.926	0.724	5.078	0.681	4.856	0.702	4.763	0.760	4.676	0.852

# Banned Provinces

In 2007, High Security Council of Iran banned Afghans from residing in 16 (out of 31) provinces due to security concerns.

# Banned Provinces

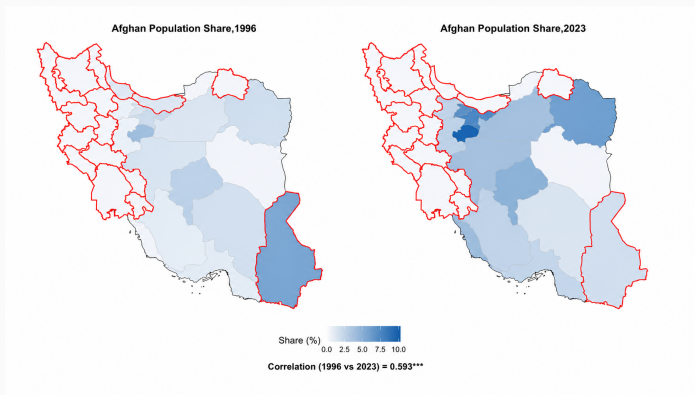
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# Afghan Population Share 1996 - 2023

Average of Afghan population share:

	1996	2023
<b>Unbanned</b>	1.73%	4.22%
<b>Banned</b>	0.56%	0.15%



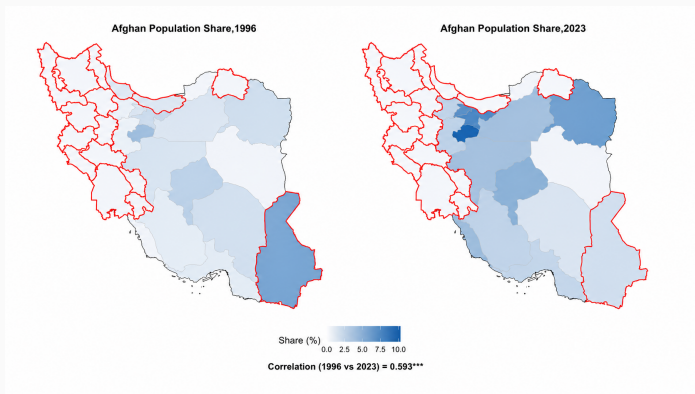
**Figure 3: Afghan Population Share 1996 (Census) - 2023 (LFS).**

▶ 1996-2020

# Afghan Population Share 1996 - 2023

Average of Afghan population share:

	1996	2023
Sistan and Baluchestan	7.73%	1.67%



**Figure 3: Afghan Population Share 1996 (Census) - 2023 (LFS).** ▶ 1996-2020

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The baseline DiD specification is:

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

- **Outcomes** ( $Y_{ipt}$ ): Household expenditures and housing quality measures
- **Treatment**:  $Post_t \times AfghanShare_{pt}$
- **Controls**: Household demographics, population density, night lights
- **Fixed effects**: Province ( $\mu_p$ ), Year ( $\lambda_t$ )
- **Interpretation**: reduced-form DiD effect of refugee exposure

# Endogeneity Concern

- The 2021 refugee shock was largely exogenous to Iran
- However, refugee settlement across provinces may not be random
  - Refugees may choose provinces with better labor market opportunities
  - Provinces with higher wages may attract more refugees
  - Refugees may prefer provinces with lower housing costs
- Consequently, refugee exposure may be correlated with local economic conditions
- Result: OLS estimates may capture both refugee inflows and pre-existing provincial characteristics
- Therefore,  $\beta$  may not have a causal interpretation

- **IV 1: Historical settlement patterns**

- Share of Afghan population in each province in the 1996 Census
- Captures network-driven settlement following the 2021 shock

$$\text{AfghanPreSettlement}_p = \frac{\text{AfghanPop}_{p,1996}}{\text{TotalAfghanPop}_{1996}}$$

F-statistics of the first stage  $\sim$  **28**

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- **IV 2: Banned provinces policy**

- 2007 policy restricting Afghan residence in selected provinces
- Well before the inflow under study
- Generates persistent constraints on refugee settlement
- Captures policy-induced deviations from historical settlement patterns

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F-statistics of the first stage using both IVs  $\sim$  **89**

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# Results

- A one-percentage-point increase in the Afghan population share is associated with a 2.3% increase in housing expenditure.
- No significant or considerable impact on other expenditure categories.

**Table 2: Consumption Analysis: Baseline DiD and IV–DiD Estimates**

	Dependent variable							
	Housing Expenditure	Total Expenditure	Food Expenditure	Durables Expenditure	Education Expenditure	Transportation Expenditure	Rooms	Floor Area
<b>Panel A: Baseline DiD</b>								
Post × Afghan Share	0.010 (0.011)	0.003 (0.005)	−0.001 (0.006)	0.035 (0.056)	−0.041 (0.054)	−0.019 (0.037)	0.002 (0.002)	−0.002 (0.002)
Observations	237,797	237,797	237,797	237,797	237,797	237,797	237,797	237,797
R <sup>2</sup>	0.737	0.683	0.376	0.168	0.301	0.177	0.192	0.215
<b>Panel B: IV–DiD</b>								
Post × Afghan Share	0.023* (0.012)	0.008 (0.007)	0.004 (0.007)	−0.026 (0.099)	0.003 (0.079)	−0.050 (0.040)	0.004* (0.002)	−0.0002 (0.004)
Observations	237,797	237,797	237,797	237,797	237,797	237,797	237,797	237,797
R <sup>2</sup>	0.737	0.683	0.376	0.168	0.301	0.177	0.192	0.215

Notes: F-statistics of the first stage is 89.4.

Cluster-robust standard errors at the province level in parentheses. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

# Construction Outcomes

- Provinces with a higher share of refugees experienced higher construction activities
- Same results for *Land* and *Floor*

**Table 3:** Construction Permits: Baseline DiD and IV–DiD Estimates

	Dependent variable	
	Residential Permits	Non-Residential Permits
<b>Panel A: Baseline DiD</b>		
Post × Afghan Share	0.004 (0.016)	0.027 (0.019)
Observations	744	744
R <sup>2</sup>	0.847	0.856
<b>Panel B: IV–DiD</b>		
Post × Afghan Share	0.050* (0.028)	0.056** (0.026)
Observations	744	744
R <sup>2</sup>	0.843	0.854

Notes: F statistics of the first stage is 58.9.

Cluster-robust standard errors at the province level in parentheses. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

# Robustness Checks

- DiD with Pre-Settlement Exposure ▶ Pre-Settlement
- Event study for dynamic effects ▶ Even Study
- Unbanned as treatment vs. Banned as control ▶ Banned
- Leave-one-province-out ▶ Leave-one-out

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- **Mass deportations after June-2025 war**
  - Daily returns peaked at around 50,000 individuals in early July 2025
- **Immediate economic consequences**
  - Threats to housing construction during an ongoing economic recession
  - Highest monthly inflation in 2025 observed in fruits and vegetables, a labor-intensive subsector
- **Link to existing evidence and future research**
  - Patterns consistent with [Howard et al. \(2024\)](#) and [Lin and Peri \(2025\)](#)
  - Post-2025 data enable future analysis

# Conclusion

- The post-2021 Afghan refugee inflow created a large and sudden housing demand shock in Iran.
- Yet, more refugee-exposed provinces did not experience large increases in housing expenditures or deterioration in housing quality.
- Instead, refugee exposure is associated with a **significant expansion in housing construction**:
  - more residential permits,
  - more non-residential permits,
  - and larger floor area.
- The evidence points to a key mechanism: refugees were not only a housing demand shock, but also a **housing production shock.**'
- Refugees were not simply burdens on local housing markets; they were also builders.

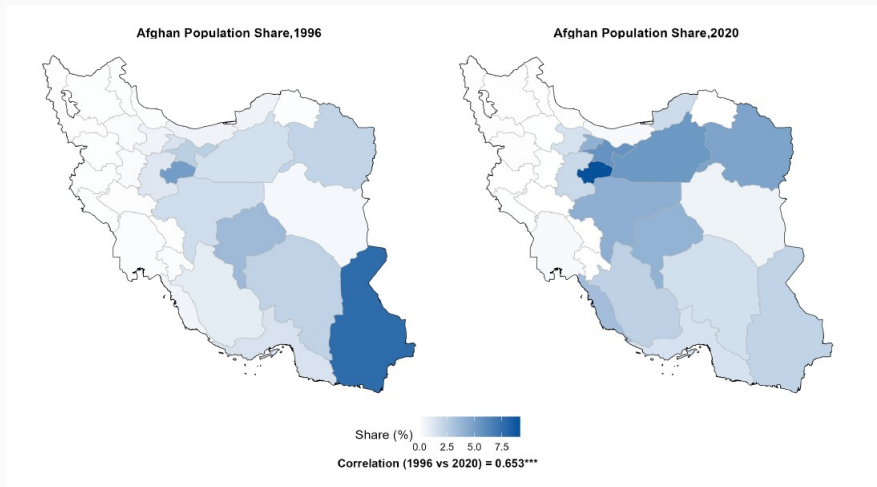
**Thank you for your attention!**  
**All comments and feedbacks are greatly appreciated.**

Paper link:



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# Afghan Population Share 1996 - 2020



**Figure 4:** Comparison of Afghan Population Share Across Provinces in 1996 and 2020; Sarshomari 1375 (1996 census) and LFS (2020). [▶ Back](#)

## DiD with Pre-Settlement Exposure

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

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

- **Treatment:** Post-2021 exposure based on 1996 Afghan settlement shares
- **Key feature:** Exposure is predetermined and fixed over time
- **Result:** No significant effect on housing expenditures or dwelling quality

# Consumption Outcomes: Robustness Check

**Table 4: Continuous DiD Using Afghan Pre-Settlement Exposure**

	Dependent variable							
	Housing Expenditure	Total Expenditure	Food Expenditure	Durables Expenditure	Education Expenditure	Transportation Expenditure	Rooms	Floor Area
Post × Afghan Pre-Settlement Exposure	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 <sup>2</sup>	0.734	0.684	0.292	0.181	0.373	0.205	0.177	0.195

Notes: Cluster-robust standard errors at the province level in parentheses. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

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# Construction Outcomes: Robustness Check

**Table 5:** Continuous DiD Using Afghan Pre-Settlement Exposure

	Residential Permits	Non-Residential Permits
Post $\times$ Afghan Pre-Settlement Exposure	0.027 (0.042)	0.056 (0.042)
Observations	720	719
R <sup>2</sup>	0.849	0.856

Notes: Cluster-robust standard errors at the province level in parentheses. \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

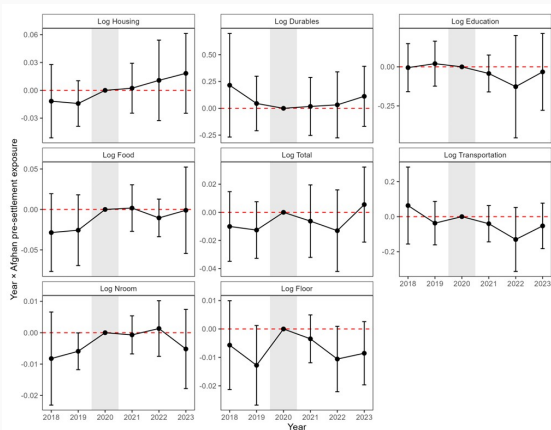
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## Dynamic DiD (Event Study)

$$\log Y_{ipt} = \sum_{\tau=t_0} \beta_{\tau} (\text{AfghanSettleShare}_{p,1996} \times 1\{t = \tau\}) + X'_{ipt}\gamma + \delta_p + \lambda_t + \varepsilon_{ipt}. \quad (15)$$

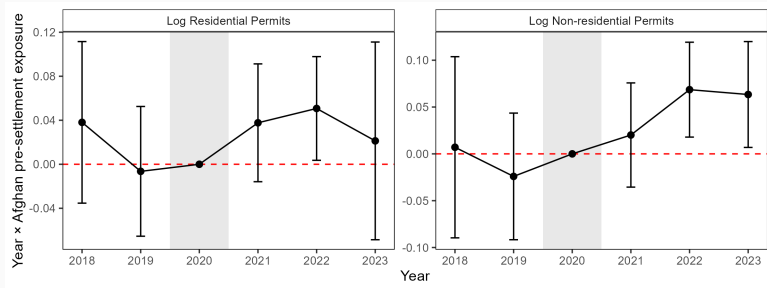
- $k$  indexes years relative to the 2021 shock ( $k = -1$  omitted)
- **Pre-trends:**  $\beta_k \approx 0$  for  $k < 0$
- **Post-2021:** no increase in housing expenditures
- **Interpretation:** parallel trends hold; timing matches the shock

# Event Study Results - Household Consumption



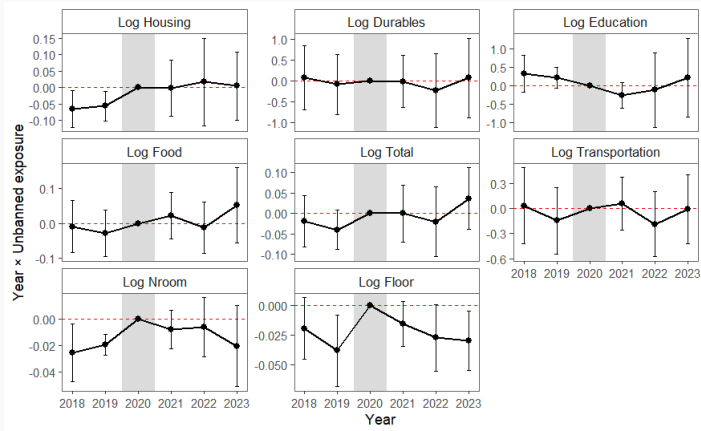
**Figure 5:** Event Study Using the Afghan Pre-Settlement Exposure, Consumption Outcomes and Dwelling Quality; Source: HEIS, SCI.

# Event Study Results - Construction



**Figure 6:** Event Study Using the Afghan pre-settlement exposure and construction outcomes, Source: Construction Permit Records, SCI.

# Unbanned as Treatment



**Figure 7:** Event Study Using the Unbanned as Treatment, Source: Consumption Outcomes and Dwelling Quality; Source: HEIS, SCI.

# Leave-One-Province-Out Robustness Check

## Baseline results for housing expenditures (full data):

- First-stage F-statistic: **89**
- Coefficient: **0.023\***

Province	First-stage F	Coefficient
Khuzestan	89.10	0.0115
Tehran	55.43	0.0296**
Isfahan	296.51	0.0189
Fars	71.87	0.0193
Alborz	80.82	0.0253**
Zanjan	88.74	0.0253**
Kermanshah	88.38	0.0200
Sistan and Baluchestan	84.71	0.0250**
Gilan	87.30	0.0246*
Markazi	90.97	0.0206*

Each row reports the IV estimate after excluding the corresponding province from the sample. Sorted by the largest change on the coefficient

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