Online Resource 1

Article title: Do retirement windfalls create entrepreneurs? Evidence from Türkiye's 2023 retirement age reform

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This Online Resource reports diagnostic tests for the instrument (Table S1), the within-province comparison of men and women (Fig. S1), robustness checks for the working-pensioner and firm-flow estimates (Table S2), the sensitivity of the taxpayer estimates to violations of parallel trends (Table S3), dose-response estimates (Table S4) and banking outcomes (Fig. S2). Tables and figures are numbered separately from the main text, in the order in which they are first cited there. Abbreviations are as in the main text.

Table S1 Pre-reform trends and the instrument

Outcome	Regressor	Coefficient (SE)	p
Change Feb 2021 to Feb 2022, employees	Instrument	−0.0941 (0.0465)	0.047
Change Feb 2021 to Feb 2022, employees	Exposure	−0.2874 (0.1138)	0.014
Change Feb 2021 to Feb 2022, old-age pensioners	Instrument	−0.0098 (0.0076)	0.201
Change Feb 2021 to Feb 2022, old-age pensioners	Exposure	−0.0447 (0.0330)	0.181
Change Feb 2021 to Feb 2022, non-agricultural self-employed	Instrument	−0.0072 (0.0038)	0.060
Change Feb 2021 to Feb 2022, non-agricultural self-employed	Exposure	−0.0216 (0.0179)	0.231
Change 2021 to 2022, firm registrations	Instrument	−0.0009 (0.0011)	0.419
Change 2021 to 2022, firm registrations	Exposure	−0.0042 (0.0061)	0.496
Linear trend 2018 to 2022, Micro-regime taxpayers	Instrument	−0.0042 (0.0021)	0.053
Linear trend 2018 to 2022, Micro-regime taxpayers	Exposure	0.0072 (0.0118)	0.544
Linear trend 2018 to 2022, Standard-regime taxpayers	Instrument	−0.0034 (0.0017)	0.050
Linear trend 2018 to 2022, Standard-regime taxpayers	Exposure	−0.0156 (0.0092)	0.097
Linear trend 2018 to 2022, All individual business taxpayers	Instrument	−0.0076 (0.0028)	0.008
Linear trend 2018 to 2022, All individual business taxpayers	Exposure	−0.0084 (0.0138)	0.546
Linear trend 2018 to 2022, Corporate taxpayers	Instrument	−0.0034 (0.0010)	0.001
Linear trend 2018 to 2022, Corporate taxpayers	Exposure	−0.0099 (0.0059)	0.098
Linear trend 2018 to 2022, Withholding-tax agents	Instrument	−0.0049 (0.0058)	0.400
Linear trend 2018 to 2022, Withholding-tax agents	Exposure	−0.0239 (0.0183)	0.198

Notes. The first six rows regress the change between February 2021 and February 2022, divided by December 2022 formal employment, on the instrument or on exposure with NUTS-1 fixed effects and robust standard errors. The firm row uses the change in January to November registrations between 2021 and 2022. The remaining rows regress the taxpayer stock on the instrument or exposure interacted with a linear year trend over 2018 to 2022, with province and region × year fixed effects and province-clustered standard errors.

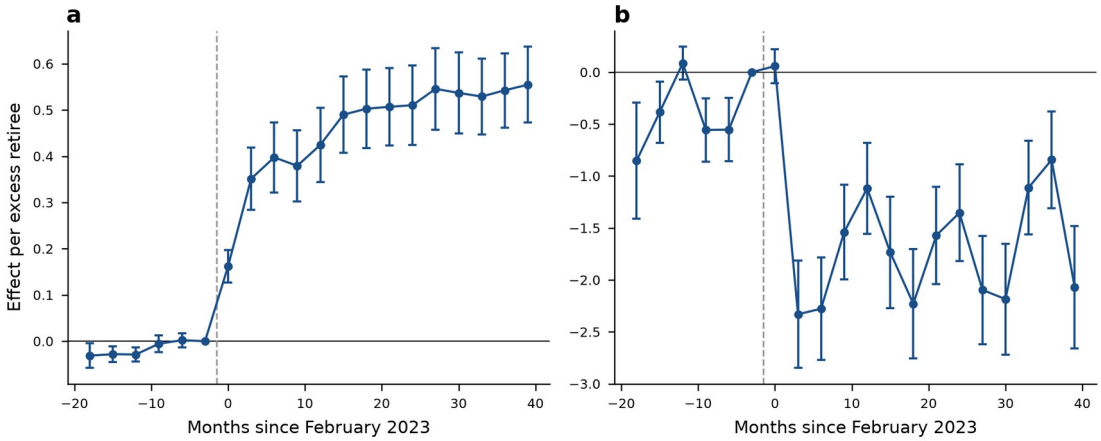


Fig. S1 Within-province comparison of men and women: working pensioners (a) and compulsorily insured employees (b). Coefficients from a model with province × sex, province × month and sex × month fixed effects, with exposure computed separately by sex, in three-month bins relative to February 2023 and 95% confidence intervals clustered by province. Employee counts show pre-reform differences and are not used for inference

Table S2 Robustness of the working-pensioner and firm-flow estimates

Specification	Working pensioners, Dec 2024	New firm registrations, 2023	Net firm formation, 2023
Baseline	0.373 (0.062)	−0.0025 (0.0036)	−0.0064 (0.0079)
Excluding provinces adjacent to earthquake zone	0.332 (0.061)	−0.0008 (0.0038)	−0.0026 (0.0086)
Exposure from employee pensions only	0.316 (0.052)	−0.0020 (0.0030)	−0.0050 (0.0065)
Clustered by NUTS-2 region	0.373 (0.068)	−0.0025 (0.0037)	−0.0064 (0.0071)
Leave out TR1	0.373 (0.062)	−0.0025 (0.0036)	−0.0064 (0.0079)
Leave out TR2	0.372 (0.067)	−0.0013 (0.0039)	−0.0050 (0.0087)
Leave out TR3	0.329 (0.070)	−0.0023 (0.0043)	−0.0043 (0.0086)
Leave out TR4	0.385 (0.069)	−0.0051 (0.0034)	−0.0123 (0.0078)
Leave out TR5	0.373 (0.062)	−0.0021 (0.0036)	−0.0056 (0.0079)
Leave out TR6	0.376 (0.064)	−0.0029 (0.0038)	−0.0066 (0.0082)
Leave out TR7	0.356 (0.057)	−0.0025 (0.0039)	−0.0073 (0.0085)
Leave out TR8	0.417 (0.060)	−0.0007 (0.0039)	−0.0061 (0.0085)
Leave out TR9	0.366 (0.069)	−0.0020 (0.0040)	−0.0080 (0.0088)
Leave out TRA	0.377 (0.067)	−0.0033 (0.0039)	−0.0044 (0.0078)
Leave out TRB	0.376 (0.062)	−0.0016 (0.0036)	−0.0044 (0.0078)
Leave out TRC	0.378 (0.063)	−0.0033 (0.0036)	−0.0072 (0.0080)

Notes. Long-difference estimates per excess retiree with NUTS-1 fixed effects and robust standard errors unless stated otherwise. Working pensioners are measured net of the December 2021 to December 2022 change. TR1 to TRC denote the twelve NUTS-1 regions of Türkiye; each row omits one region.

Table S3 Sensitivity of the taxpayer event-study coefficients to violations of parallel trends

Outcome	Year	Event-study coefficient (SE)	Largest pre-reform change	Breakdown value of M	95% set at M = 1
Micro-regime taxpayers	2023	0.061 (0.025)	0.026	0.46	[−0.014, 0.135]
Micro-regime taxpayers	2024	0.073 (0.027)	0.026	0.38	[−0.033, 0.178]
Standard-regime taxpayers	2023	−0.053 (0.024)	0.035	0.14	[−0.136, 0.030]
Standard-regime taxpayers	2024	−0.078 (0.036)	0.035	0.09	[−0.219, 0.064]
All individual business taxpayers	2023	0.008 (0.021)	0.022	0.00	[−0.055, 0.071]
All individual business taxpayers	2024	−0.005 (0.032)	0.022	0.00	[−0.112, 0.102]
Corporate taxpayers	2023	−0.012 (0.009)	0.018	0.00	[−0.048, 0.024]
Corporate taxpayers	2024	−0.024 (0.015)	0.018	0.00	[−0.090, 0.042]
Withholding-tax agents	2023	−0.045 (0.028)	0.048	0.00	[−0.148, 0.057]
Withholding-tax agents	2024	−0.085 (0.051)	0.048	0.00	[−0.281, 0.110]

Notes. The event-study coefficients are relative to 2022, without exposure trend. Under the relative-magnitudes restriction, the post-reform deviation from parallel trends in each year may be at most M times the largest absolute change between consecutive pre-reform coefficients, accumulated over the years since 2022. The breakdown value is the smallest M at which the 95% set includes zero. A value of zero means that the coefficient is not significant even when parallel trends hold exactly.

Table S4 Dose-response estimates by tercile of exposure

Outcome	Tercile 2 vs tercile 1	Tercile 3 vs tercile 1
Micro-regime taxpayers	0.0046 (0.0020)	0.0041 (0.0021)
Standard-regime taxpayers	−0.0039 (0.0013)	−0.0042 (0.0015)
All individual business taxpayers	0.0007 (0.0016)	−0.0000 (0.0016)
Corporate taxpayers	0.0004 (0.0005)	−0.0004 (0.0005)
Withholding-tax agents	−0.0027 (0.0017)	−0.0027 (0.0021)

Notes. Coefficients on tercile × post indicators relative to the lowest tercile, from models with province and region × year fixed effects and tercile-specific linear trends. Outcomes are taxpayers per formal worker. Dividing by the difference in mean exposure between terciles gives effects per excess retiree.

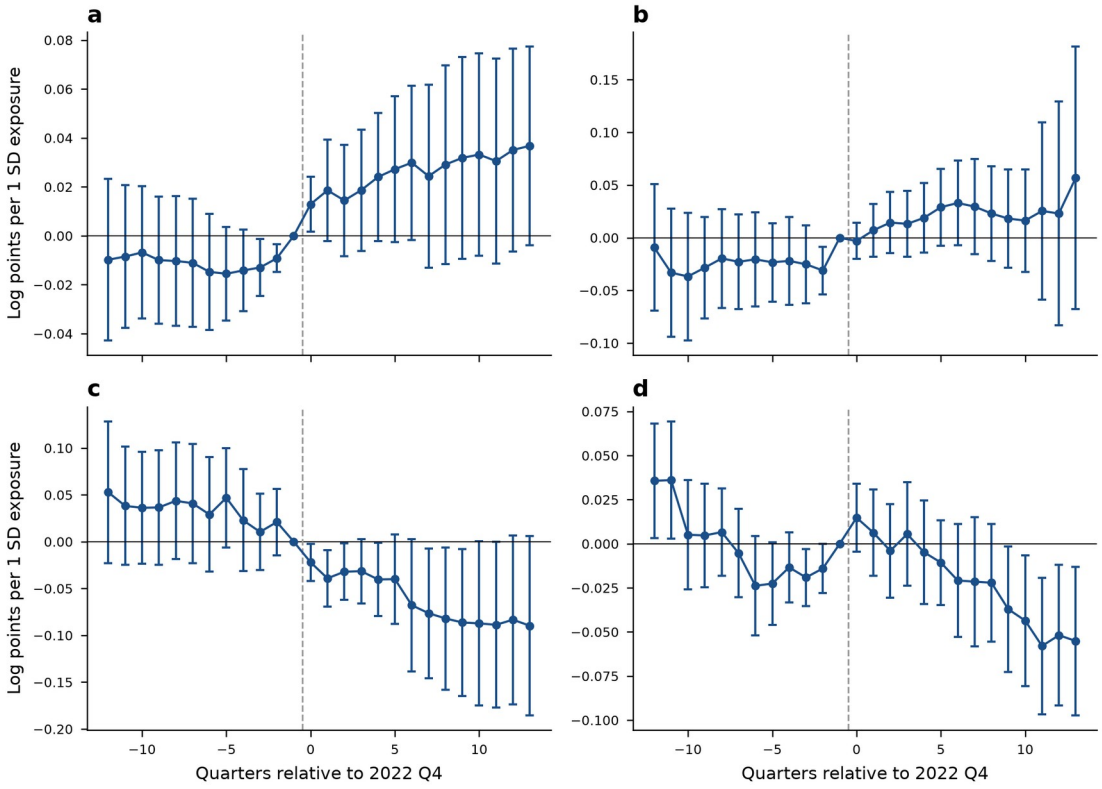


Fig. S2 Banking outcomes: housing loans (a), vehicle loans (b), commercial loans (c) and Turkish lira (TL) savings deposits (d). Quarterly event-study coefficients per one standard deviation (SD) of exposure relative to 2022 Q4, with province and region × quarter fixed effects and 95% confidence intervals clustered by province