Workers' Preference for Retirement under Policy Uncertainty

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Introduction

- Population Aging jeopardizes the Financial Sustainability of PAYG Pension Systems
- As a response, most OECD countries introduced Pension Reforms aimed at increasing Retirement Age. ‣ RA IT
- These reforms have NOT been uncontroversial. Faced with later Retirement Ages, workers and firms have pushed back demanding more Flexibility in Retirement decisions
- These political dynamics create **Policy Uncertainty** that can influence individual decisions.

What is Policy Uncertainty?

- Workers face uncertainty about:
  1. Future retirement age (possible increases).
  2. Eligibility conditions (tightening of seniority or contribution requirements).
  3. Pension benefits (possible reductions or changes in indexation).
- These expectations are not hypothetical: surveys show two-thirds of respondents in major EU countries reported uncertainty about reforms before retirement; expectations spike just before reforms are enacted (Ciani et al. 2023).
- Italy has undergone continuous policy changes: Amato (1992), Dini (1995), Prodi (1997), Maroni (2004), Damiano (2007), Sacconi (2010), Monti–Fornero (2011), Poletti–Renzi (2017). All reforms moved toward less generous and more restrictive systems, often with little advance notice ▸ More details

Does Policy Uncertainty matter for Retirement Decision?

- Policy uncertainty generates financial and timing risk: workers cannot predict when they will retire nor what they will receive.
- Quantitative evidence indicates that individuals would give up 1.0–4.5% of lifetime consumption to fully insure against uncertainty in retirement timing (Caliendo et al. 2023, p. 3).
- Standard retirement models rarely incorporate this uncertainty—even though it shapes real-world behaviour
- Policy Uncertainty may induce Early Retirement as a **Demand for Insurance** against the Risk of a Policy Change towards more restrictive measures

Literature on Retirement Decisions

- **Financial Incentives**: Empirical evidence shows that pension rules strongly influence labour supply (Gruber and Wise, 1998; Coile et al., 2020; Staubli and Zweimüller, 2013; Mastrobuoni, 2009; Coile and Gruber, 2007; Manoli and Weber, 2016; Gustman and Steinmeier, 1986). Yet, estimated elasticities are surprisingly small, and actual retirement ages often diverge from expectations (Caliendo et al., 2023).
- **Non-financial Determinants**: Health shocks (Currie and Madrian, 1999), Family responsibilities, Labor Demand (Bello and Galasso, 2020; Dorn and Sousa-Poza, 2010; Frimmel et al., 2018)
- **Behavioural Factors and Reference Dependence**: Statutory retirement ages act as behavioural anchors: spikes in claiming and job exit at FRA cannot be explained by incentives alone (Behaghel and Blau, 2012; Seibold, 2021). Raising the FRA delays retirement more than financially predicted (Lalive et al., 2020).
- little work on **Policy Uncertainty**

Our Paper

- We analyze Retirement Decisions in an environment in which early retirement represents an insurance against the **risk of being affected by a reform** while waiting to obtain eligibility requirements

- We provide a simple **Theoretical framework** to derive empirical predictions on how retirement decisions depend on individual age and monetary loss from retiring – with and without policy uncertainty regarding future pension reforms.

- In our Empirical analysis, we use administrative data on a One-time Offer to Retire Early made in December 2017 by a large Italian bank to its elderly workers to evaluate the relevance of policy uncertainty in Retirement Decisions.

- Preview: our results confirm the relevance of Financial Incentives for Retirement, but Identify also an important **Role for Policy Uncertainty**

Our Setting

- Study a **One-time Offer** made in December 2017 by a large Italian bank to its elderly workers [seven years away from retirement or less] to exit the labor market on a (privately paid) early retirement scheme
- Not the usual retirement setting:
  - One time offer to accept a monthly transfer (equal to the future pension) and to stop working immediately.
  - In case of **acceptance**, no effect on future pensions, since the firm continues to pay pension contributions
  - In case of **non-acceptance**, the worker will retire according to her/his age and years of contributions – **subject to possible future policy changes**
- **Administrative Data** on individual take-up decision with this early exit scheme and on their socio-economic and demographic characteristics for almost 10 thousand workers

Retirement Decisions

- Utility of accepting the offer is:

$$V(\hat{A}) = \sum_{i=0}^{N} \beta^i \left[U(P^A_{t+i}) + \alpha_i V(I_{t+i}) \right] \tag{1}$$

- Utility of declining and expecting to retire in the next period:

$$\begin{aligned} V(\hat{T}_1) = U(y_t) + \alpha_0 V(I_t = 0) + (1 - \rho_I) \sum_{i=1}^{N} \beta^i \left[U(P^A_{t+i}) + \alpha_i V(I_{t+i}) \right] \\ + \beta \rho_I \left[U(y_{t+1}) + \alpha_i V(I_{t+1} = 0) + \sum_{i=2}^{N} \beta^i \left[U(P^R_{t+i}) + \alpha_i V(I_{t+i}) \right] \right] \end{aligned} \tag{2}$$

- Similarly for Utility of declining the offer and expecting to retire in two periods

Retirement Decisions

- Value of leisure increases with age ($\alpha_{64} \geq \alpha_{63}$) [and $y_{64} \geq y_{63}$]
- probability of a future reform increases over time ($\rho_{II} > \rho_I$)

Let's compare the retirement decisions of two individuals:

- a 64 years old expecting to retire in the next period and
- a 63 years old expecting to retire in two periods

NO Policy Uncertainty ($\rho_I = \rho_{II} = 0$): Leisure-Income Loss Trade off Only.

- Three Cases: everyone accepts; only 64 yo accepts; none accepts.

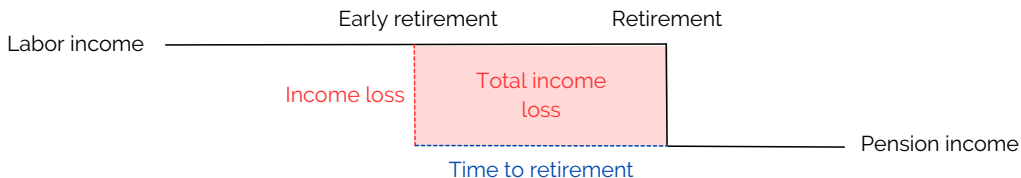
Policy Uncertainty ($\rho_{II} > \rho_I > 0$). Leisure-Income Loss Trade off and Policy Uncertainty Reduction.

- Additional Case: only 63 yo accepts, due to relevance of Policy Uncertainty Reduction.

Empirical set up: one-time offer

Unique setting from a large Italian bank

- One-time offer to (early) retire in December 2017
- 9000+ employees close to retirement (up to 7 years). Acceptance Rate: 73%
- Same Benefit as Future Pension Income: No pension penalty
- Individuals are at different Times from Retirement



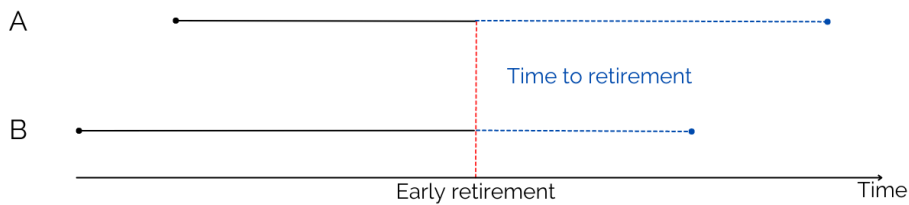
Data

Individual-level administrative data ‣ Sample selection ‣ Sum stats

- Main outcome: early retirement acceptance
- Demographics: Age, Place of birth, Gender, Marital Status, Children, Education
- Economics: Income, Working location, Job
- Retirement: Date of retirement, Pension Equivalent Transfer (PET) ‣ Estimating PET

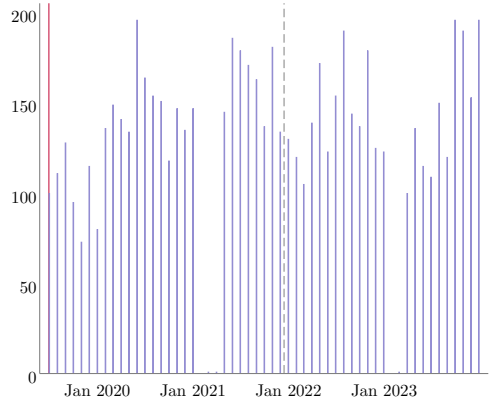
Identification

- Individuals may have different age at the time of the offer (64 vs. 63 years old) and be at **different expected distance from Retirement** (one or two years)
- This variation can be used to identify their response to financial incentives and leisure/policy uncertainty



Treatment

- Continuous: temporal distance to retirement
- Groups ▸ Balance



Notes. The figure reports day-level frequency of the expected retirement. The vertical red line marks 30 June 2019, the date of early retirement. The x-axis reports the date of of retirement eligibility. The dashed vertical line marks the cutoff for the assignment to *far from* and *close to retirement* groups. The low frequencies in the first months of some years might be a mechanic result of the increase in the requirements necessary to retire. This explanation is consistent with figure 4

Empirical Specification

$$Acceptance_{iq} = \beta_0 + \beta_1 income\ loss_i + \beta_2 time\ to\ retirement_i + \beta_3 X_i + \gamma_q + \epsilon_i \quad (3)$$

- $acceptance_i = 1$ if individual i accepts the early retirement offer
- $income\ loss_i$:
  - annual loss defined as $\frac{net\ income_i - net\ pension_i}{net\ income_i}$
  - $annual\ loss \times number\ of\ years$
- $time\ to\ retirement_i$:
  - temporal distance between expected retirement eligibility and the day of early retirement
  - dummies for the treatment groups
- X_i : set of individual controls (gender, education, number of children, job position, region of work)
- γ_q : age at retirement fixed effects.

Main results ▸ Controls

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A: Annual income loss			
Annual income loss	-0.004***	-0.008***	-0.005***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.039***	0.018*	0.052***	0.027***
	(0.010)	(0.010)	(0.010)	(0.010)
$\mathbb{E}(\textit{annual income loss})$	19.702	19.702	19.702	19.702
	Panel B: Total income loss			
Tot income loss	-0.000	-0.001***	-0.000	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Far from retirement	0.052***	0.070***	0.069***	0.070***
	(0.015)	(0.015)	(0.015)	(0.015)
$\mathbb{E}(\textit{tot income loss})$	54.207	54.207	54.207	54.207
$\mathbb{E}(y)$	0.752	0.752	0.752	0.752
Obs	7,085	7,085	7,085	7,085
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income. The set of additional controls includes dummies for managerial jobs, branch or central office, level of education, marital status, gender, the region of work, and for the number of children.

Additional Results

- Heterogeneity
  - Gender ‣ Table
  - Education ‣ Table
  - Managerial jobs ‣ Table
- Robustness
  - Linear model ‣ Table
  - Three time periods ‣ Table
  - 50 bins ‣ Binscatter
- Acceptance by income loss and age at retirement ‣ Binscatter

Conclusions

- Our findings are in line with Retirement Decisions being affected by Financial Incentives and by **Policy Uncertainty**
- Women are less responsive to Financial Incentives and Policy Uncertainty
- High Educated individuals are more responsive to Financial Incentives [and Policy Uncertainty]
- **Insurance Premium** to avoid Policy Reforms of around €500 per year ▸ More

Appendix

Main reforms of Italian pension system

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Year	Reform	Main Characteristics
1992	Amato	Raised retirement age and seniority requirements; eliminated early retirement shortcuts (“Baby retired”)
1995	Dini	Increased retirement age; changed pension calculation from last earnings to total contributions; introduced indexing to economic cycle
1997	Prodi	Harmonized pension rules for different categories of workers; Further tightened requirements for seniority pensions.
2004	Maroni	Increase in retirement age (for both seniority and old-age pension) by more than three years from 1Jan2008; Strengthen the incentives to postpone retirement.
2007	Damiano	The “scalone” introduced by the Maroni reform was replaced by a “quota system”; the minimum age to be eligible for old-age pension was modified to 65/60 (man/women) conditional on having paid 20 years of contributions, for those cohorts that were subject to DB or PR scheme and to 65/60 (man/women) conditional on having paid 5 years of contributions, for those cohorts that were subject to NDC scheme.
2010	Sacconi	Introduced automatic retirement age adjustments based on life expectancy.
2011	Monti - Fornero	Early retirement was abolished; Legal requirement for Old age pension was raised (1 and 5 years) and was fully harmonised irrespective of the activity sector or gender; The minimum mandatory number of years of contribution raised to 42 years and 1 month for men and 41 years and 1 month for women; Concerning the benefit computation, the NDC rules started being applied to everyone regardless the cohort but relatively only to seniority accumulated starting from 2012; Block of indexation to price level for all pensions whose amount was abolished.
2017	Poletti-Renzi	Introduced “APE”, a scheme allowing early retirement with financial penalties, and “APE sociale”, an early retirement scheme for workers in hardship conditions (e.g., unemployed, disabled, caregivers).

Retirement Age (IT)

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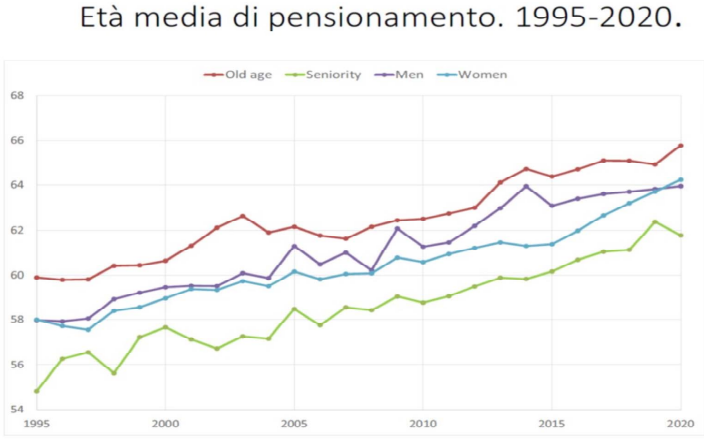

Requirements to retire with full benefits

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	Old Age		Pure seniority	
	Men	Women	Men	Women
Seniority	20y	20y	42y 10m	41y 10m
Age	66y 7m	65y 7m	62y	62y

Notes. The table presents the requirements for employees to retire with full benefits in 2017. These requirements are indexed to automatically adjust over the years to align with the demographic and economic trends of the Italian economy. Access to the pure seniority pension is attainable before reaching the age of 62, albeit with associated economic penalties.

Retirement requirements over time

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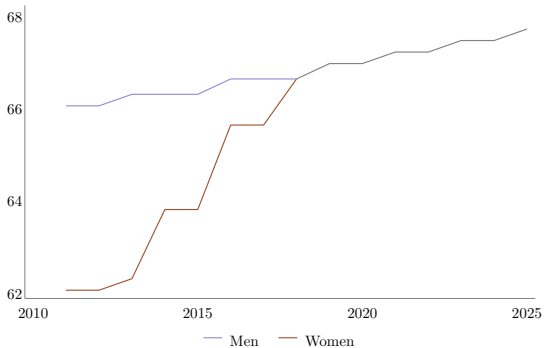
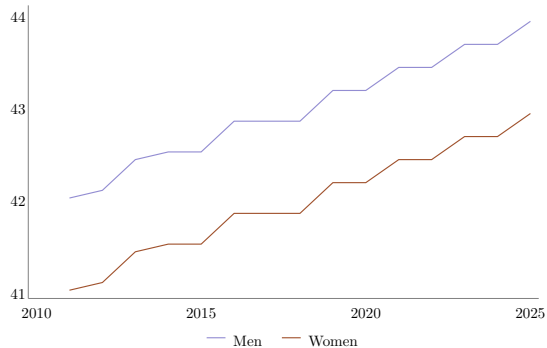
(a) Requirements based on age



(b) Requirements based on seniority



Notes. The requirements in this figure refer to employees under the Monti-Forner reform.

Graphical representation of the decision

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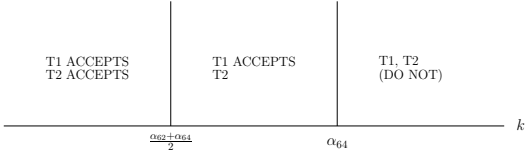
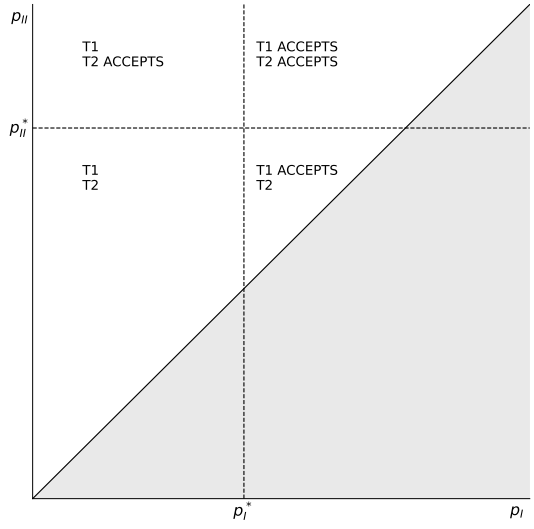


(a) Case I



(b) Case II

Sample selection

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Filtering step	Obs	Share			Age	Female
		Cumulative	Of previous step	Just this filter		
All employees	9,258	1.00		1.00	59	0.41
Target sample						
Full-time employees	8,314	0.90	0.90	0.90	59	0.36
Not yet eligible to retire	8,108	0.88	0.98	0.98	59	0.36
Non-missing						
Non-missing education	8,027	0.87	0.99	0.99	59	0.36
Non-missing region of work	8,009	0.87	0.99	1.00	59	0.36
Non-missing income loss	7,086	0.77	0.88	0.89	59	0.39

Notes. For each step *s*, the shares are computed as follows. Cumulative: the number of observations at step *s* after applying all previous filters, divided by the number of observations in the raw sample. Of previous step: the number of observations at step *s* after applying all previous filters, divided by the number of observations in the previous step *s-1*. Just this filter: the number of observations after applying only the filter at step *s*, divided by the number of observations in the raw sample.

Summary statistics

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	Mean	Obs	s.d.	Min	Median	Max
			Demographics			
Female	0.39	7,085	0.49	0	0	1
Age at the offer	58.98	7,085	1.98	47	59	65
Age at retirement	62.81	7,085	1.74	52	63	67
Bachelor or higher	0.10	7,085	0.30	0	0	1
Married	0.79	7,085	0.41	0	1	1
# of Children	1.35	7,085	0.93	0	1	9
Has a child	0.79	7,085	0.41	0	1	1
Has a 28-38yo Child	0.49	7,085	0.50	0	0	1
North (birth)	0.67	6,984	0.47	0	1	1
North (work)	0.71	7,085	0.45	0	1	1
			Economics			
Years to retirement	2.82	7,085	1.32	0.50	2.84	5.01
Acceptance	0.75	7,085	0.43	0	1	1
Middle or top manager	0.59	7,085	0.49	0	1	1
Branch office	0.75	7,085	0.43	0	1	1
Full time equivalent (%)	100	7,085	0.00	100	100	100
Net labor income (k €)	35.01	7,085	8.34	19.48	32.84	128.31
Net pension transfer (k €)	27.36	2,394	4.65	12.03	26.37	56.75
			Estimated			
Seniority	39.16	6,898	1.25	36.66	39.09	41.67
Net pension transfer (k €)	28.02	4,691	5.04	17.01	26.74	79.34
Annual income loss (%)	19.70	7,085	5.32	-3.70	19.30	50.35
Total income loss (%)	54.21	7,085	28.01	-6.49	52.06	186.48

Notes. Summary statistics in this table refer to the working sample. Total and annual income losses are expressed as percentage of 2017 net income. *Full time equivalent* is equal to 100 for full-time employees. *Branch office* is a dummy equal to one for workers employed in local branch offices and zero if they are employed in central offices.

Balance checks

‣ Back

		Close to retirement		Far from retirement		Difference	
	Obs	Mean	s.d.	Mean	s.d.	F - C	p-value
Age at acceptance	7,085	59.85	1.82	57.99	1.65	-1.863***	0.000
Female	7,085	0.38	0.49	0.41	0.49	0.027**	0.021
N. of children	7,085	1.36	0.93	1.33	0.93	-0.036	0.106
Middle or top manager	7,085	0.60	0.49	0.58	0.49	-0.019	0.105
Branch office	7,085	0.74	0.44	0.76	0.43	0.020*	0.054
Married	7,085	0.79	0.41	0.78	0.41	-0.012	0.228
Bachelor	7,085	0.10	0.30	0.10	0.31	0.004	0.622
North (work)	7,085	0.71	0.46	0.72	0.45	0.015	0.153
Net labor income (k €)	7,085	35.30	8.60	34.68	8.01	-0.616***	0.002
Net pension transfer (k €)	2,394	27.35	4.55	27.45	5.92	0.097	0.835
Net pension transfer (estimated, k €)	6,898	27.74	4.94	27.86	4.67	0.123	0.287

Notes. Significance at the 10% level is represented by *, at the 5% by **, and at the 1% by ***.

Early retirement acceptance: expanded table

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Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Annual income loss		Total income loss	
Income loss	-0.008***	-0.008***	-0.001***	-0.001***
	(0.001)	(0.001)	(0.000)	(0.000)
Far from retirement	0.018*	0.027***	0.070***	0.070***
	(0.010)	(0.010)	(0.015)	(0.015)
Female	0.060***	0.057***	0.042***	0.046***
	(0.011)	(0.012)	(0.011)	(0.012)
Middle or top manager	-0.022**	-0.019*	-0.043***	-0.041***
	(0.011)	(0.011)	(0.011)	(0.011)
Branch office	0.108***	0.109***	0.113***	0.115***
	(0.013)	(0.013)	(0.013)	(0.013)
Married	0.054***	0.055***	0.055***	0.055***
	(0.014)	(0.014)	(0.014)	(0.014)
High school degree	0.033*	0.054***	0.029	0.041**
	(0.018)	(0.019)	(0.018)	(0.019)
Bachelor or higher	0.013	0.013	0.005	-0.007
	(0.025)	(0.026)	(0.025)	(0.026)
Has 1 child	-0.049***	-0.049***	-0.052***	-0.051***
	(0.015)	(0.015)	(0.015)	(0.015)
Has 2 children	-0.067***	-0.065***	-0.072***	-0.069***
	(0.015)	(0.015)	(0.015)	(0.015)
Has 3 children	-0.072***	-0.066***	-0.075***	-0.070***
	(0.024)	(0.023)	(0.024)	(0.023)
Has 4 children	-0.101	-0.100	-0.102	-0.102
	(0.070)	(0.069)	(0.070)	(0.069)
Has 5 children	-0.338**	-0.374***	-0.329**	-0.367***
	(0.138)	(0.134)	(0.142)	(0.136)
Has 6 children	0.254**	0.277**	0.247***	0.274***
	(0.100)	(0.108)	(0.090)	(0.101)
Has 9 children	0.512***	0.267***	0.528***	0.260***
	(0.059)	(0.061)	(0.062)	(0.063)
Age at retirement FE	No	Yes	No	Yes
Region of work FE	Yes	Yes	Yes	Yes

Early retirement acceptance: linear model

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Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A: Annual income loss			
Annual income loss	-0.003***	-0.008***	-0.005***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Time to retirement	0.017***	0.007*	0.023***	0.011***
	(0.004)	(0.004)	(0.004)	(0.004)
	Panel B: Total income loss			
Tot income loss	-0.001**	-0.002***	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)
Time to retirement	0.035***	0.051***	0.050***	0.055***
	(0.007)	(0.008)	(0.008)	(0.008)
$\mathbb{E}(y)$	0.752	0.752	0.752	0.752
Obs	7,085	7,085	7,085	7,085
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income and *Time to retirement* is expressed in years. The set of additional controls includes dummies for managerial jobs, branch or central office, level of education, marital status, gender, the region of work, and for the number of children.

Early retirement acceptance: 3 time periods

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	(1)	(2)	(3)	(4)
Dep. variable	Acceptance			
	Panel A: Annual income loss			
Annual income loss	-0.004***	-0.008***	-0.005***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
T2	0.075***	0.048***	0.086***	0.054***
	(0.012)	(0.011)	(0.012)	(0.011)
T3	0.023	-0.008	0.043***	0.005
	(0.015)	(0.015)	(0.015)	(0.015)
	Panel B: Total income loss			
Tot income loss	-0.000	-0.001***	-0.000	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
T2	0.088***	0.096***	0.107***	0.095***
	(0.015)	(0.015)	(0.016)	(0.016)
T3	0.046**	0.074***	0.080***	0.075***
	(0.023)	(0.023)	(0.024)	(0.024)
$\mathbb{E}(y)$	0.752	0.752	0.752	0.752
Obs	7,085	7,085	7,085	7,085
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. In this table, we categorize employees into three groups (T1, T2, T3) by leveraging the discontinuities in retirement dates occurring in early 2021 and 2023, as illustrated in Figure 12. *Income loss* is expressed as percentage of 2017 net income. The set of additional controls includes dummies for managerial jobs, branch or central office, level of education, marital status, gender, the region of work, and for the number of children.

Acceptance by time to retirement

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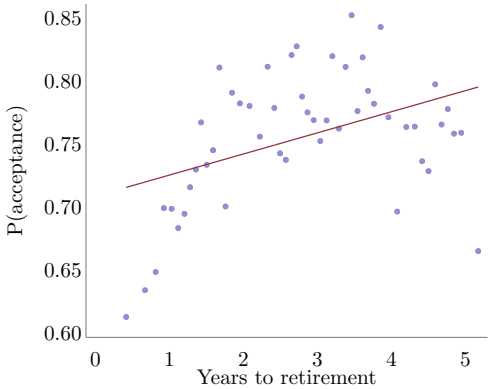
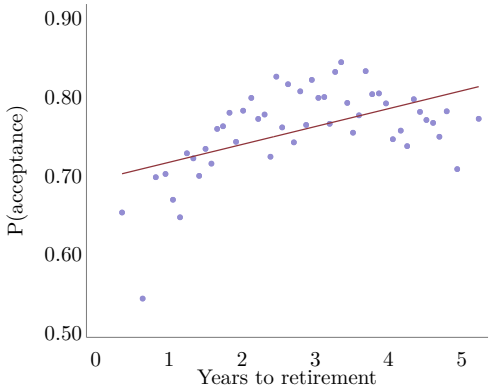
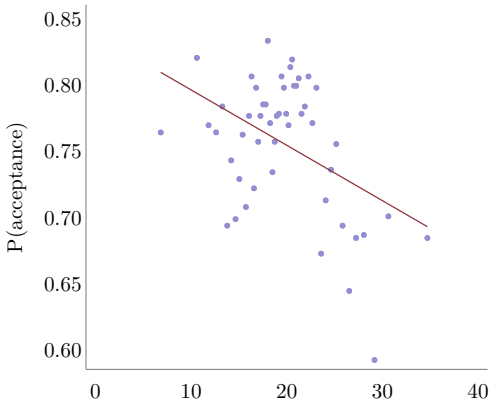




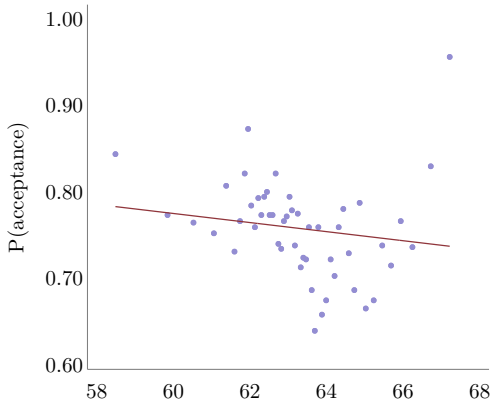
Notes. The binscatters report the probability to accept to offer by the temporal distance (years) to retirement, divided into 50 equal-sized bins. In panel (a) we control for the annual income loss, (b) we control for annual income loss and age at retirement FE.

Acceptance by income loss and age

Back



(a) Net income loss (%)



(b) Age at retirement

Notes. The binscatters report the probability to accept to offer by *net income loss* (panel a) and *age at retirement* (panel b), divided into 50 equal-sized bins

Heterogeneity: women are willing to accept a higher cut

‣ Back

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A			
Annual income loss	-0.008***	-0.009***	-0.007***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.036***	0.019*	0.047***	0.027***
	(0.010)	(0.010)	(0.010)	(0.010)
Female	-0.067	-0.034	-0.039	0.003
	(0.046)	(0.047)	(0.046)	(0.047)
Female × Annual income loss	0.007***	0.005**	0.005**	0.003
	(0.002)	(0.002)	(0.002)	(0.002)
	Panel B			
Annual income loss	-0.006***	-0.008***	-0.006***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.048***	0.025*	0.062***	0.036***
	(0.014)	(0.013)	(0.014)	(0.013)
Female	0.096***	0.068***	0.084***	0.069***
	(0.015)	(0.015)	(0.016)	(0.016)
Female × Far from retirement	-0.035*	-0.017	-0.041**	-0.024
	(0.021)	(0.020)	(0.021)	(0.020)
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Heterogeneity: graduates are more responsive to financial loss

Back

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A			
Annual income loss	0.010***	0.003	0.007**	0.002
	(0.003)	(0.003)	(0.003)	(0.003)
Far from retirement	0.037***	0.017*	0.050***	0.026**
	(0.010)	(0.010)	(0.010)	(0.010)
High school degree	0.309***	0.260***	0.318***	0.242***
	(0.058)	(0.055)	(0.058)	(0.055)
Bachelor or higher	0.267***	0.225***	0.234***	0.151**
	(0.078)	(0.077)	(0.077)	(0.076)
High school degree × Annual income loss	-0.015***	-0.013***	-0.014***	-0.011***
	(0.003)	(0.003)	(0.003)	(0.003)
Bachelor or higher × Annual income loss	-0.018***	-0.012***	-0.014***	-0.009**
	(0.004)	(0.004)	(0.004)	(0.004)
	Panel B			
Annual income loss	-0.004***	-0.008***	-0.006***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.030	0.015	0.046	0.028
	(0.035)	(0.033)	(0.034)	(0.033)
High school degree	0.047*	0.034	0.084***	0.057**
	(0.024)	(0.023)	(0.025)	(0.024)
Bachelor or higher	-0.072**	-0.007	-0.040	-0.007
	(0.034)	(0.034)	(0.034)	(0.034)
High school degree × Far from retirement	0.002	-0.002	-0.002	-0.007
	(0.036)	(0.035)	(0.036)	(0.034)
Bachelor or higher × Far from retirement	0.061	0.042	0.064	0.042
	(0.049)	(0.048)	(0.048)	(0.047)
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income. The omitted category is middle school or lower. The set of additional controls includes dummies for managerial jobs, gender, the region of work, and for the number of children.

Heterogeneity: and so are managers

‣ Back

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A			
Annual income loss	0.008***	-0.000	0.006***	-0.001
	(0.001)	(0.002)	(0.002)	(0.002)
Far from retirement	0.040***	0.019*	0.051***	0.027***
	(0.010)	(0.010)	(0.010)	(0.010)
Middle or top manager	0.286***	0.207***	0.266***	0.183***
	(0.041)	(0.041)	(0.041)	(0.040)
Middle or top manager × Annual income loss	-0.017***	-0.012***	-0.015***	-0.011***
	(0.002)	(0.002)	(0.002)	(0.002)
	Panel B			
Annual income loss	-0.003**	-0.008***	-0.004***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.047***	0.016	0.060***	0.027*
	(0.015)	(0.015)	(0.016)	(0.015)
Middle or top manager	-0.025*	-0.023	-0.013	-0.019
	(0.015)	(0.015)	(0.015)	(0.015)
Middle or top manager × Far from retirement	-0.011	0.002	-0.013	-0.000
	(0.021)	(0.020)	(0.021)	(0.020)
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income. The set of additional controls includes dummies for branch or central office, level of education, marital status, gender, the region of work, and for the number of children.

Heterogeneity: marital status

Back

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A			
Annual income loss	-0.003	-0.006***	-0.005**	-0.006***
	(0.002)	(0.002)	(0.002)	(0.002)
Far from retirement	0.039***	0.018*	0.052***	0.027***
	(0.010)	(0.010)	(0.010)	(0.010)
Married	0.029	0.104**	0.021	0.096*
	(0.051)	(0.050)	(0.051)	(0.050)
Married × Annual income loss	-0.001	-0.003	-0.000	-0.002
	(0.003)	(0.002)	(0.003)	(0.002)
	Panel B			
Annual income loss	-0.004***	-0.008***	-0.005***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.065***	0.052**	0.079***	0.058***
	(0.022)	(0.022)	(0.022)	(0.022)
Married	0.027	0.075***	0.030*	0.074***
	(0.018)	(0.019)	(0.018)	(0.018)
Married × Far from retirement	-0.032	-0.043*	-0.034	-0.040
	(0.025)	(0.024)	(0.025)	(0.024)
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income. The set of additional controls includes dummies for managerial jobs, branch or central office, level of education, gender, the region of work, and for the number of children.

Heterogeneity: branch vs central staff

‣ Back

Dep. variable	(1)	(2)	(3)	(4)
	Acceptance			
	Panel A			
Annual income loss	-0.000	-0.004**	-0.001	-0.004*
	(0.002)	(0.002)	(0.002)	(0.002)
Far from retirement	0.038***	0.018*	0.051***	0.027***
	(0.010)	(0.010)	(0.010)	(0.010)
Branch office	0.179***	0.225***	0.181***	0.224***
	(0.048)	(0.049)	(0.047)	(0.048)
Branch office × Annual income loss	-0.004*	-0.006**	-0.004*	-0.006**
	(0.002)	(0.002)	(0.002)	(0.002)
	Panel B			
Annual income loss	-0.003***	-0.008***	-0.004***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Far from retirement	0.078***	0.062***	0.094***	0.069***
	(0.022)	(0.023)	(0.022)	(0.022)
Branch office	0.124***	0.135***	0.122***	0.135***
	(0.018)	(0.017)	(0.017)	(0.017)
Branch office × Far from retirement	-0.053**	-0.058**	-0.057**	-0.057**
	(0.025)	(0.025)	(0.025)	(0.025)
Age at retirement FE	No	No	Yes	Yes
Controls	No	Yes	No	Yes

Notes. *Income loss* is expressed as percentage of 2017 net income. The set of additional controls includes dummies for managerial jobs, level of education, marital status, gender, the region of work, and for the number of children. *Branch office* is a dummy equal to one for workers employed in local branch offices and zero if they are employed in central offices.

Estimating the Pension Equivalent Transfer

Back

using the sample of individuals with information on their pension equivalent transfer, we estimate the following equation:

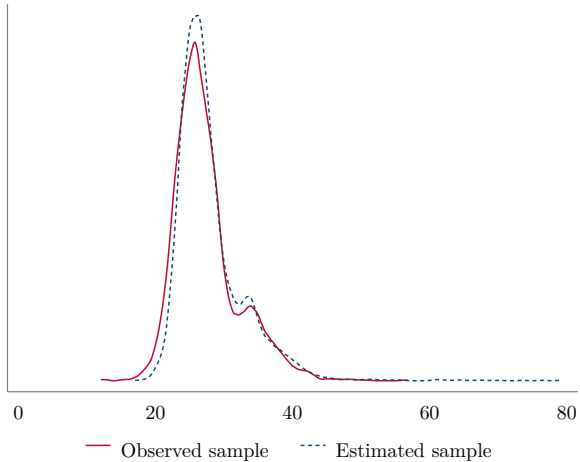
$$PET_i = \beta_0 + \beta_1 income_i + \beta_2 seniority_i + \beta_3 manager_i + \beta_4 female_i + \gamma_q + \epsilon_i$$

pected by individual i, *income* be her gross income in 2017, *seniority* be the years of contributions paid to the social security system, *manager* is a dummy that marks managerial positions and γ_q be age fixed effects.
We employ the estimated coefficients to predict the *PET* for the remaining sample.

PET distribution PET error

Estimating PET: distribution

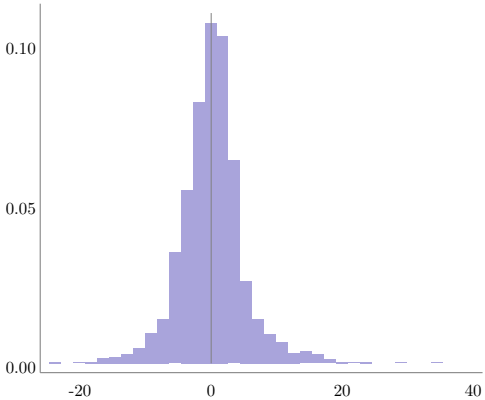
Back



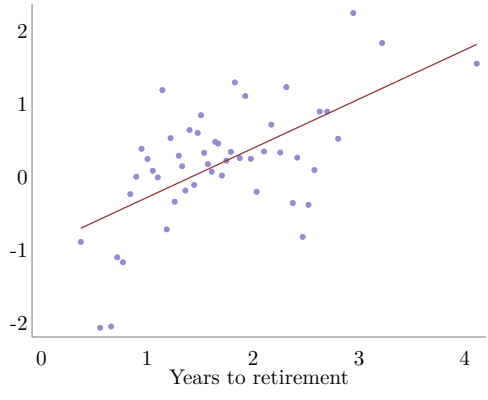
Notes. The figure shows the distributions of *annual pension income* (in thousands of euros) for the observed and estimated samples, respectively.

Estimating PET: % error in the observed sample

Back



(a) Distribution



(b) Corr with distance to retirement

Notes. Panel (a) reports the distribution of the percentage difference, within the subsample with complete information, between the estimated and observed pension income. The latter being calculated as $\frac{\text{estimated pension} - \text{actual pension}}{\text{estimated pension}}$%. The binscatter in panel (b) shows the correlation between the distance to retirement (x-axis) and the percentage error (y-axis).

Context: SWG surveys 2016

- Sample of 2,600 individuals interviewed between July 4 and 6, 2016.
  - 48% of workers are willing to give up part of their pension in exchange for early retirement.
  - 14% are willing to accept a pension cut of 10% or more.
  - Among the proposed measures, early retirement for workers in strenuous jobs or for early starters receives the broadest support.

Context: SWG surveys 2016

- Sample of 2,600 individuals interviewed between May and July, 2016.
  - Perception of the signs of economic recovery weakens.
  - The sense of improvement in the national economic situation and satisfaction with one's household condition decreases.
  - Perception of rising unemployment increases.
  - Criticism of the Jobs Act is resurging.
  - Early retirement with penalties divides opinion, but over 50% are in favor—especially ages 45–64.
  - Most support goes to the mildest option: 2% cut for 4 years early.
  - Overall majority favors lowering retirement age, even with penalties.
  - Over-55s cite need for personal/family time as main reason for early exit.
  - Fatigue is mentioned by 25%; health issues have little weight.
  - Main reason against early retirement: low pension and financial need (67%).
  - Minority (33%) cite enjoyment or ease of current job.
  - Rising life expectancy raises major political questions.

Context: SWG surveys 2016

- Sample of 2,600 individuals interviewed between August 1 and 3, 2016.
- Hypothetical scenario: retire 1 year early with a reduced pension (€960 instead of €1,000/month).
  - 38% would accept early retirement under these conditions.
  - 14% are uncertain.
  - 48% would reject the offer.
- Hypothetical scenario (only who said *No* or *I don't know*): retire 1 year early with a reduced pension (€980 instead of €1,000/month).
  - 21% would accept early retirement under these conditions.
  - 21% are uncertain.
  - 55% would reject the offer.

Context: SWG surveys 2016

- Sample of 2,600 individuals interviewed between October 3 and 5, 2016.
  - Widespread (70%) attention to pension reform talks between government and unions.
  - 50% view the dialogue positively; 80% among PD voters, lower among Lega and M5S.
  - 38% approve the government's role; many see it as a move to broaden support.
  - Lega voters support the government's position more than average—pensions cut across usual politics.
  - Two-thirds back monetary increases; over half support measures for strenuous jobs and the APE.

Context: INPS survey 2016

	Mean	Obs	s.d.	Min	Median	Max
			Demographics			
Female	0.38	2,219	0.49	0	0	1
Bachelor or higher	0.26	2,219	0.44	0	0	1
Age bracket						
Below 25	0.01	2,219	0.08	0	0	1
25-34	0.08	2,219	0.28	0	0	1
35-39	0.09	2,219	0.28	0	0	1
40-49	0.24	2,219	0.43	0	0	1
50-59	0.30	2,219	0.46	0	0	1
60-64	0.12	2,219	0.33	0	0	1
65+	0.16	2,219	0.36	0	0	1
			INPS Assessment			
Levels (1-5)						
Should inform people	4.29	2,219	0.81	1.00	4.00	5.00
Correct pension evaluation method	3.89	2,219	1.04	1.00	4.00	5.00
Initiatives increase information level	3.80	2,219	0.95	1.00	4.00	5.00
Should increase transparency	4.41	2,219	0.73	1.00	5.00	5.00
Overall assessment	3.05	2,219	0.72	1.00	3.00	5.00
Dummies (3+)						
Should inform people	0.98	2,219	0.14	0	1	1
Correct pension evaluation method	0.91	2,219	0.29	0	1	1
Initiatives increase information level	0.93	2,219	0.26	0	1	1
Should increase transparency	0.99	2,219	0.10	0	1	1
Overall assessment	0.84	2,219	0.36	0	1	1
			Attitudes			
Pension cut with early retirement	0.48	2,219	0.50	0	0	1
Values						
Competence	0.12	2,219	0.32	0	0	1
Collaboration	0.70	2,219	0.46	0	1	1
Network	0.15	2,219	0.36	0	0	1
Pension cut with early retirement	0.48	2,219	0.50	0	0	1
Trust						
People	0.16	2,219	0.36	0	0	1
Family	0.06	2,219	0.24	0	0	1
Fo one	0.73	2,219	0.44	0	1	1

Context: INPS survey 2016

	Obs	Control	s.d.	Treated	s.d.	Diff	p-value
				Demographics			
Female	2,219	0.43	0.49	0.33	0.47	-0.095***	0.000
Bachelor or higher	2,219	0.26	0.44	0.27	0.45	0.012	0.521
Age bracket							
Below 25	2,219	0.01	0.09	0.01	0.07	-0.004	0.289
25-34	2,219	0.08	0.27	0.09	0.28	0.003	0.791
35-39	2,219	0.08	0.28	0.09	0.28	0.005	0.701
40-49	2,219	0.26	0.44	0.23	0.42	-0.028	0.130
50-59	2,219	0.31	0.46	0.29	0.45	-0.018	0.362
60-64	2,219	0.11	0.31	0.14	0.35	0.032**	0.024
65+	2,219	0.15	0.36	0.16	0.37	0.010	0.542
				INPS Assessment			
Levels (1-5)							
Should inform people	2,219	4.30	0.80	4.27	0.81	-0.033	0.335
Correct pension evaluation method	2,219	3.89	1.04	3.89	1.04	0.002	0.960
Initiatives increase information level	2,219	3.81	0.94	3.79	0.96	-0.028	0.496
Should increase transparency	2,219	4.41	0.73	4.40	0.73	-0.006	0.851
Overall assessment	2,219	3.05	0.70	3.05	0.74	0.004	0.886
Dummies (3+)							
Should inform people	2,219	0.98	0.13	0.98	0.15	-0.003	0.612
Correct pension evaluation method	2,219	0.91	0.28	0.90	0.29	-0.009	0.447
Initiatives increase information level	2,219	0.93	0.26	0.93	0.26	-0.003	0.766
Should increase transparency	2,219	0.99	0.10	0.99	0.10	0.000	0.920
Overall assessment	2,219	0.85	0.36	0.83	0.37	-0.014	0.371
				Attitudes			
Pension cut with early retirement	2,219	0.49	0.50	0.47	0.50	-0.014	0.516
Values							
Competence	2,219	0.11	0.32	0.12	0.33	0.008	0.547
Collaboration	2,219	0.69	0.46	0.70	0.46	0.012	0.551
Network	2,219	0.16	0.36	0.14	0.35	-0.014	0.360
Pension cut with early retirement	2,219	0.49	0.50	0.47	0.50	-0.014	0.516
Trust							
People	2,219	0.15	0.36	0.17	0.37	0.018	0.255
Family	2,219	0.07	0.25	0.06	0.23	-0.009	0.381
Fo one	2,219	0.73	0.44	0.73	0.44	-0.002	0.904

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Conclusions

Back

- Time to Retirement: one additional year of distance from retirement – hence, one additional year of exposure to policy uncertainty – increases the probability of acceptance by 1.1 percentage points.
- Financial Incentives: This effect on the probability of accepting the offer corresponds to the effect of a reduction of 1.375 percentage points in income loss.
- Since the average income loss is €35,010, being an additional year away from retirement is equivalent to having a reduction in income loss of €481.
- **Insurance Premium** to avoid Policy Reforms of around €500 per year