Pensions and Informality

Policy Research Talk

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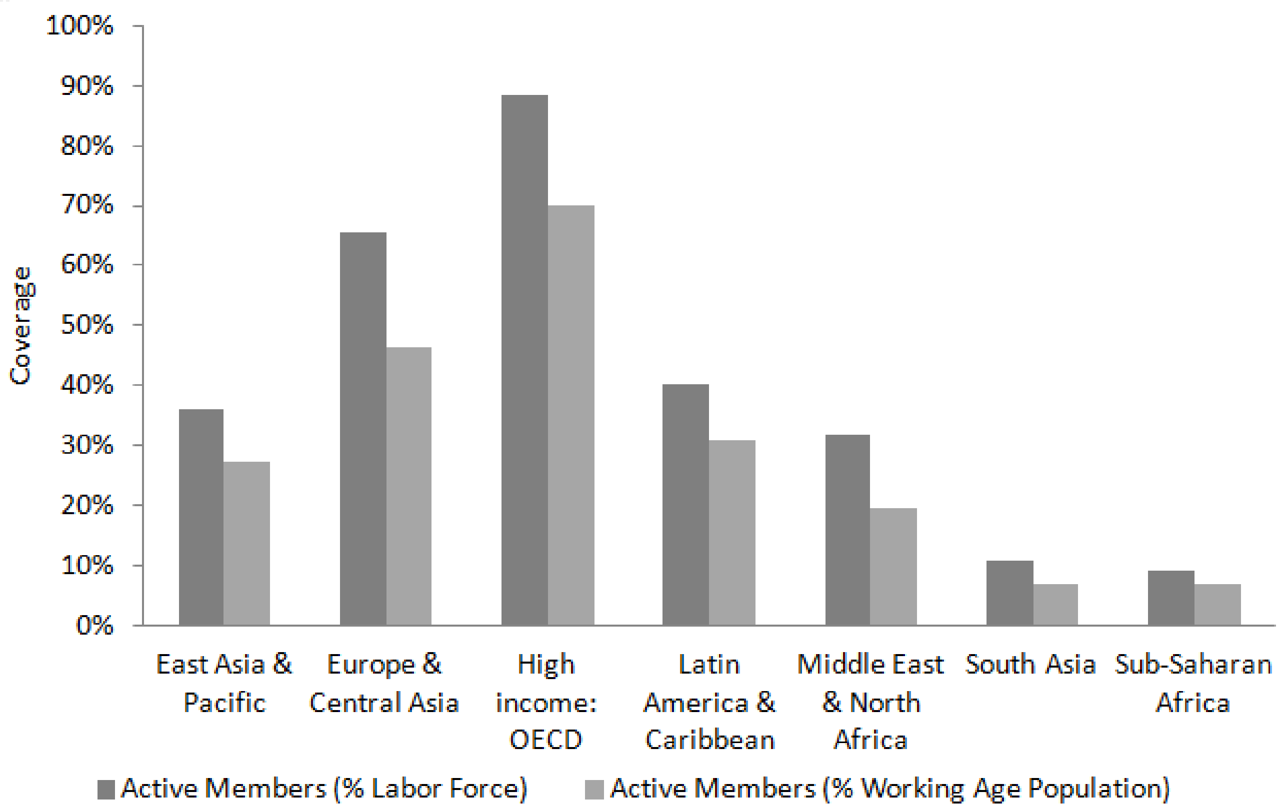
Most workers do not contribute to pensions globally

- 2/3 workers worldwide do NOT contribute towards an old-age pension
- LMIC are aging fast
  - fewer active individuals will have to support a growing elderly population
  - Traditional old-age support arrangements will be strained
- Encouraging long-term savings could help finance future costs associated with an aging population

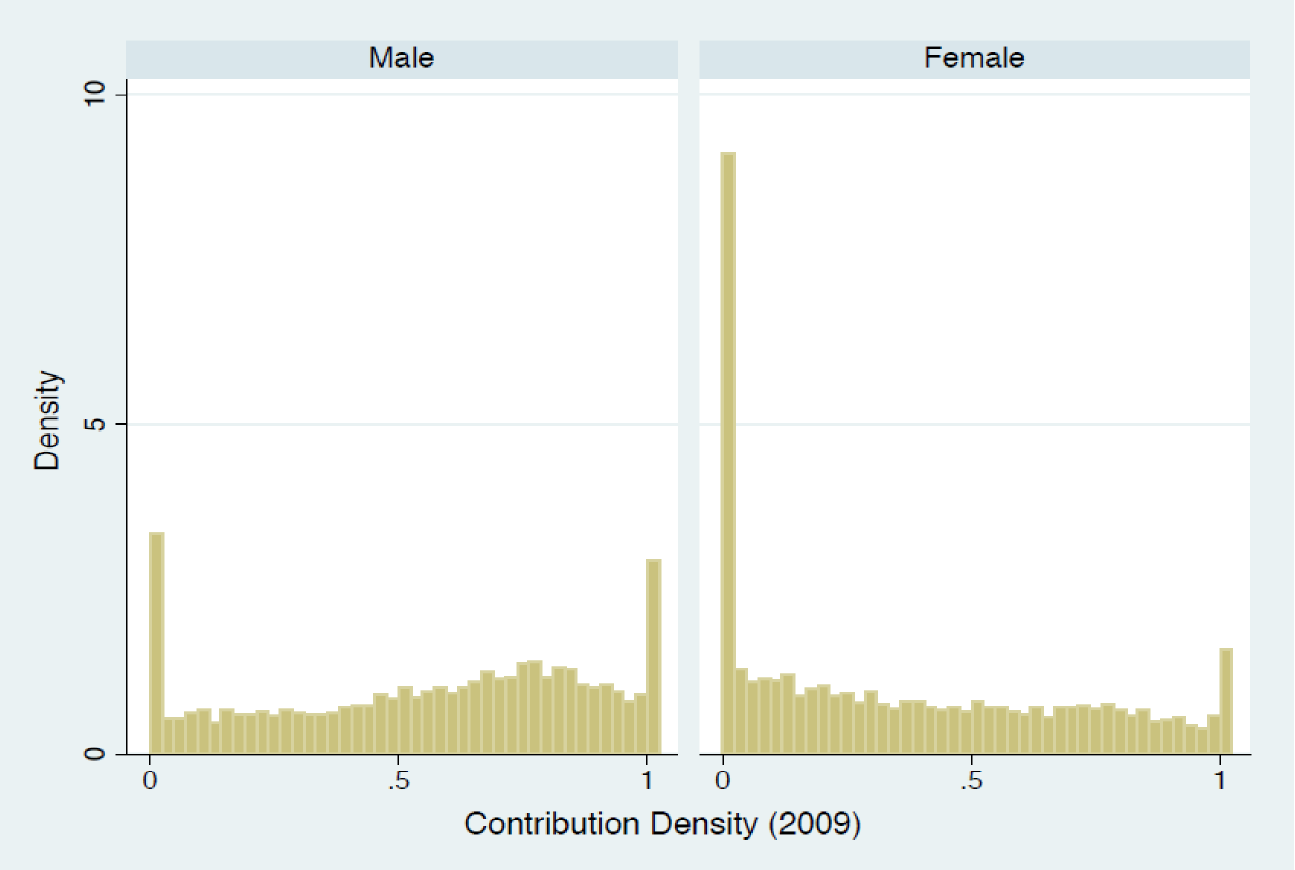


Source: Pallares-Miralles et al. (2012) using World Bank Pension database

<u>Fraction of workers actively contributing to a pension scheme, by region</u>

Even fewer *consistent* contributors

- "Contribution densities" = % of months since entering the labor force where an individual contributed
- Example from Chile:
  - A lot of "switchers"
  - Labor market exits further reduce contribution densities for women
  - "2/3 of workers contribute" translates to "1/3 of individuals contribute consistently"



Source: EPS and Chilean pension system data

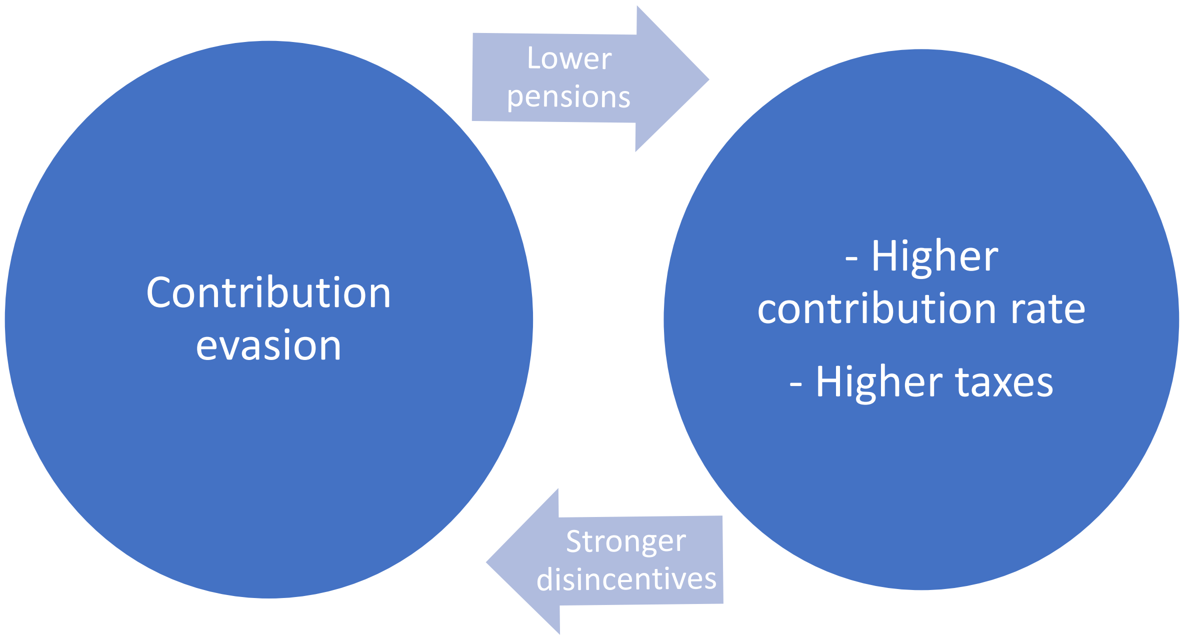
Contribution densities of men and women in Chile in 2009

The vicious circle of contribution evasion

- Pensions = Immediate cost vs. future benefits

- Present-bias and liquidity constraints create incentives to evade contributions by working informally

- Contribution evasion => lower pensions or scheme deficit => increase contribution or tax rates => evasion



The vicious circle of contribution evasion

e.g. Chile’s PAYGO system pre-1981

Let's consider 3 policy-relevant questions

1. Do pension system rules generate informality?
2. How can gender gaps in pension benefits be reduced?
3. Do informal workers accumulate wealth in the absence of pensions?

Evidence from **Chile** (1/3 informality):

Joubert (2015)

Joubert and Todd (2022)

Let's consider 3 policy-relevant questions

1. Do pension system rules generate informality?

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Evidence from **Pakistan** (90% informality):

Joubert and Kanth (2022)

Analytical framework

The decision to work formally

- The value of working in sector S (formal or informal) can be written as:

$$\boxed{V_{it}^{S}(X_{it}) = \underbrace{u(w_{it}^{S})}_{\text{Wage}} + \underbrace{\Psi_i^{S}}_{\text{Non-wage preference for working in sector S}} + \underbrace{\beta V_{i,t+1}(X_{i,t+1})}_{\text{Dynamic considerations (human capital accumulation, pension savings, lock-in effects, minimum pension eligibility...)}},\ S \in \{F, I\}}$$

The decision to work formally

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$$V_{it}^S(X_{it}) = u(w_{it}^S) + \Psi_i^S + \beta V_{i,t+1}(X_{i,t+1}),\ S \in \{F, I\}$$

Where:

$$\boxed{w_{it}^S = (1-\tau^S) \cdot w^S\left(e_i, XP_{it}^F, XP_{it}^I, \gamma_i^S, \varepsilon_{it}^S\right)}$$

Time variation in earning opportunities

Individual productivity endowment

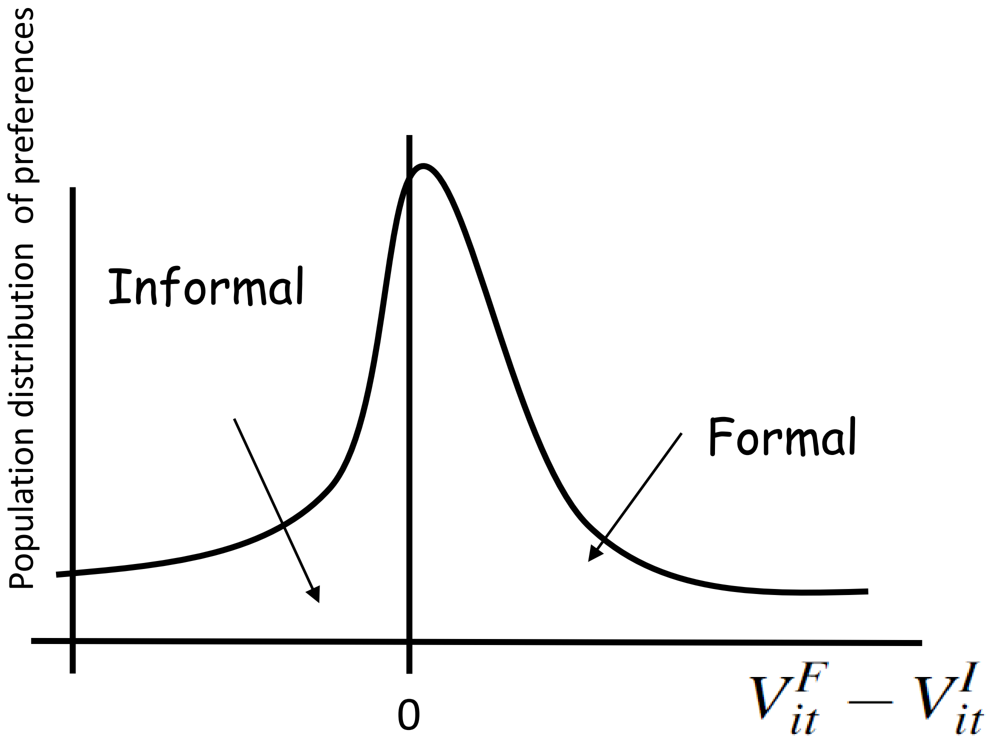
Contribution rate

($\tau^I = 0$)

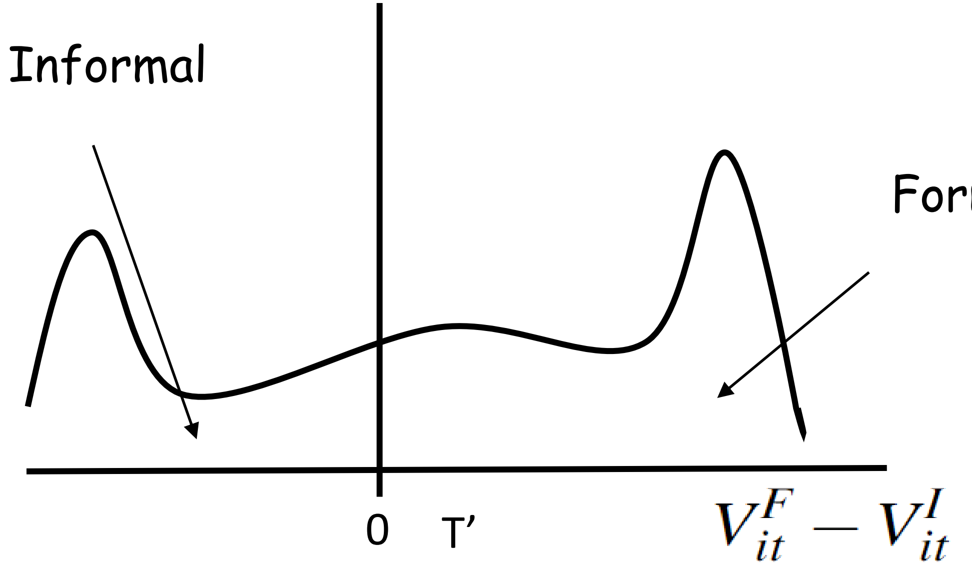
Schooling

Past experience in each sector

Impact of pension rules on informality

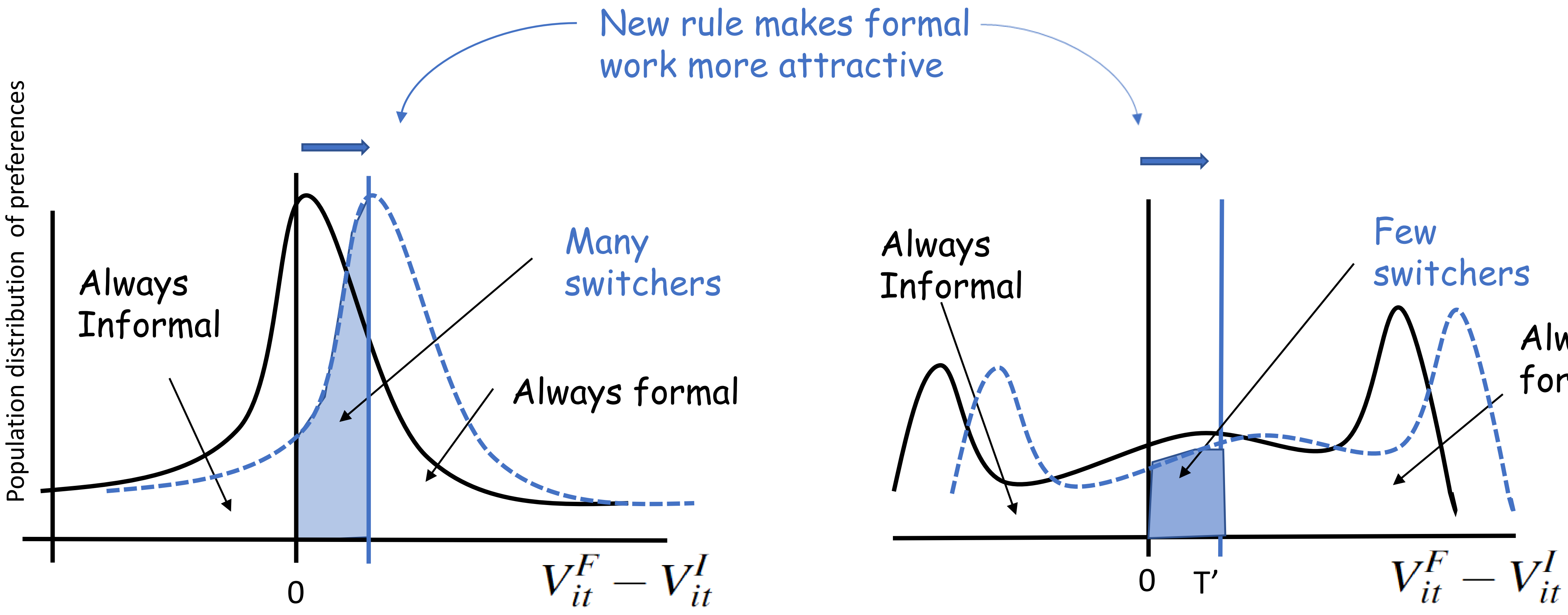


Case 1: homogeneous workers



Case 2: heterogeneous workers

Impact of pension rules on informality



Case 1: homogeneous workers

Case 2: heterogeneous workers

Policy analysis using an estimated structural model

Develop a model	Develop a dynamic model of households' labor supply and saving decisions • Rich observed and unobserved heterogeneity to capture the value of formal/informal work
Estimate parameters	Estimate the model's parameters using panel data on Chilean households • Identification from panel data (Taber & Vejlin (2020))
Simulate policies	Simulate labor supply, saving decisions, pension benefits, government costs under different pension designs to isolate their effect

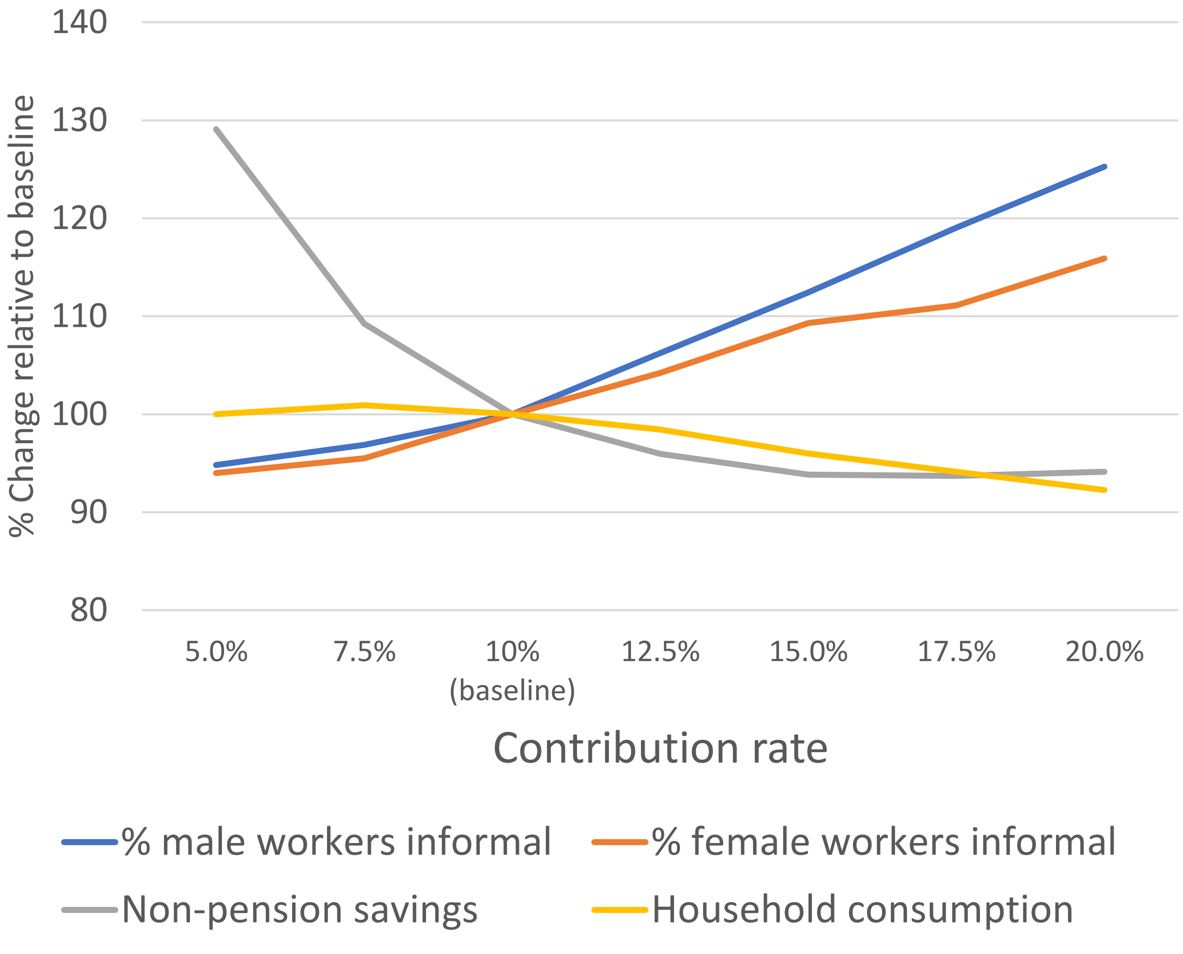
Do pension rules generate informality?

Source: Joubert (2015)

Context: Chile's pension system

Impact of the contribution rate

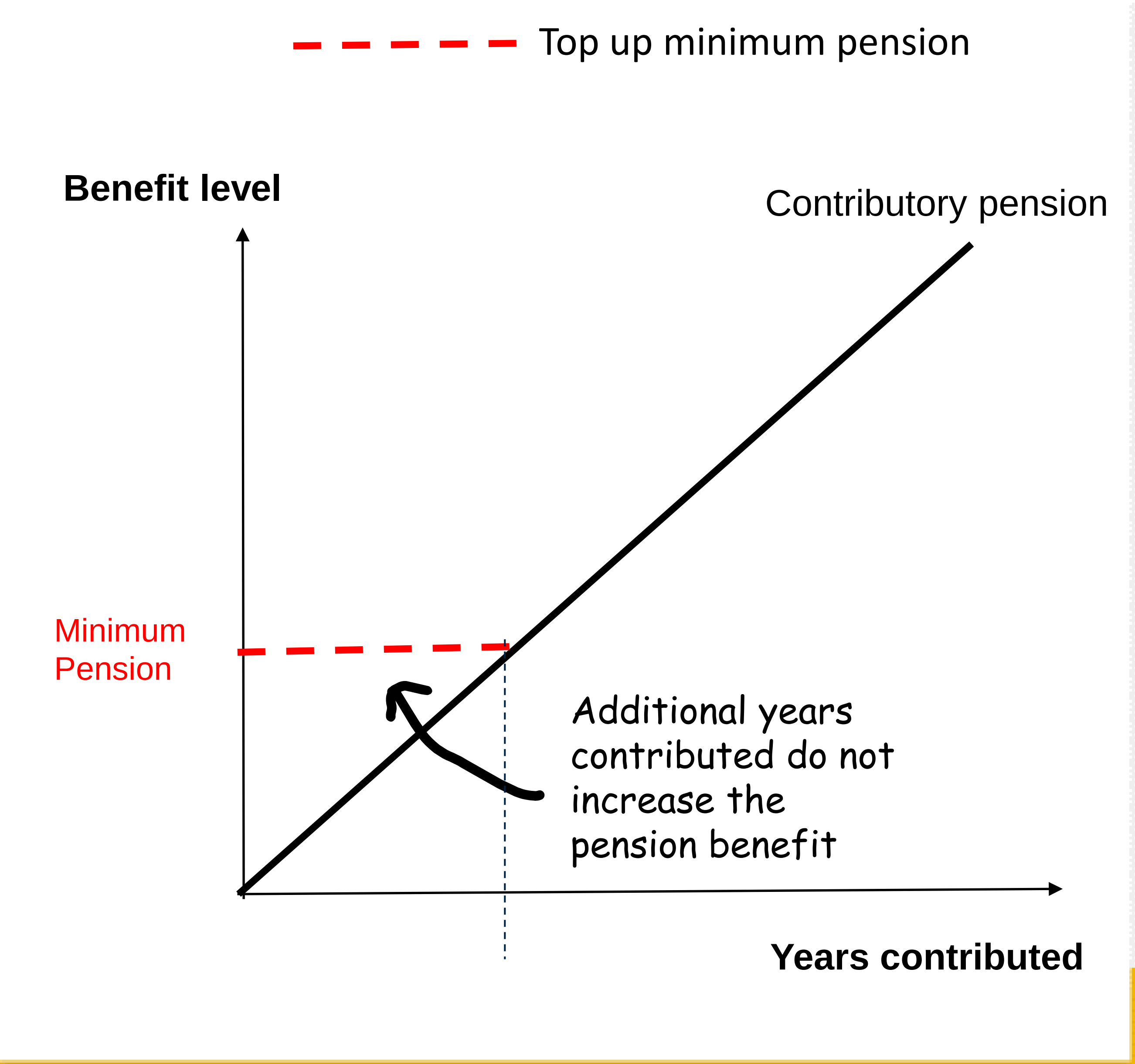
- Pension contributions = mandatory, illiquid savings
- Impact of increasing the contribution rate by +10pp on Informality:
  - +8.3pp (men) from 28.3% baseline
  - +5.3pp (women) from 33.3% baseline
- Effects concentrated among workers with lower contribution densities
  - Fraction who always contribute doesn't change



Impact of the contribution rate on informality, non-pension savings and consumption

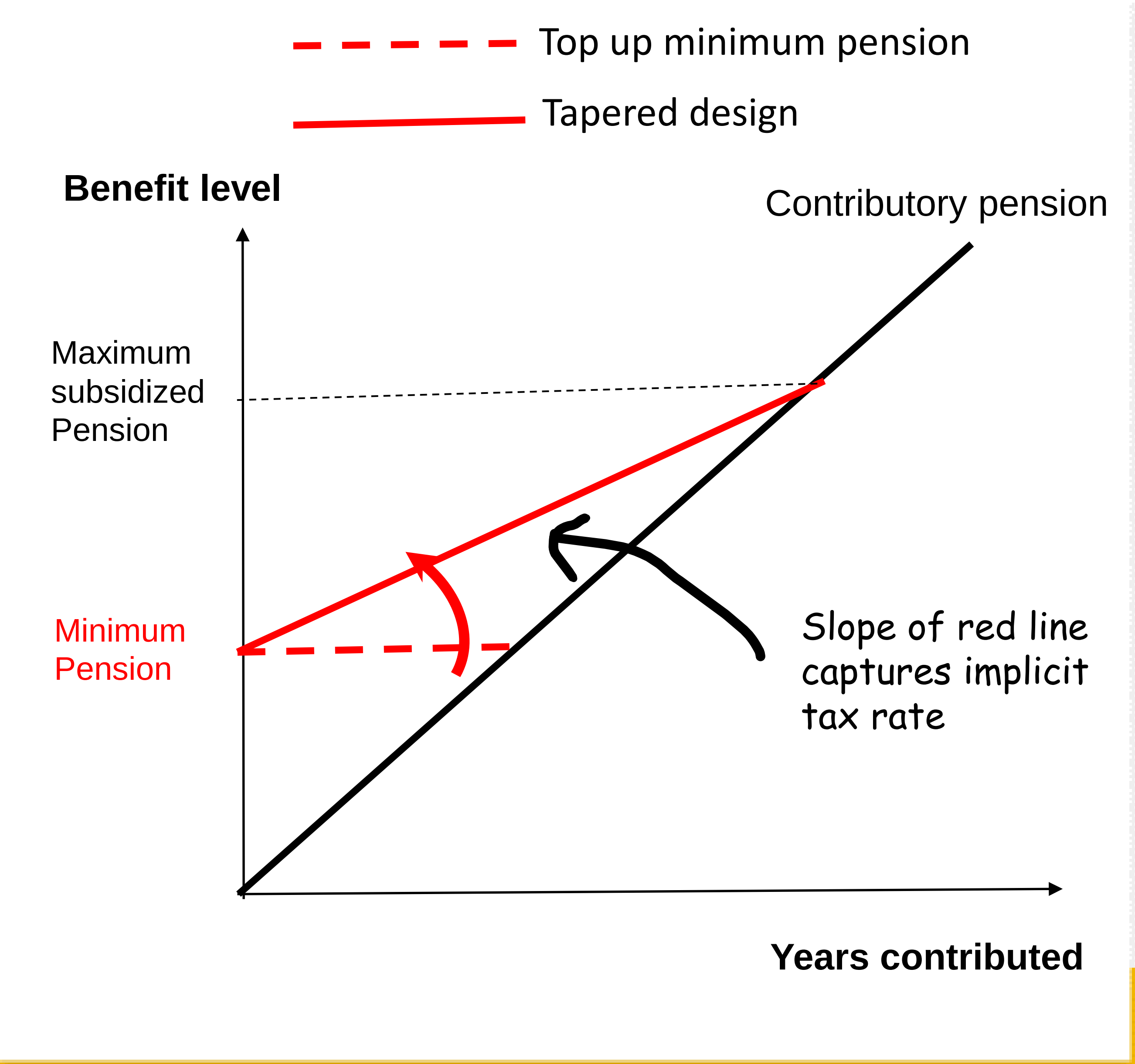
Minimum pensions implicitly tax contributions

- Top-up minimum pension:
  - Contributions by future minimum pension recipients are implicitly taxed at 100%
  - Reduces the value of working formally for potential minimum pension recipients



Minimum pensions implicitly tax contributions

- Top-up minimum pension:
  - contributions by future minimum pension recipients are implicitly taxed at 100%
  - Reduces the value of working formally for potential minimum pension recipients
- Implicit tax rate can be lowered by tapering the minimum pension benefit
- Design adopted in 2008 pension reform in Chile: 30% implicit tax rate



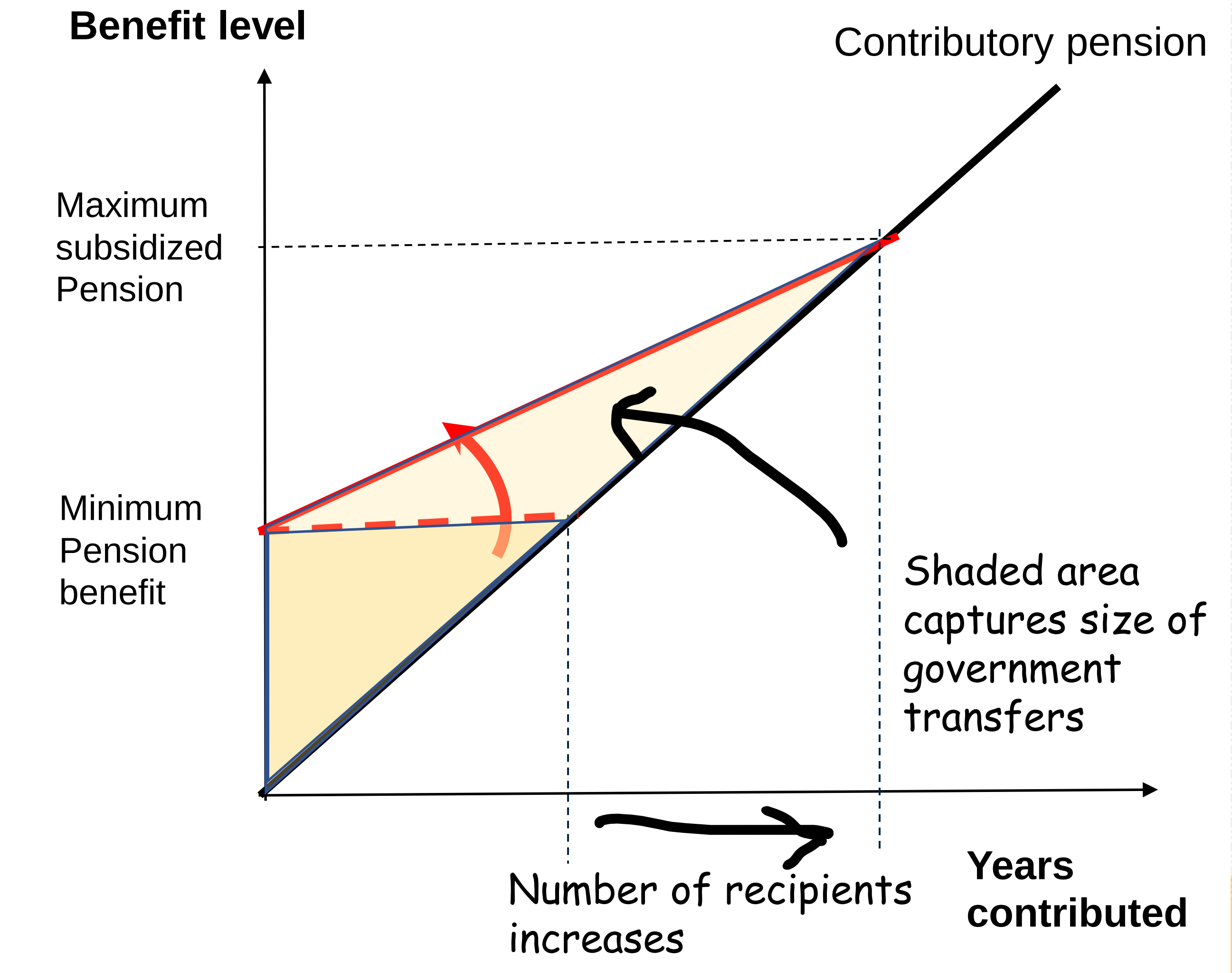
Implicit tax rate: small effect on informality

Policy experiment:

- Fix the level of basic pension
- Vary the implicit tax rate

Finding: lowering the implicit tax rate does not reduce informality

- Lower tax rate but more recipients
- Uncertainty dilutes disincentives at younger ages
- Larger transfer = wealth effects



Takeaways

Contribution rate = sizeable effects on informality

- Effect larger for young workers
- Other considerations: pension adequacy, cost of the safety net

Minimum pension Implicit tax rate = small effects on informality

- Effects concentrated close to retirement age
- Other considerations: first-order impact on costs

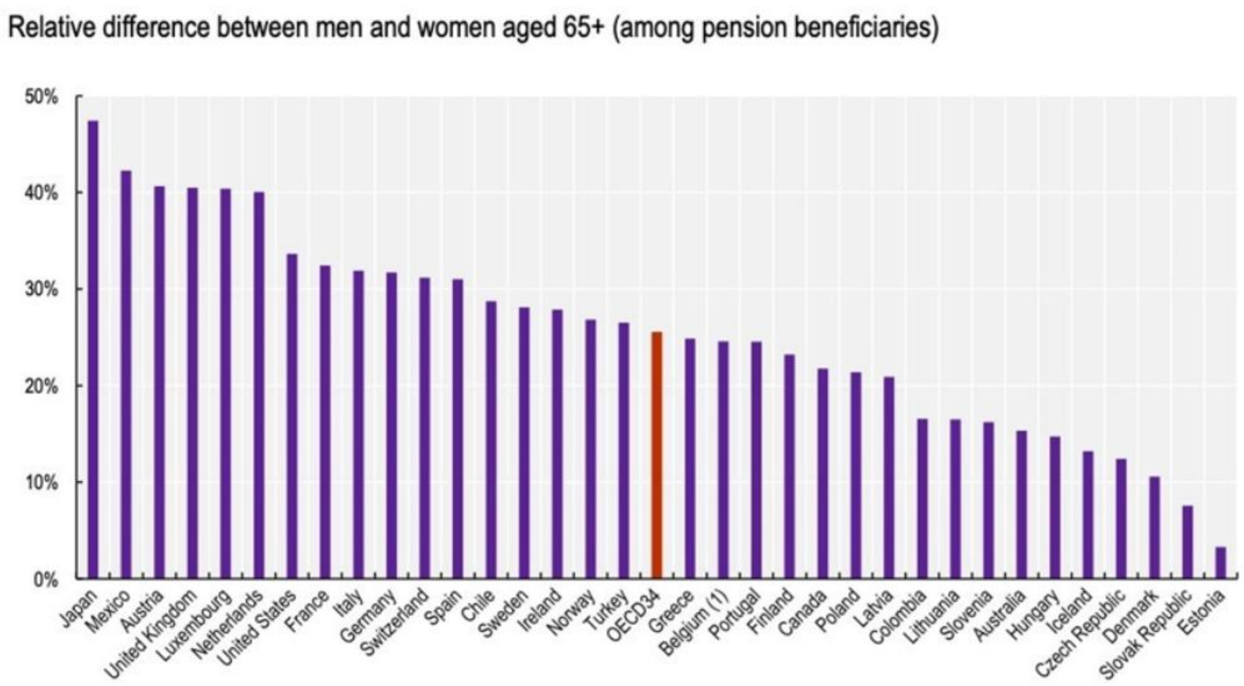
Reducing gender gaps in pensions

Source: Joubert & Todd (2022)

Context: Chile's pension system

Compounding sources of gender differences in pensions benefits

- Labor market opportunities
  - Lower wages
  - Lower access to formal jobs
- Labor supply decisions
  - Labor market exits and children
- Gendered rules
  - Different retirement ages for women and men
  - Gender-specific mortality tables

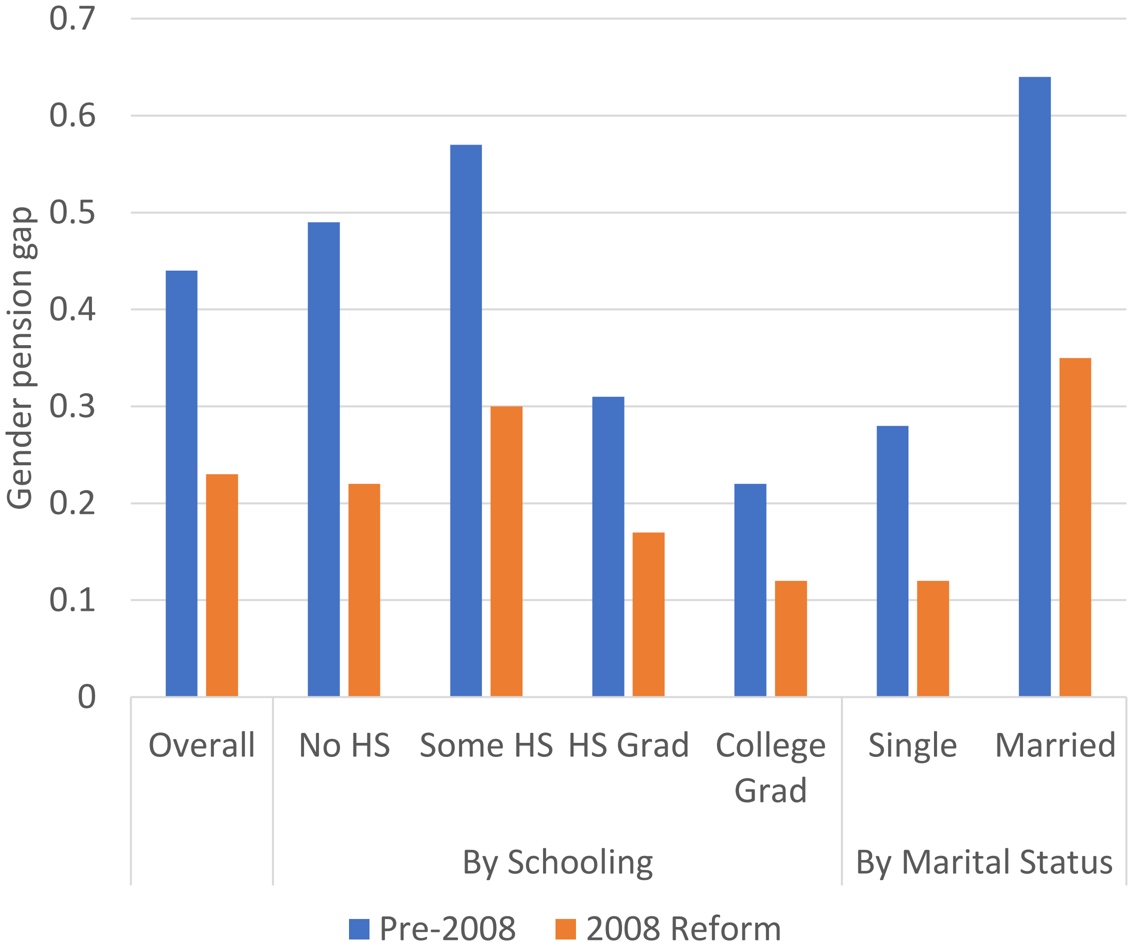


Source: OECD

<u>Gender pensions gap, by country</u>

Strategy 1: Expanding the minimum pension

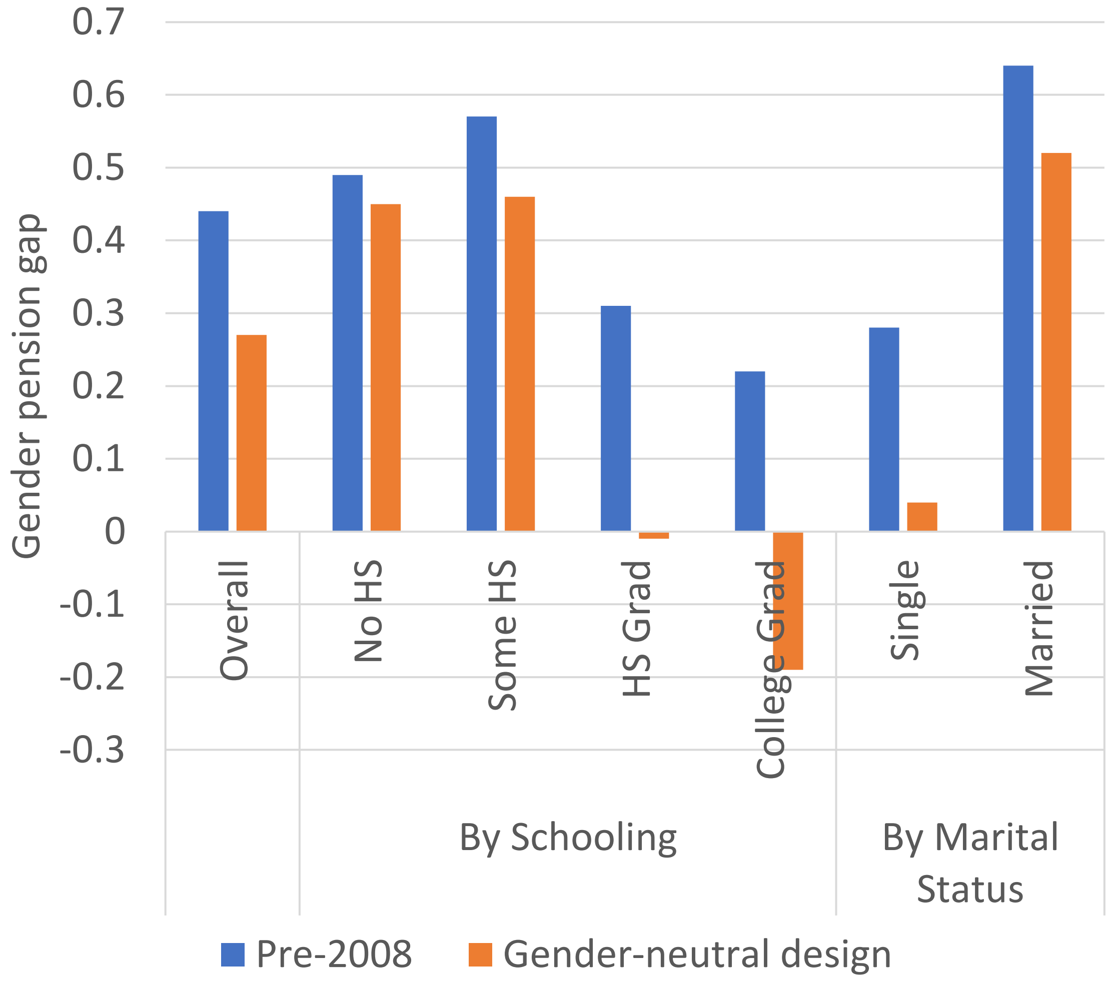
- We simulate Chile's 2008 minimum pension expansion
  - Higher benefit level
  - Removes contribution requirement
  - Widens means-test requirement (Q1-Q3)
- Gender pension gap: 44% => 23%
  - Larger effect on women with lower wages and attachment to formal work



<u>Impact of Chile's 2008 minimum pension expansion on the gender pensions gap at age 65</u>

Strategy 2: Equating retirement ages

- Women can claim a pension at 65 (instead of 60), same as men
- Gender pension gap: 44% => 27%
  - Effect concentrated on high schooling and single women
- Multiple mechanisms:
  - Reduced expected longevity at retirement
  - Some increase in formal labor supply
  - Pension savings accrue interests longer



Impact of equating women's retirement age with men's on the gender pensions gap at age 65

Takeaways

Minimum pensions are a powerful tool to reduce gender inequality in pensions

- Effect on low schooling women and homemakers
- Other considerations: homemakers may be married to high-earning men!

Retirement age has a first order effect on pensions particularly in a DC scheme

- Effect on higher schooling and single women
- Other consideration: not necessarily welfare enhancing for women!

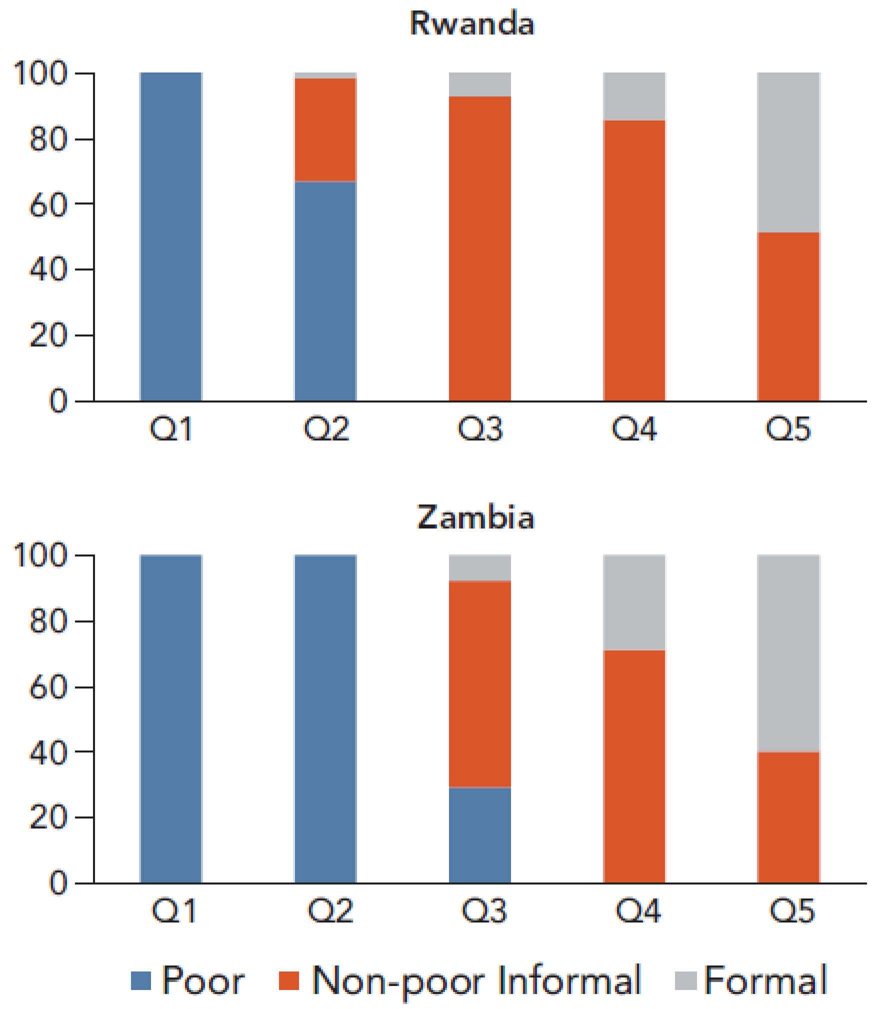
Informal sector pensions

Source: Joubert & Kanth (2022)

Context: Pakistan 2001-2018

The non-poor informal: uncovered and untargeted

- 2022 SPJ compass:
    - long-term goal of universal social protection
- Non-poor informal workers missed by social assistance and formal social insurance
- Non-poor informal segment:
    - Large share of the population
    - Also found in richer quintiles
    - Expanding segment as poverty declines and formality stagnates
- Growing number of voluntary pension schemes for the informal sector



Source: Guven, Jain and Joubert (2021)

Non-poor informal households by consumption quintiles in Rwanda and Zambia

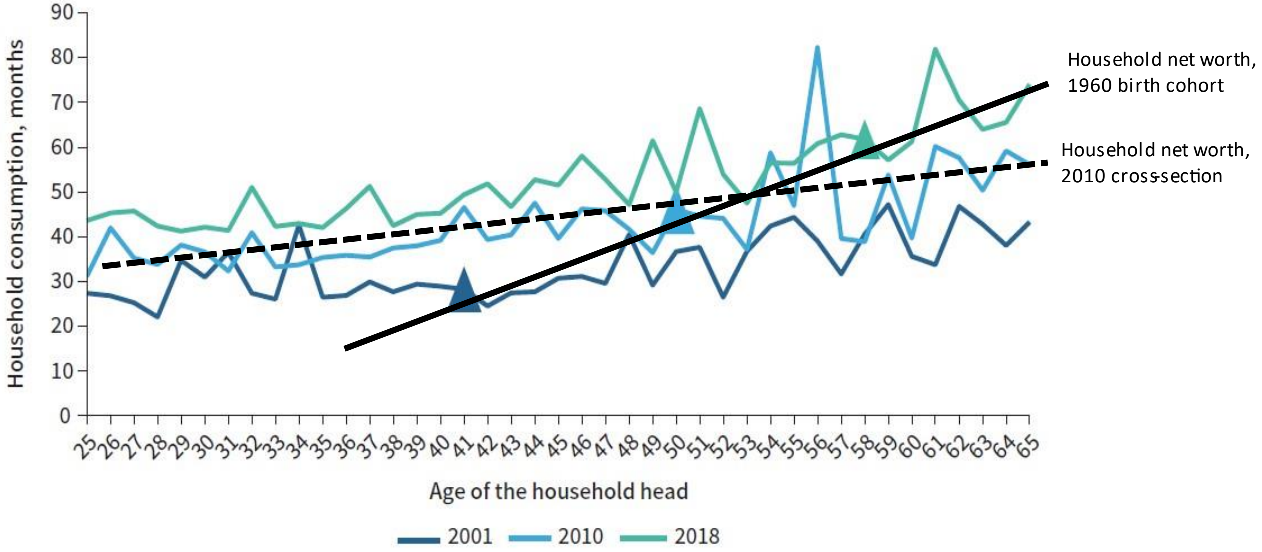
Informal pension schemes have struggled to attract participants

- Reasons for low participation?
  - Lack of information about the scheme? Low financial literacy?
  - Lack of trust in the scheme?
  - Behavioral obstacles to registration and participation?
  - **Low ability to save long-term?**
    - Low disposable income
    - High exposure to risks and liquidity needs

- Is there wealth accumulation in the absence of a pension scheme?
  - Indicative of desire and ability to set aside money long-term

Households in Pakistan accumulate significant wealth with age

- Exploit consistent household wealth measures over 8 surveys spanning 18 years
- Tracking cohorts reveals sizeable wealth accumulation as the household head ages
  - +4.2 years' worth of household consumption between ages 25 and 65

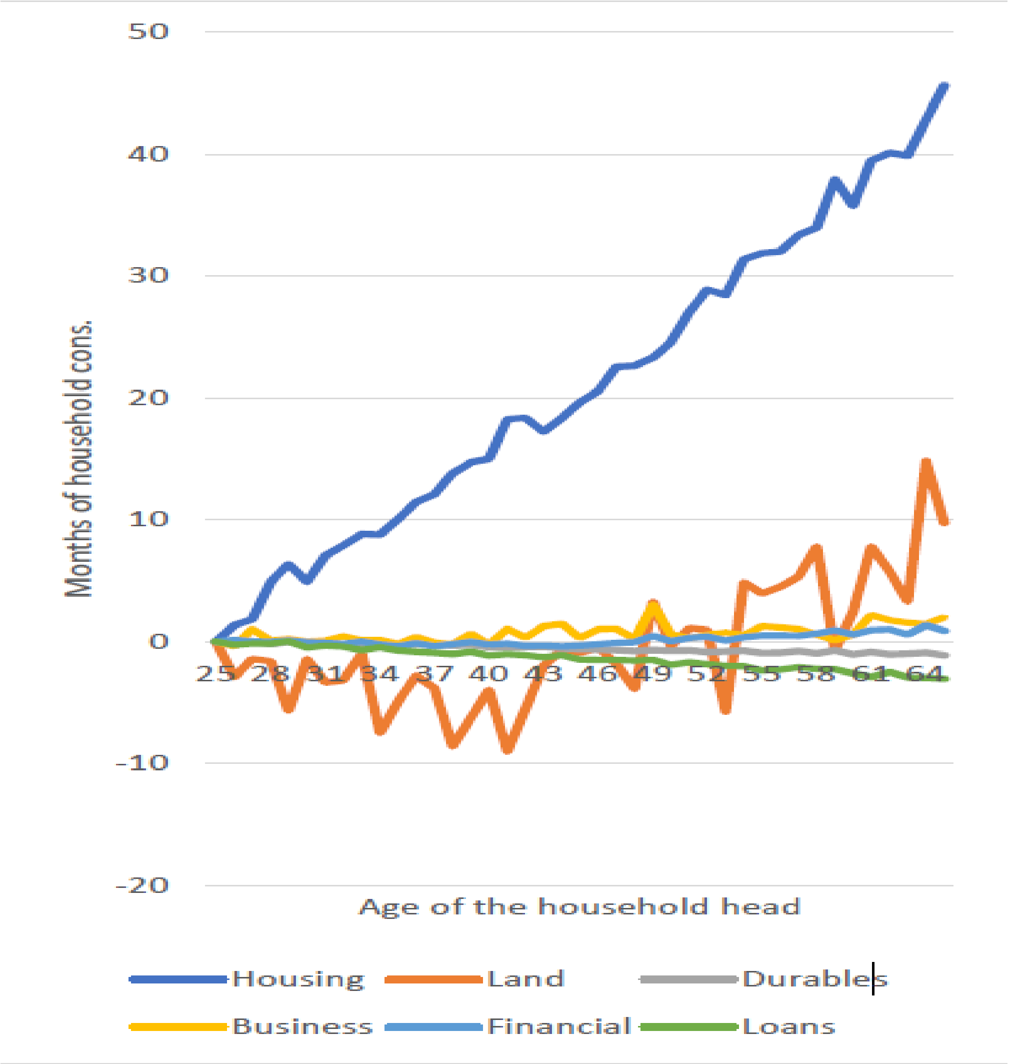


Source: HIES surveys 2001-2018 rounds

<u>Household net worth in Pakistan (2001-2018), relative to household consumption, by age of the head</u>

Accumulated wealth is stored in housing

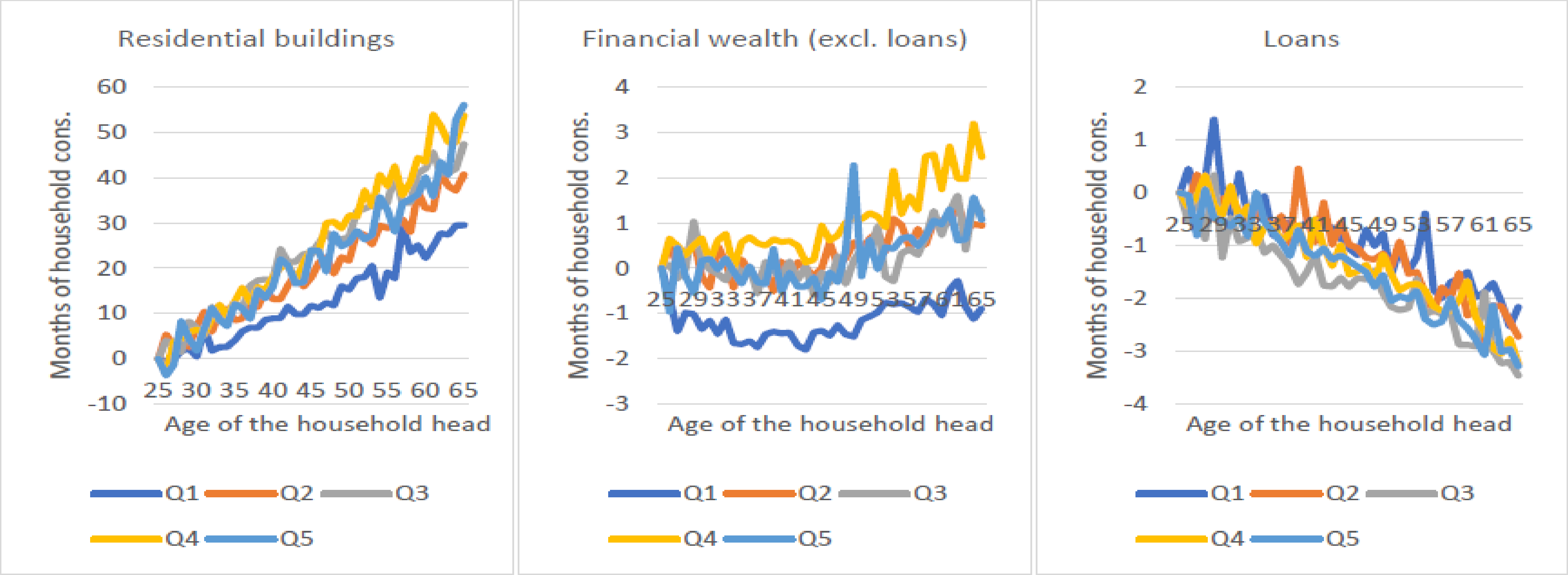
- 80% of the increase in net worth comes from housing wealth
- Land is an important part of rural households' portfolio but grows little with age



Effect of household head's age on household wealth, by type of asset

Wealth accumulation is similar across consumption quintiles

<u>Effect of household head's age on ownership of Residential buildings and financial wealth, by consumption quintiles</u>



Takeaways

Pakistani households accumulate sizeable net worth with age

- 4.2 years' worth of household consumption on average between 25 and 65
- Accumulation accelerates after age 40

Most of the accumulation involves housing wealth

- Indicates ability to save in (relatively) illiquid form

Accumulation rates similar btw. the poor and the rich

- Important vis. the targeting of informal pension schemes

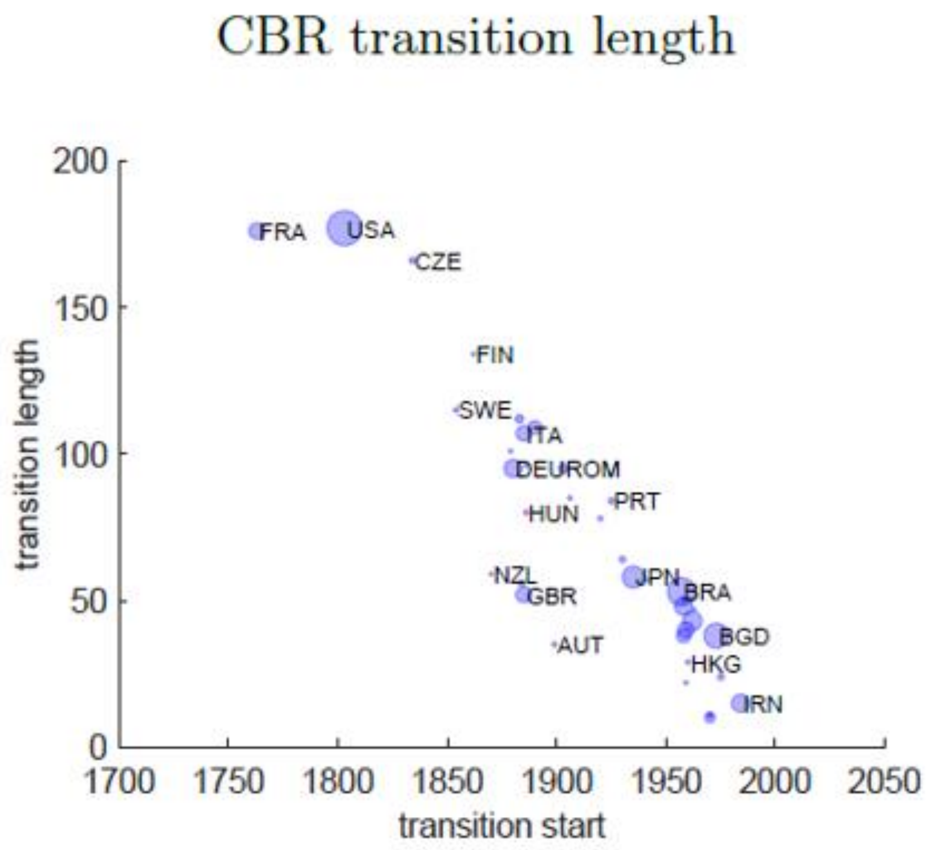
Final remarks

Informal, non-poor, and poorly known

- Lots of research on the economic lives of the poor, some research on the near-poor
- Many knowledge gaps remain on *non-poor informal* workers as we aim towards Universal Social Protection (USP). E.g.
  - Transitions in and out of formality during the life cycle
  - Dynamics and distribution of shock exposure, need for liquidity, ability to self-insure
  - Reliance on housing wealth: does it reflects lack of options? Could/should some of it be gainfully reallocated to pension schemes?
  - Professional organizations in the informal sector: do they provide forms of insurance? Can they be leveraged to deliver social insurance to the informal sector?
  - …

Population aging is accelerating: are households aware and adjusting?

- Are individuals expecting to work and live longer
- Are individuals expecting to receive lower transfers from relatives and networks in old age
- Are households saving more/differently ?
    - Pakistan: Fraction of 65-year-old heads with wealth above 5 years' worth of consumption increased from 30% in 2001 to 50% in 2018
- Are households investing more in children in the hope of old-age support?
- Are traditional care and co-residence arrangements changing in response to population aging?



Source: Delventhal et al. (2021)

<u>Length of the demographic transition (Crude Birth Rates) as a function of its start, by country</u>

Thank you and happy birthday, Michal!