Pension Reform and Return-to-Work Policies

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Introduction

- Retirement and return-to-work decisions important for employees, employers, and the health of pension systems

- Evidence on earnings test (Friedberg 1998, Friedberg 2000, Gelber et al. 2013, Gelber et al. 2017), but we know little about other types of restrictions

- Many public pensions restrict hours in order to prevent 'double-dipping'

This Study

- Administrative data on employees of IL Public Schools
  - Timing of employment and retirement, other characteristics

- Document patterns of post-retirement-work for public sector employees over 20-year period
  - Separately by demographics, income, occupation

- Estimate causal effect of an increase in the maximum number of allowable hours of work for retirees
  - Increase from 500 hours to 600 hours
  - Difference-in-difference methods
  - Increase in part-time employment

Background on IL TRS Pension System

- Pension system for employees of IPS: teachers, principals, superintendents, librarians, counselors, nurses, etc.

- Employee contribution is 9%, employer contribution is 0.58%

- Benefit factor is 1.67 (years 1-10), 1.9 (years 11-20), 2.1 (years 21-30), or 2.3 (years 31+) for each year of service accrued

- Maximum benefit is 75% of final average salary

- Retirement eligible at
  - 55 with 35 years of service
  - 60 with 10 years of service
  - 62 with 5 years of service

- ERI in 1993/1994: could purchase up to 5 yos or years of age

Background on IL TRS Pension System

- Hours restrictions to prevent 'double-dipping'

- Maximum number of allowable hours of work
  - 1990: raised from 375 to 500
  - 2001: raised from 500 to 600
  - 2011: lowered from 600 to 500
  - 2018: raised from 500 to 600

- If hours exceeded, employee must cease benefit collection until she has stopped working

- Does not apply to employees in certified subject shortage areas

- Also does not apply to work outside of IPS

Data Description

- Teacher Service Record
  - Observations at the teacher-school-year level
  - School and district in which the employee works, total earnings, number of months employed at the position, full-time equivalent percentage of the position, number of years of school experience (within the district, within Illinois and out-of-state), the position of employment, and the highest degree held by the employee

- Teacher Retirement System
  - Observations at the member level
  - Timing of benefit collection, years of service, age

Data Definitions

- Retirement-eligible: age and years of service in IPS would allow person to collect a full retirement annuity (regardless of whether he/she is collecting benefits)

- Retired: collecting a retirement annuity (even if she is still working in IPS)

- Part-time: working less than or equal to 60 percent of a FTE

- Shortage subject area employee: employee's position and main assignment the first time in the sample

Summary Statistics

	All Workers	Retirement-Eligible	Retirees	Retired and Working
Age	42.31	63.97	62.88	60.83
Years of experience	13.98	26.93	27.76	31.80
Instructional staff	0.77	0.81	0.82	0.55
Working part-time	0.04	0.02	0.02	0.72
Estimated hours worked per year	1,554	356	24	893
Female	0.74	0.69	0.65	0.55
White, non-Hispanic	0.94	0.94	0.95	0.96
Salary in 2012 dollars	62,710	79,246	34,269	34,269
Observations	2,479,158	451,204	429,077	11,605

Note: Based on the author's calculation using data from the TSR and TRS from 1991 to 2011. Each observation is a person-year combination. In the first column, the sample includes all employees, retired or not, between 1991 and 2011. In the second column, the sample includes all employees who are retirement eligible, retired or not, up to 10 years after becoming eligible, between 1991 and 2011. In the third column, the sample includes all retirees within 10 years of retirement between 1991 and 2011. In the fourth column, the sample includes all retirees within 10 years of retirement who are currently employed between 1991 and 2011.
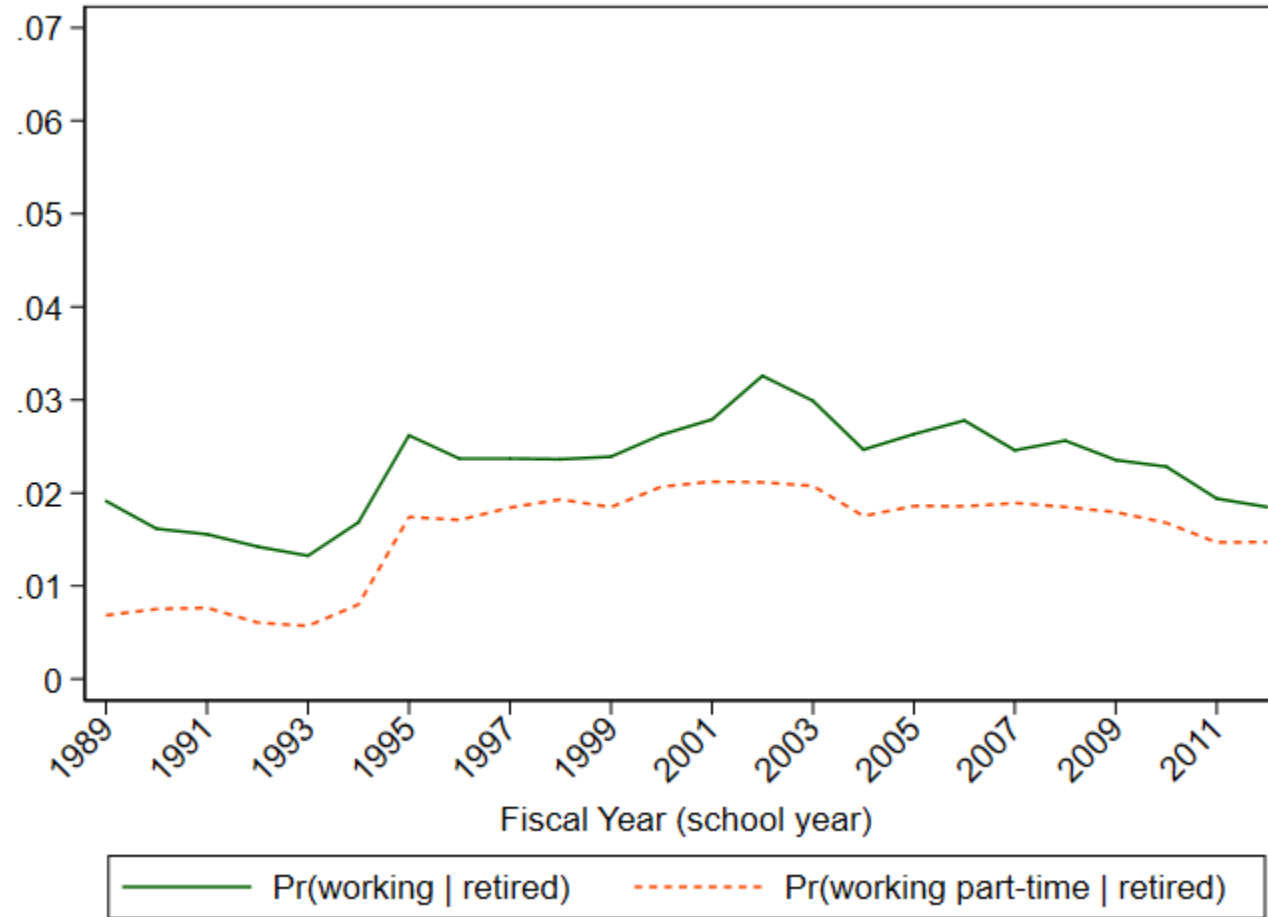
First Analysis

RETURN-TO-WORK BEHAVIOR, 1989-2012

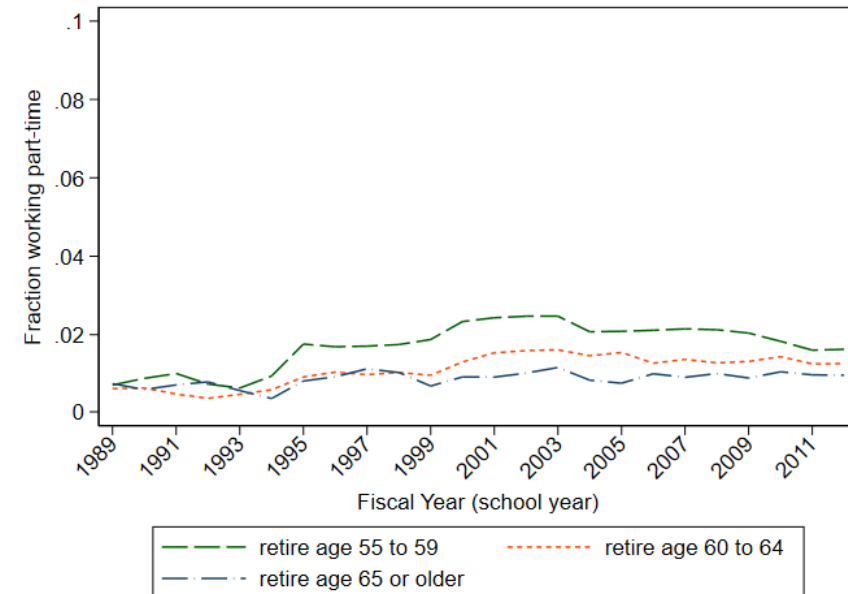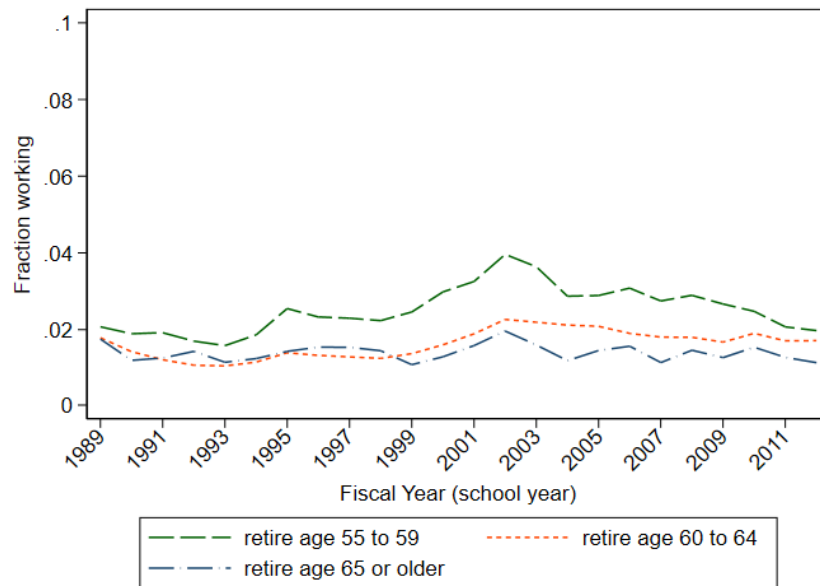# Fraction and Number Retiring among Those Working, by Year
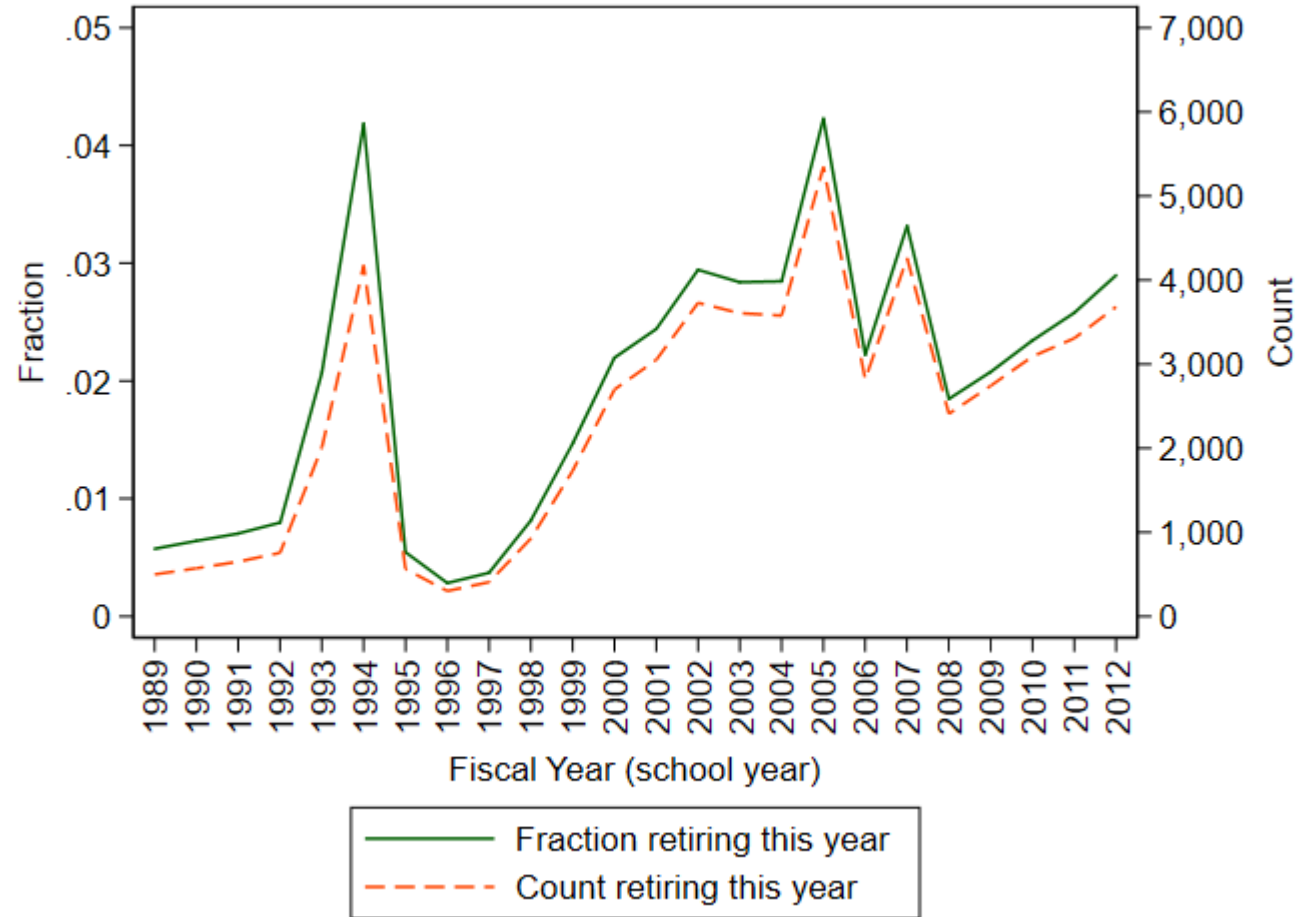
Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012.
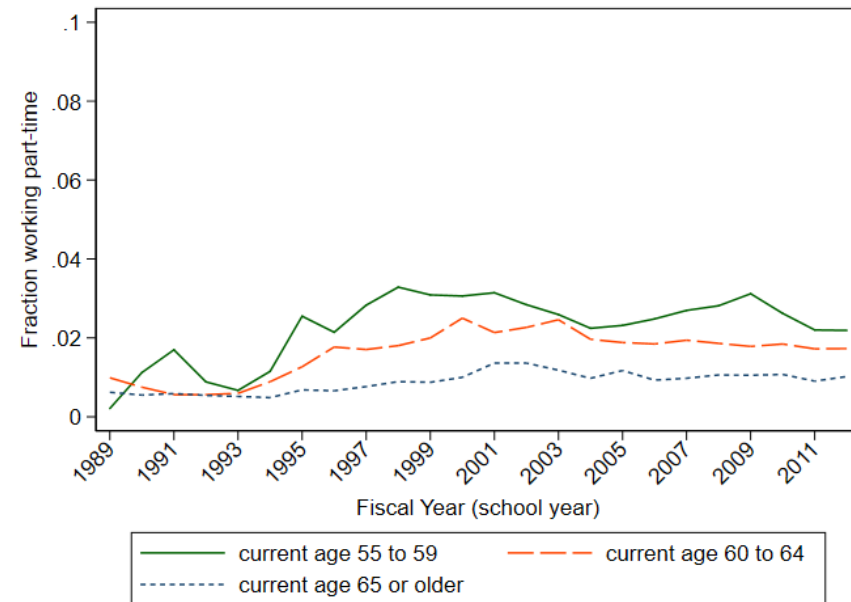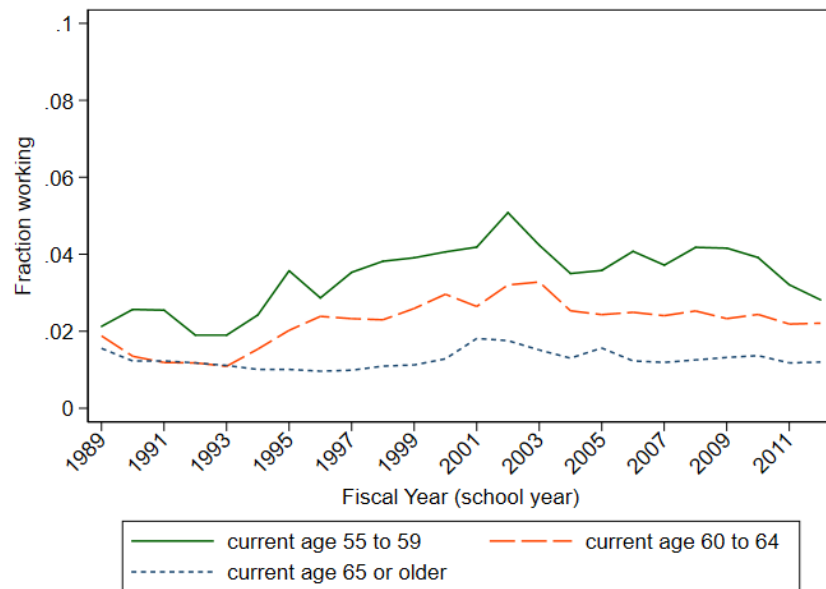
Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012. The sample includes retirees within 10 years of their retirement benefit collection date.

Fraction of Retired Annuitants who are Employed and Employed Part-Time, by Year and Age at Retirement

Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012. The sample includes retirees within 10 years of their retirement benefit collection date.
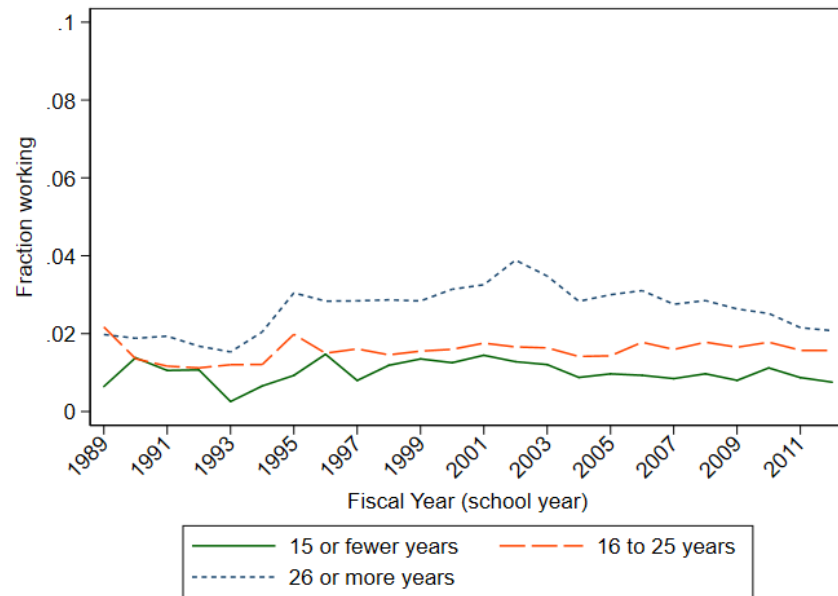
Fraction of Retired Annuitants who are Employed and Employed Part-Time, by Year and Age at Observation

Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012. The sample includes retirees within 10 years of their retirement benefit collection date.

Fraction of Retired Annuitants who are Employed and Employed Part-Time, by Year and Years of Service

Panel A: Fraction Working At All
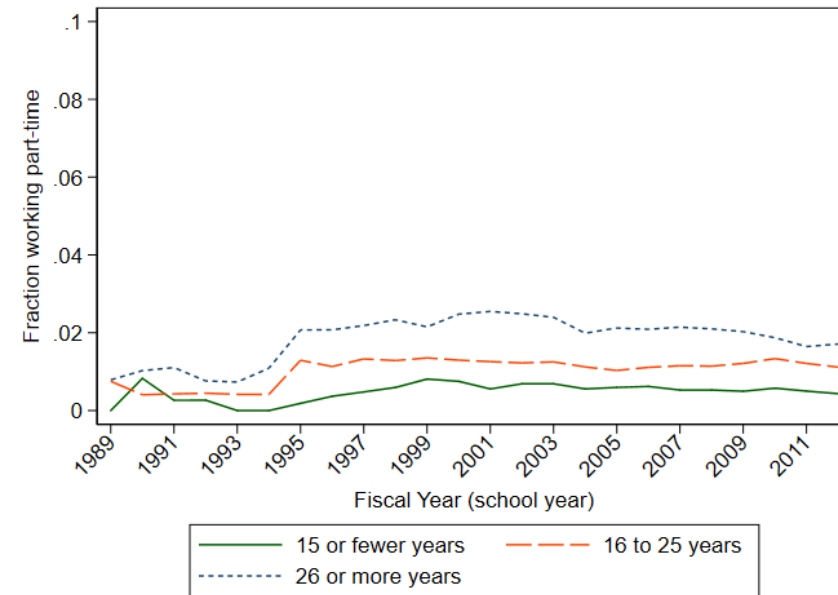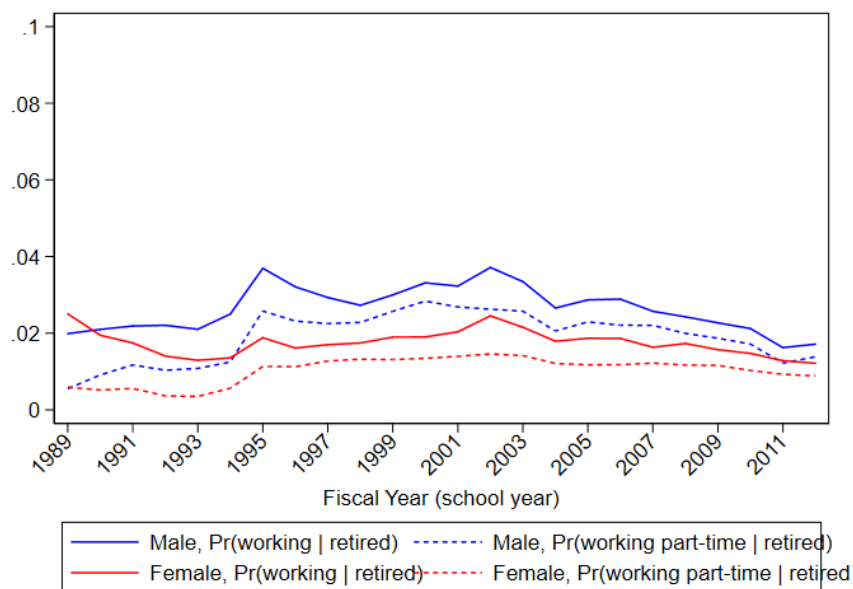
Panel B: Fraction Working Part-time

Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012. The sample includes retirees within 10 years of their retirement benefit collection date.

Fraction of Retired Annuitants who are Employed and Employed Part-Time, by Year, Gender and Position (Occupation)

Panel A: Instructional
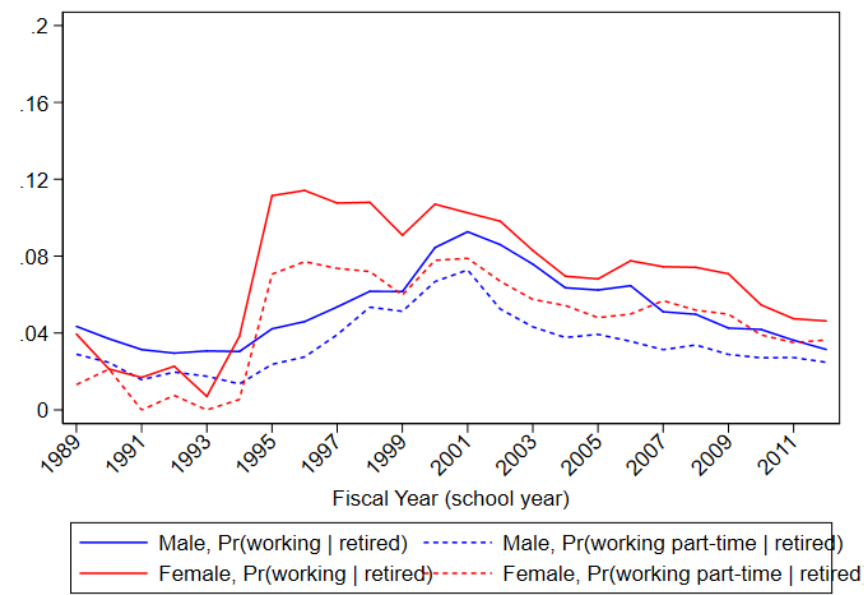
Panel B: Non-Instructional

Note: Based on the author's calculation using data from the TSR and TRS from 1989 to 2012. The sample includes retirees within 10 years of their retirement benefit collection date.

Second Analysis

EFFECT OF LIMITATIONS ON RETURN-TO-WORK

Difference-in-Difference Analyses

- Utilize the policy change in 2001 – increase in max allowable hours

- 'Treated' group: retirement eligible not in certified subject shortage areas

- 'Comparison' group: retirement ineligible or those in certified subject shortage areas

- Assumption: nothing else change differentially across these groups in 2001 that would drive differences in their labor supply decisions

Specifications

Triple Difference

$$Y_{it} = \beta X_{it} + \gamma PostXEligibleXNonShortage_{it} +$$
$$\theta Eligible_{it} + \pi NonShortage_{it} + \vartheta EligibleXNonShortage_{it} +$$
$$\mu PostXEligible_{it} + \rho PostXNonShortage_{it} +$$
$$\delta_t + \omega_i + \varepsilon_{it}$$

Estimates of the Effects of the Increase in Allowable Hours of Employment Post-Retirement on Part-time Employment, Retirement Annuitants Only

	(1)	(2)	(3)	(4)
Outcome	Retire	Work next year	Working part-time	Working part-time
Treatment	-0.000	-0.010	0.003	0.007***
	(0.011)	(0.011)	(0.002)	(0.002)
Sample	Employed Full Time		All	Retirees
Mean of dependent var.	0.127	0.851	0.014	0.018
N	393,400	393,400	1,022,208	424,320
R-squared	0.201	0.214	0.007	0.006

Note: Based on the author's calculation using data from the TSR and TRS from 1991 to 2011. Sample includes employees between 1991 and 2011 as indicated. Coefficients presented are from the difference-in-difference specifications presented in the text. Standard errors are in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Conclusion

- Increases in the maximum number of hours of post-retirement employment lead to:
  - Increases in part-time work among retirees

- Policies are binding on some employees

- Implications exist for the design of policies aimed at extending work-lives or improving fiscal health of pensions
  - Caveats: rules only apply to labor within the public system, most private pensions no longer operate this way