

# Long-Term Effects of Job Displacement and Retraining: Preliminary Results

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# Old Project

- Key questions of 1995-97 research:
- What are the employment and wage consequences of job displacement?
- What are the effects of training and education programs for displaced workers?

# Methodology

- Data on workers laid off in MA between Jan 1991 and Sep 1994, provided by ISP
- Over 19,000 individual records, containing extensive demographic and job characteristics
- Information on new job for 9,000 individuals
- Determine effects of training and job loss using regression

# Results

- Displaced workers suffered large pay losses: especially older, high-tenure workers with no education beyond high school (24% decrease in hourly wage)
- Training did not lead to a higher wage at the new job (both trainees and non-trainees saw a 13% wage decline)
- Trainees made “bigger” job changes than non-trainees
- Unanswered questions: How long do the earnings losses last? Is there any improvement? Is it helpful to make a “big” job change instead of returning to a similar occupation?

# New Project

- Begin with 19,009 workers in the ISP data.
- Extensive demographic and job characteristic data
- Problem: wage data are employee-reported and estimated, may not be as reliable as employer reports
- How did these 19,009 workers do over time? What are the persistent effects of job loss and worker training?
- Create a longitudinal, person-quarter database, blending in other sources of wage data based on employer reports (ES-202 & UI).

# Wage Records

- Match ISP individuals to the MA ES-202 data, obtaining quarterly earnings.
- This is highly reliable data, as it is used in the UI system, reported by employers.
- But very limited demographic information
- Thus, combine precisely-measured earnings of ES-202 wage records with extensive demographics in ISP data

# Wage Records cont'd

- Earnings from 1994 Q4 through 2003 Q4 (earlier data could not be retrieved).
- But, have no administrative data for pre-layoff earnings.
- So difficult to measure losses--relative to what base?
- Unsure if a missing earnings quarter corresponds to an unemployment spell (more later...)

# Unemployment Records

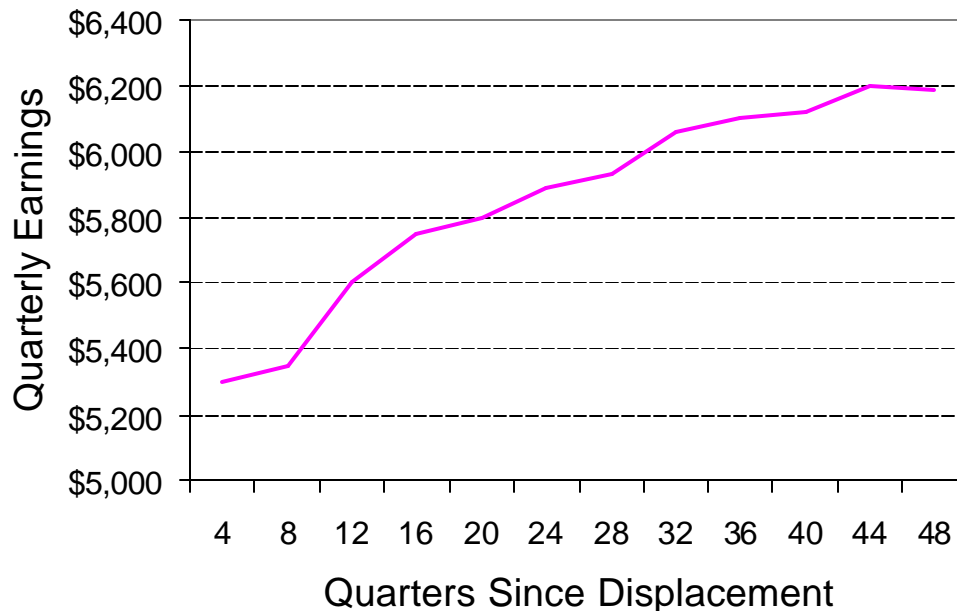
- Match our ISP-Wage Record data to the UI claimant database
- Available back to Program Year 1993
- Contains base earnings which determine UI benefits, dates for insured unemployment spells, and some demographic data
- Base earnings allow for comparison to later earnings
- Unemployment spells enable us to distinguish individuals who are unemployed vs. not in MA labor force

# Data Construction

- 19,009 ISP workers, with their matched wage records
- 12,091 of these have a match in the UI claimant database
- 9,146 of these have the same employer in both the UI data and the ISP data.
- 7,628 of these have similar start and end dates with that employer

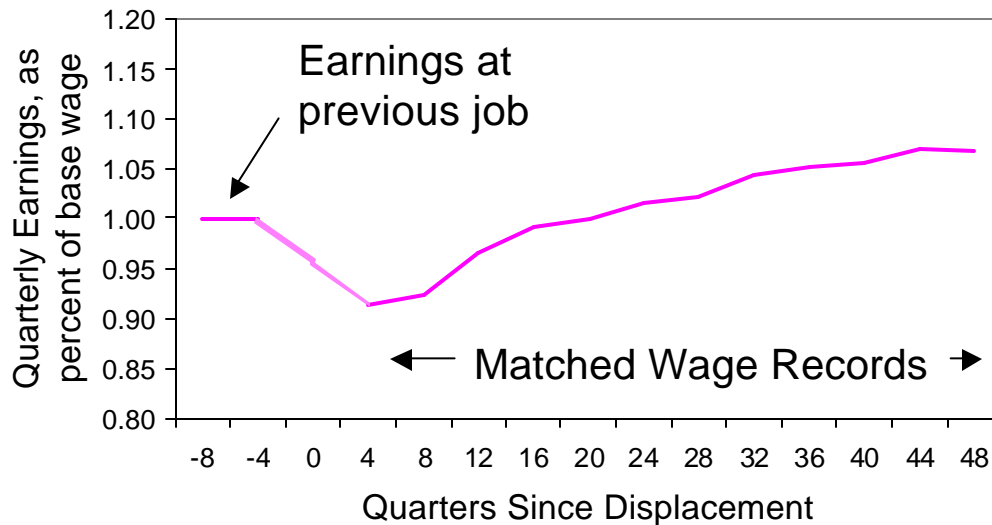
# Questions

- Have extensive dataset, with rich demographics, earnings over a 9 year period
- How to measure outcomes from wage records? What does this mean:



# Questions

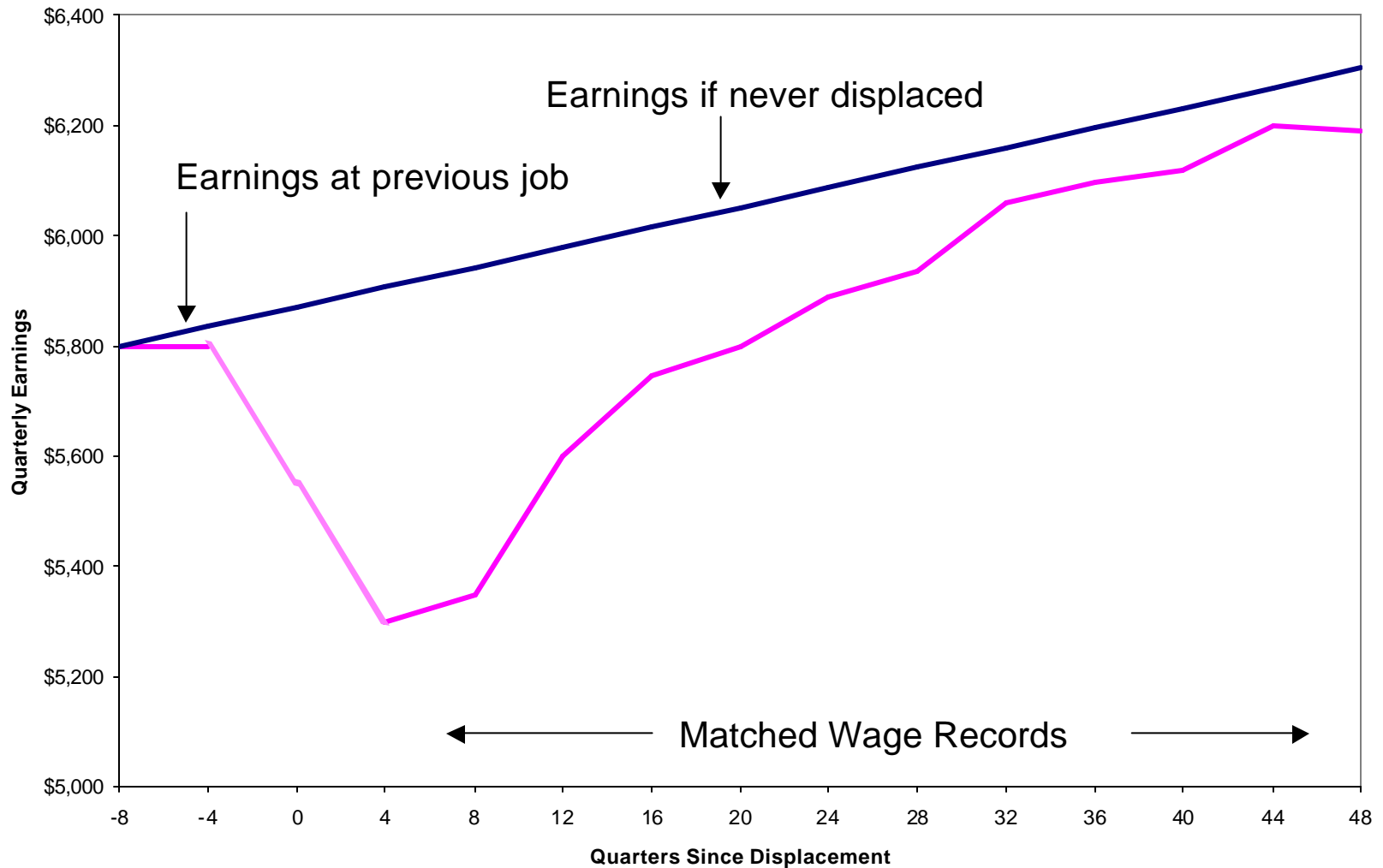
- Need to compare earnings to some reference point to measure a loss
- UI data provides base wage--can use this as indicator of pre-displacement earnings.
- Possible to compare future earnings relative to base wage, determine losses



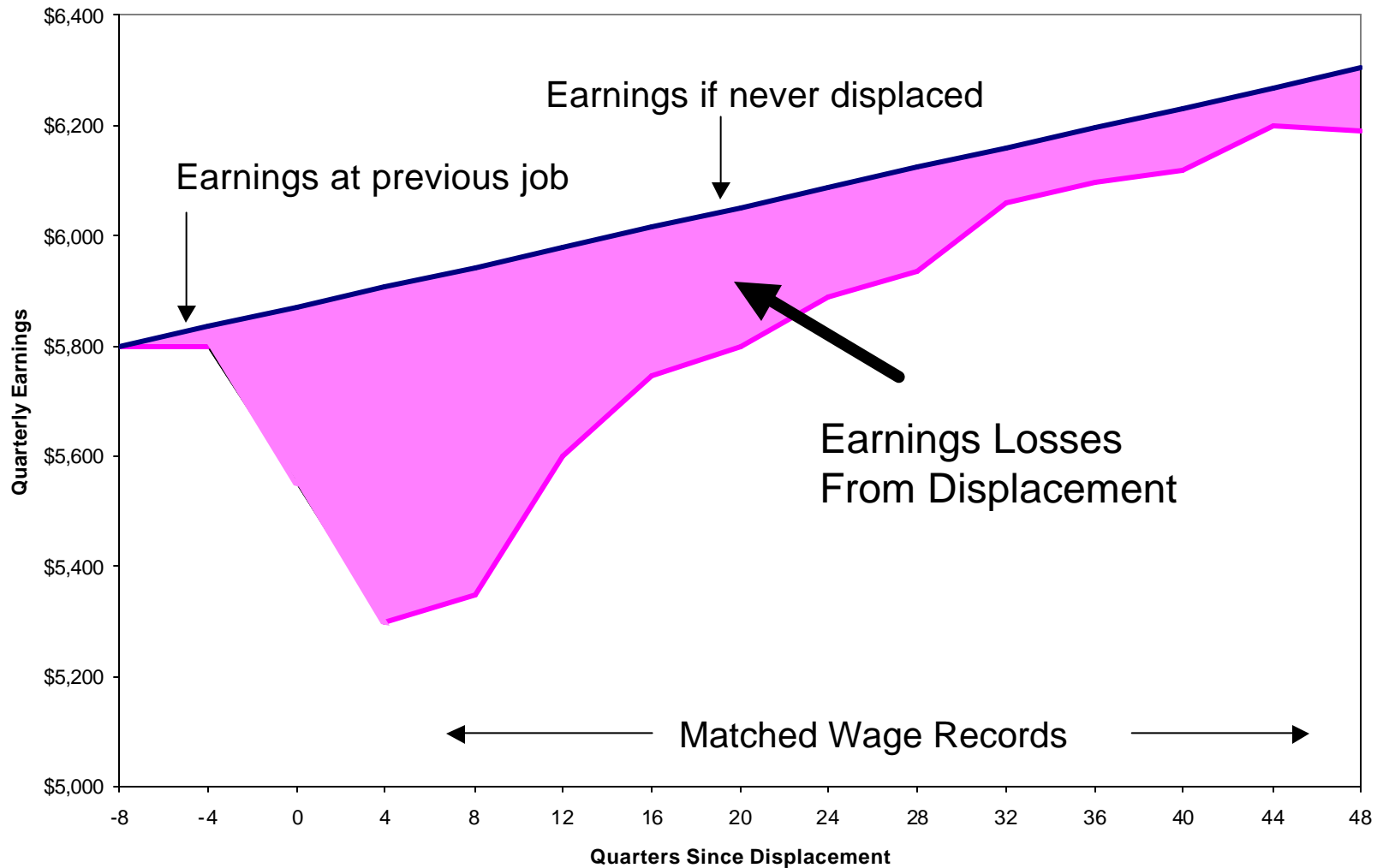
# Questions, cont'd.

- “Ashenfelter dip” problem: Earnings start declining two years prior to layoff
- Also: We don’t know how much post-reemployment earnings would have increased without the layoff
- Solution: Need a comparison group to measure this difference

# A Possible Worker's Case:



# A Possible Worker's Case:



# Comparison Group

- With a comparison group, can create a counterfactual, and measure distance between the two employment and earnings trajectories.
- Need a sample of similar workers who did not lose their jobs
- ISP data contains workers who were laid off, but then *recalled*

# Recalled Workers

- 394 individuals were recalled to their previous employers (266 men, 128 women).
- These workers were disproportionately employed in defense manufacturing (33 % versus 14% overall).
- Since these workers quickly returned to their original jobs, we don't expect them to suffer the same losses as those who sustained an unemployment spell.
- Thus, these workers can provide a counterfactual case: what would have happened to an unemployed worker if she had *not* lost her job, but stayed at her current employer?

# Demographic Comparison

	Recalls		Non-Recalls	
	Men	Women	Men	Women
observations	266	128	4,510	4,242
age	39	40	41	41
white	0.91	0.83	0.88	0.86
tenure	8	7	10	8
No HS	7.36%	12.50%	11.26%	14.02%
HS Grad.	50.83%	55.42%	41.15%	47.91%
Some College	22.33%	20.42%	24.28%	23.72%
College Grad	17.34%	7.92%	19.15%	12.11%
Highest Grade	12.95	12.15	13.05	12.44

- The main difference between the two groups is age: recalled workers are slightly younger, on average, and have less tenure.
- They are more likely to have graduated high school, but less likely to have a college degree

# Industry Background

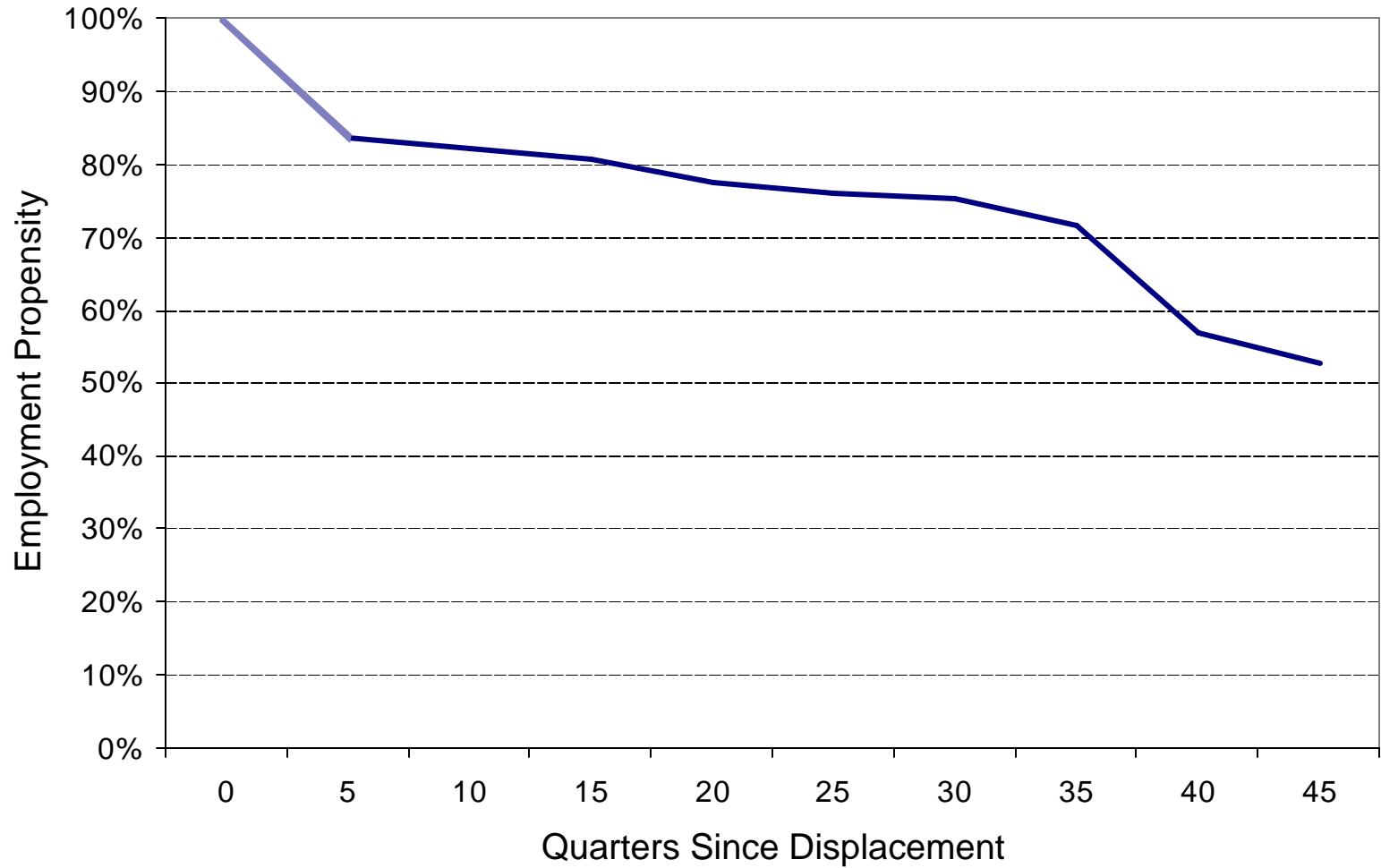
	Recalls		Non-Recalls	
	Men	Women	Men	Women
observations	266	128	4,510	4,242
Computer Mfg	6.65%	3.75%	7.62%	7.17%
Defense Mfg.	36.34%	27.92%	18.64%	9.09%
Non-Defense Mfg.	28.74%	21.25%	35.58%	28.88%
Construction	1.90%	0.00%	2.16%	0.78%
Trade (Retail, Wholesale)	10.45%	5.00%	10.66%	13.17%
Transportation	2.38%	1.25%	2.18%	1.79%
Financial Activities	0.00%	5.00%	1.47%	7.03%
Services	8.55%	26.25%	9.61%	19.08%
Government	2.61%	7.50%	5.93%	6.95%

- Both sets of workers are heavily associated with the manufacturing sector
- Recalled workers were more likely to have worked in defense manufacturing
- Recalled women were more likely to have worked in services

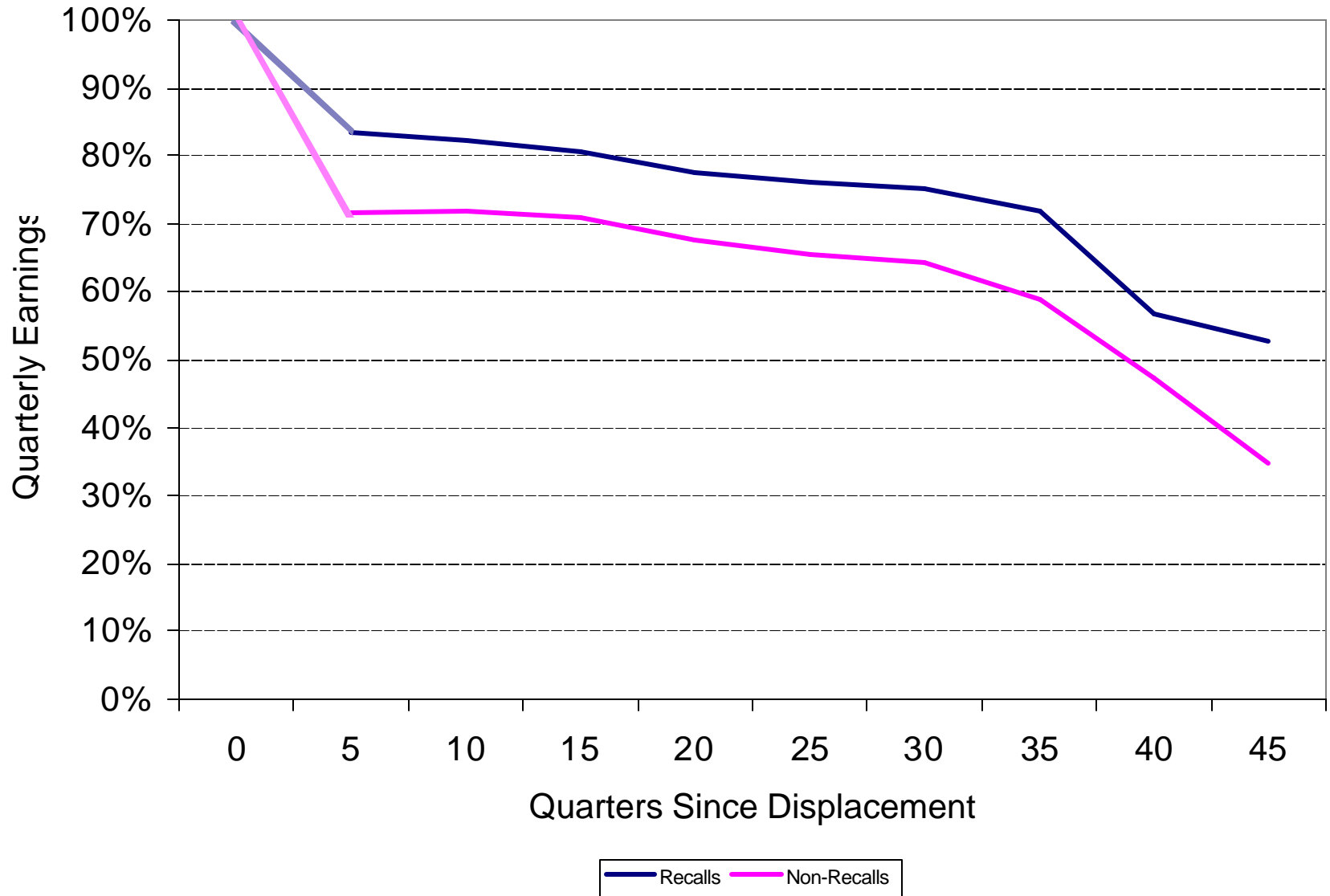
# Outcomes and Evaluation

- We compare the outcomes of the recalled group to those of the non-recalled workers
- “Outcomes” are:
  - 1) Employment propensity
  - 2) Quarterly earnings

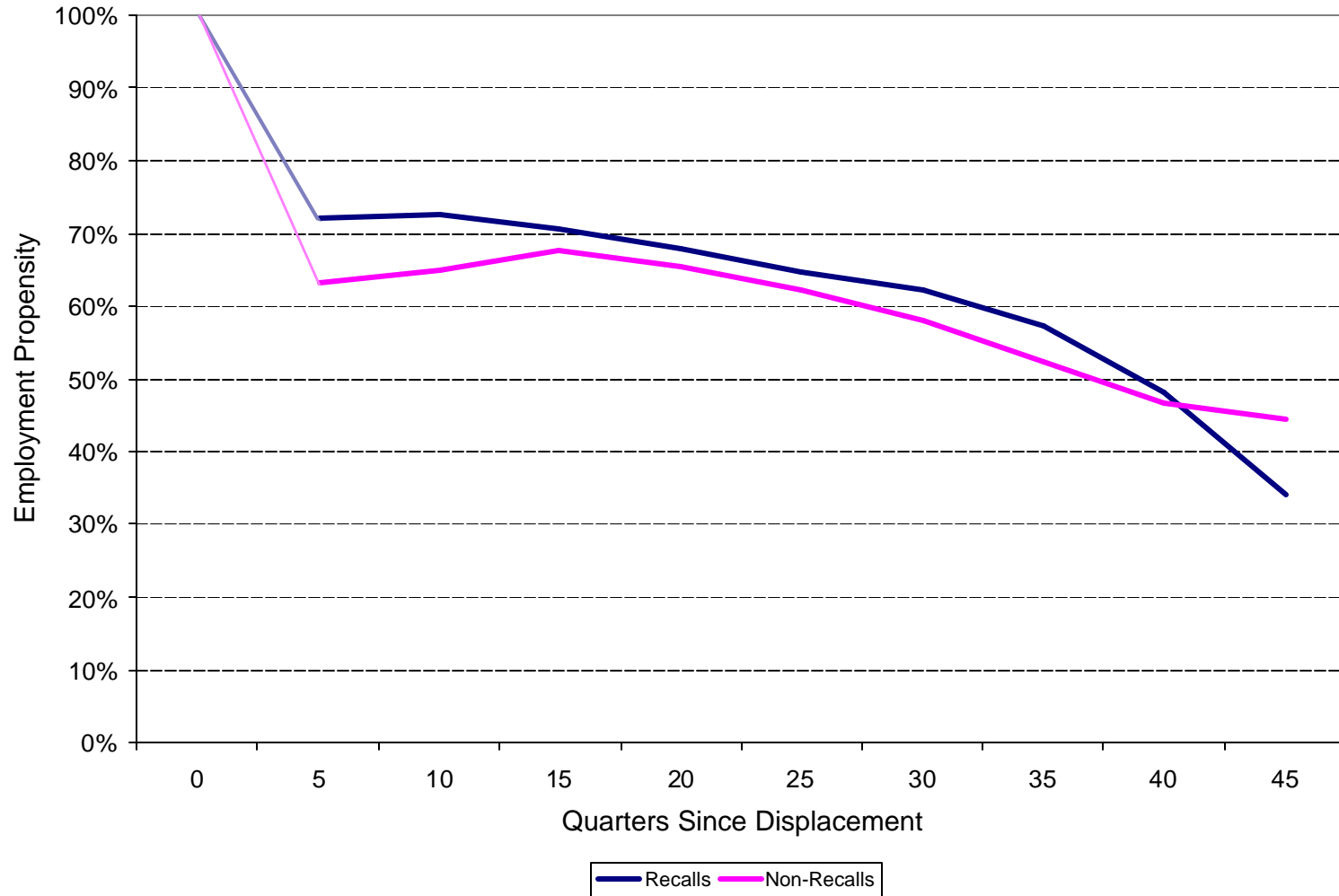
# Employment Trajectories (recalled men)



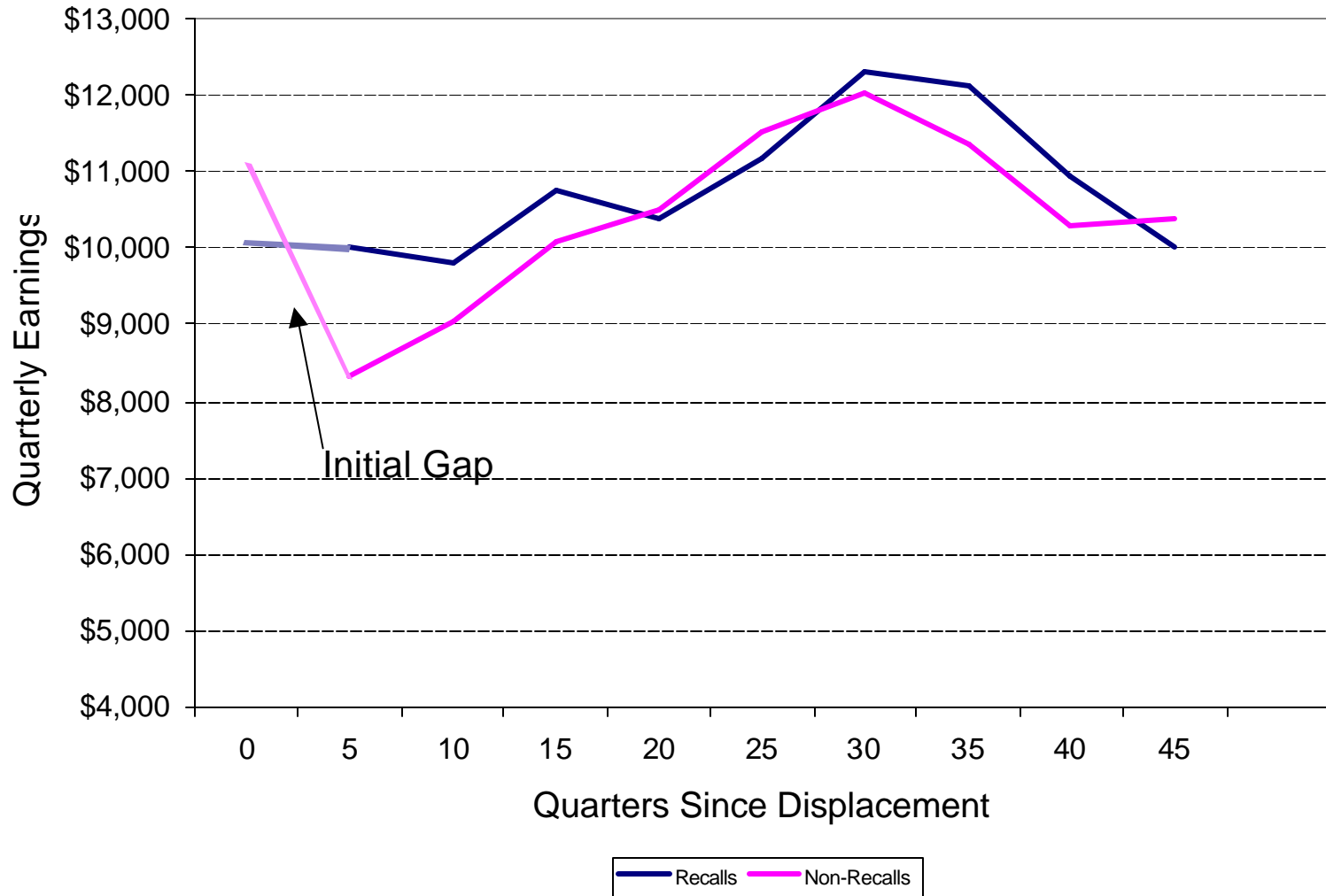
# Employment Trajectories (men: recalled vs. not recalled)



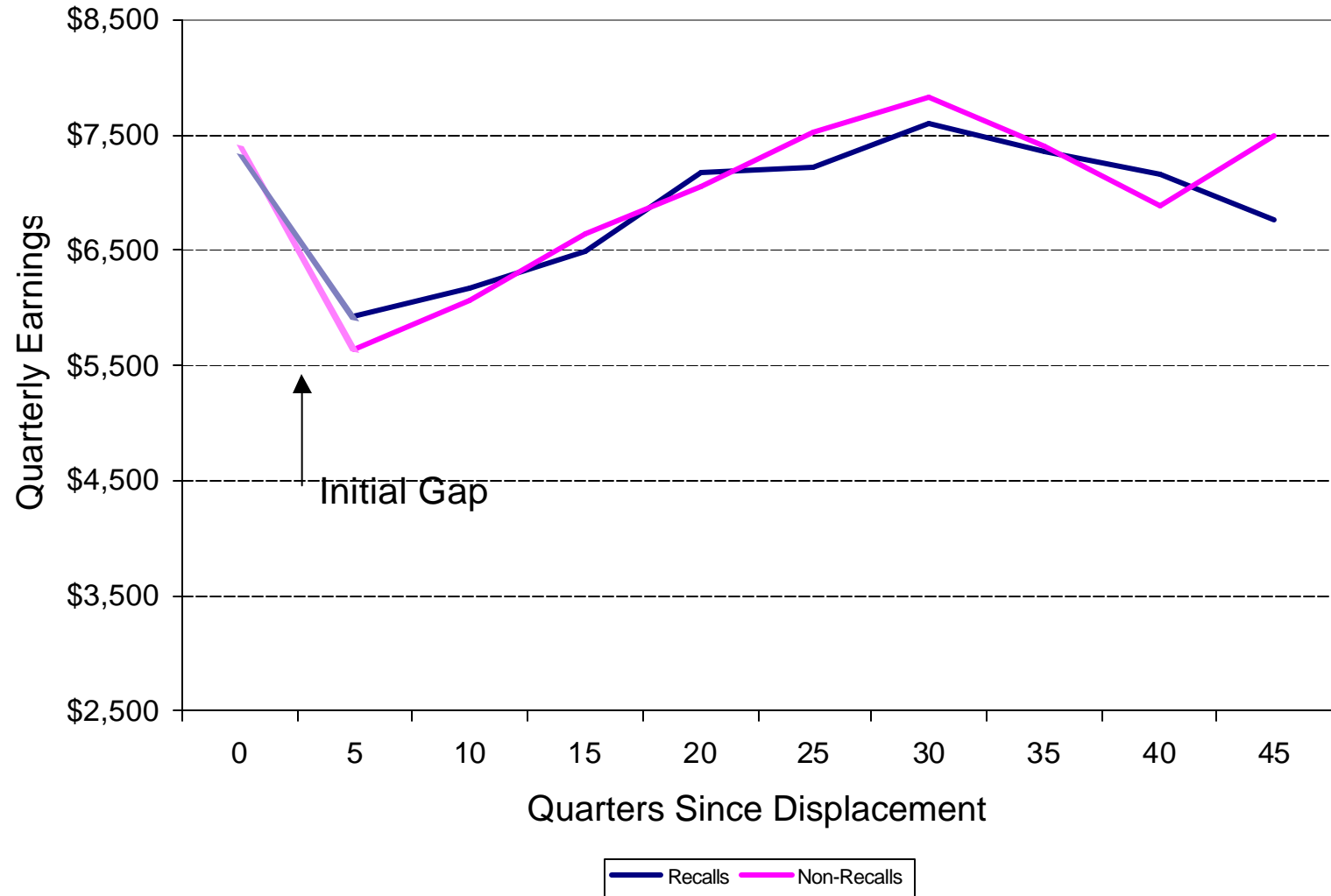
# Employment Trajectories (women)



# Earnings Gap (men)



# Earnings Gap (women)



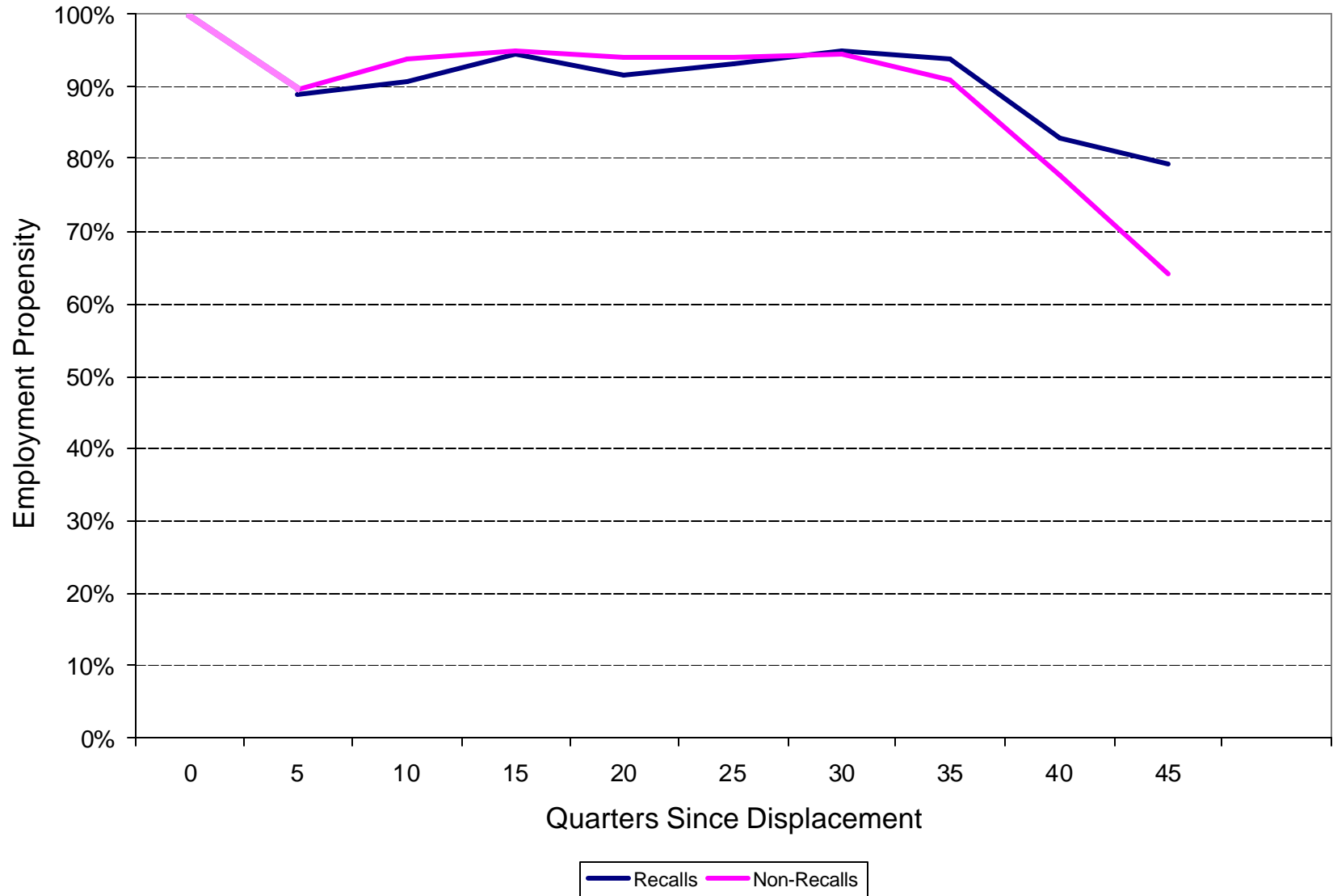
# Workforce Attachment

- If an individual has no positive wages in a given quarter, he or she may be:
  - unemployed
  - not looking for work
  - working in a non-covered sector
  - working, but not in MA
- There is no way to determine which possibility is correct from the wage records
- Later: will use UI records

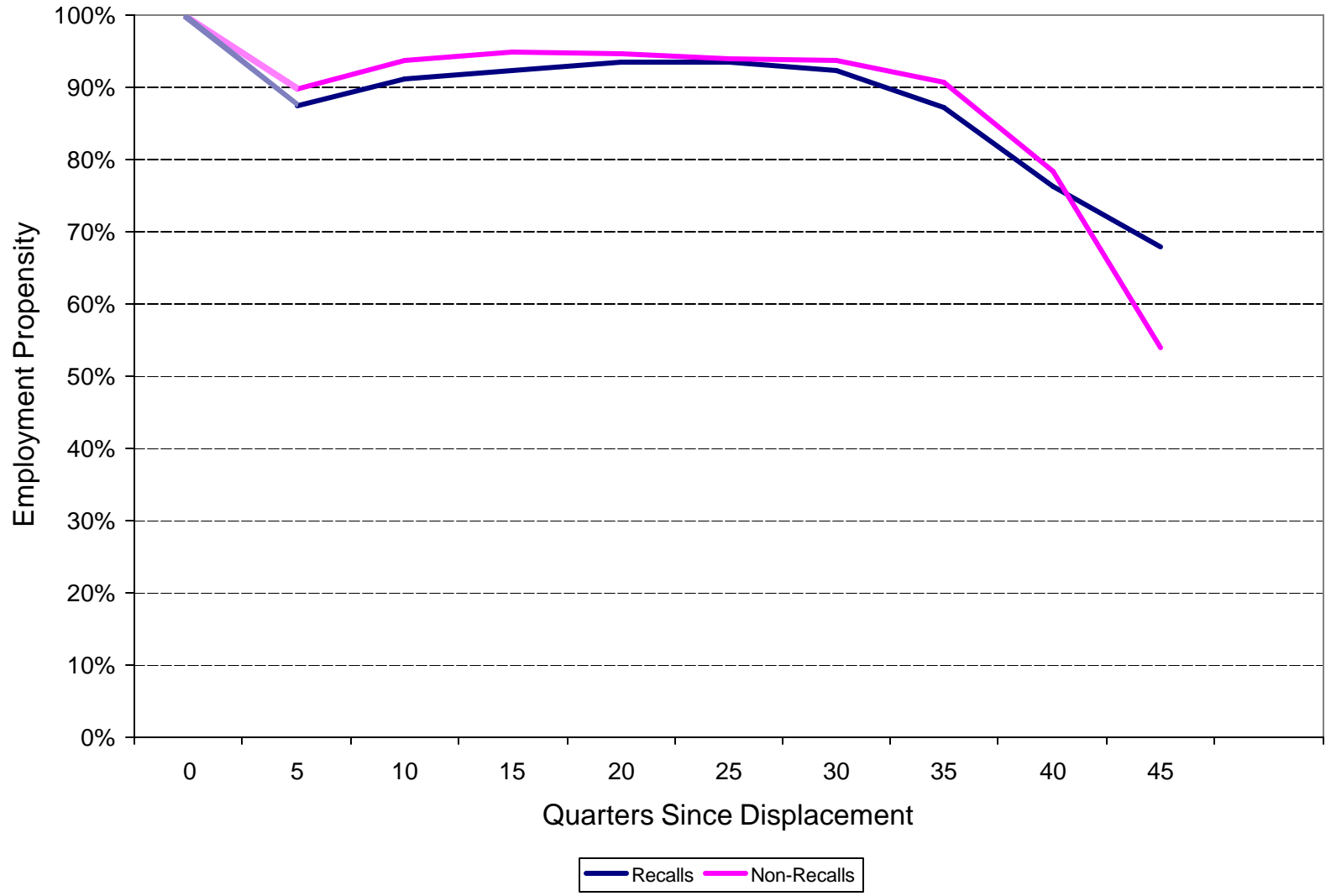
# Workforce Attachment, cont.

- Want evidence of attachment to the MA labor force
- Following Jacobson, Sullivan, LaLonde require workers to have positive earnings in each calendar year.
- About half the sample is eliminated- many of whom never have positive earnings.
- Retain the sample of high-attachment workers.

# Employment Trajectories (men- JLS)



# Employment Trajectories (women- JLS)



# Earnings Gap (men- JLS)



# Earnings Gap (women- JLS)



# Results

- Recalled men are more likely to be employed, a result that persists.
- Among the employed, recalled men have higher earnings at first
- This gap narrows 20 quarters (5 years) after displacement.
- After the 2000-01 earnings peak, earnings decline and a gap resumes.

# Results, contd.

- Earnings for both groups remain similar until the latter quarters, where the gap appears once more.
- Both lines are sloping down, so this may be a recession effect
- Did the recession hurt the previously displaced workers more?

# Results, contd.

- Recalled and non-recalled women show a similar employment trend.
- Women's earnings show a smaller initial gap, which closes more quickly.
- After 10 quarters, the earnings gap is erased.

# Initial Conclusions

- Job loss has negative effects on both likelihood of employment and earnings—even after receiving JTPA services.
- The earnings losses are not persistent.
- Men close the gap after 5 years, women after about 2.
- But non-recalled workers still do not earn more than recalled workers, as they did prior to being displaced
- For men, the earnings gap seems to reassert itself at the end of the sample, perhaps indicating unequal effects of the recession.