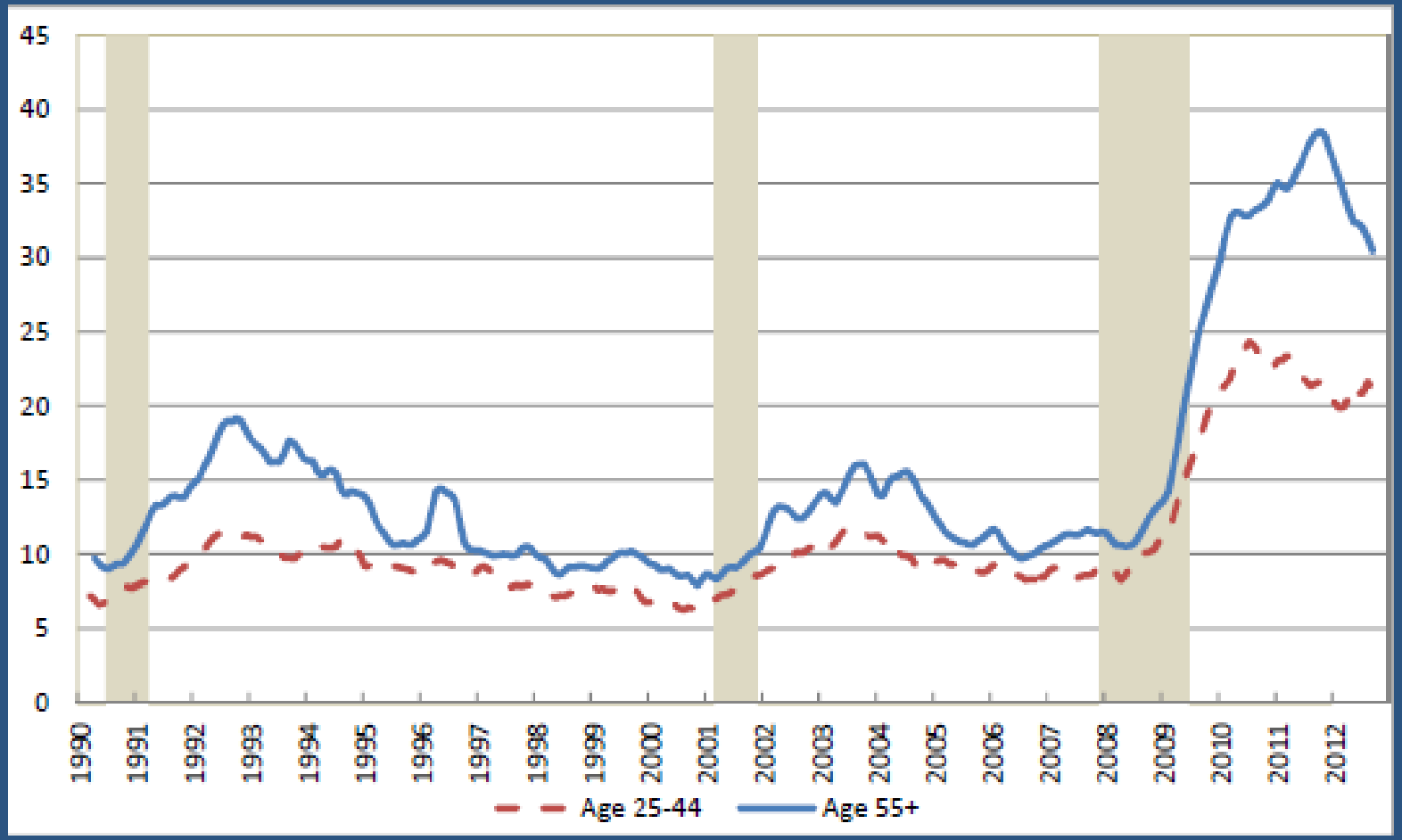
DID AGE DISCRIMINATION PROTECTIONS HELP OLDER WORKERS WEATHER THE GREAT RECESSION?

David Neumark and Patrick Button

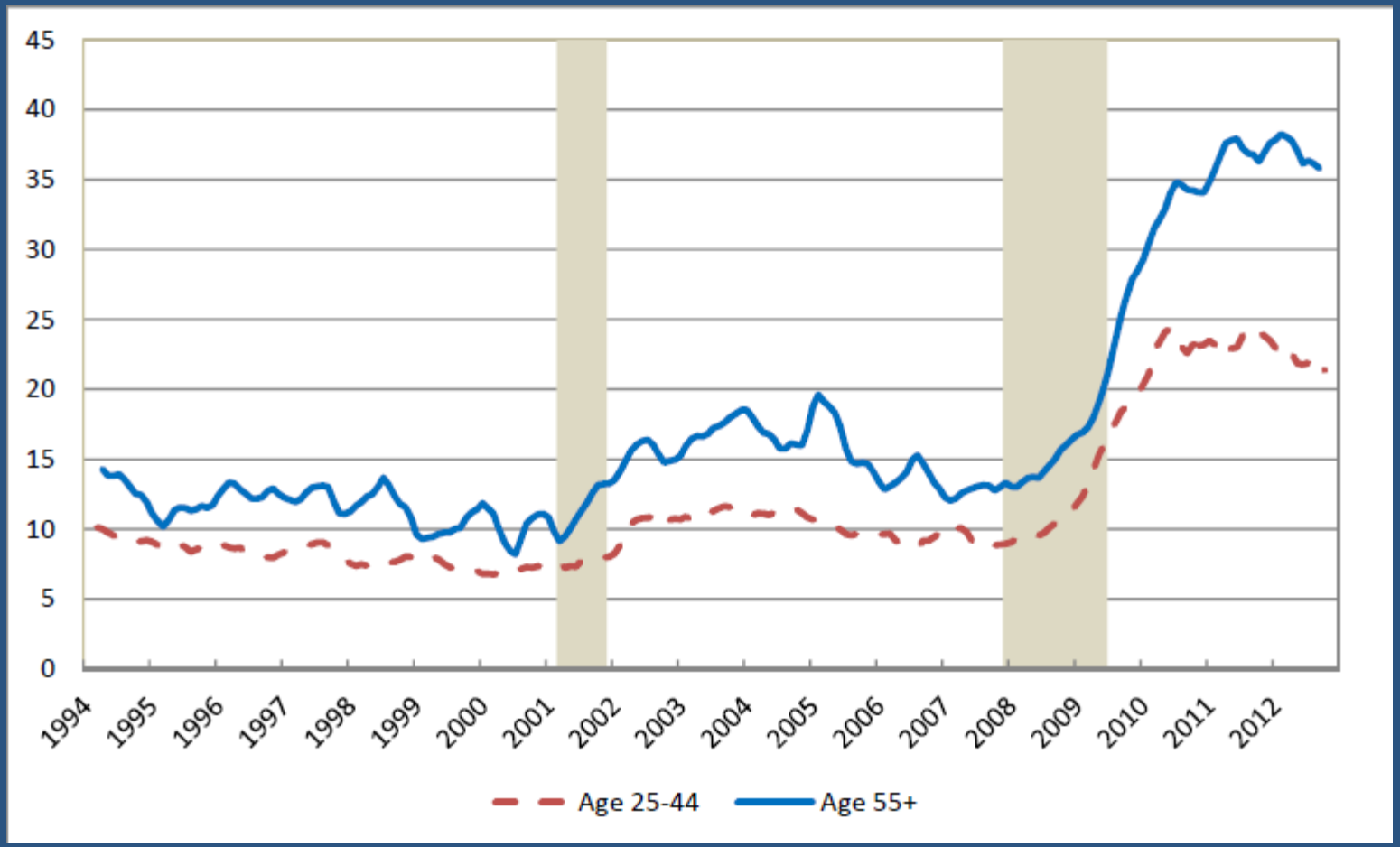
Challenges of Great Recession for older workers

- Great Recession led to dramatic increases in unemployment rates and unemployment durations for workers of all ages
- Unemployment durations (but not unemployment rates) of older individuals rose far more dramatically

Median unemployment durations, CPS data, men



Median unemployment durations, CPS data, women



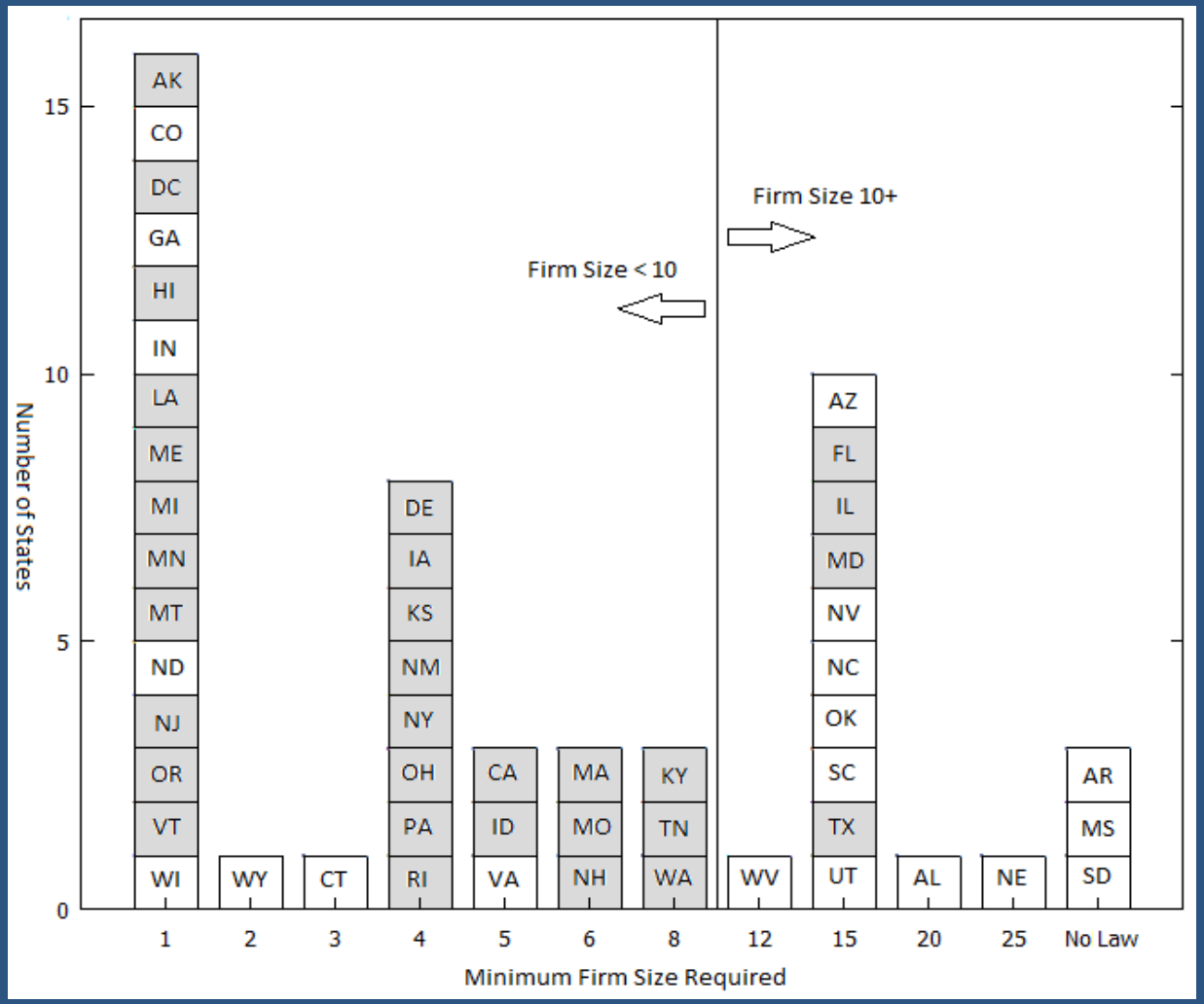
Challenges of Great Recession for older workers

- Older individuals who became unemployed as a result of the Great Recession, or who are seeking new employment, have had greater difficulty becoming re-employed
- Effects of the Great Recession likely to linger for many years, and may pose challenges to longer-term reforms intended to increase employment of older workers
  - Older unemployed workers may be more likely to retire and claim Social Security benefits early (Hutchens, 1999), and to seek support from other public programs to bridge the period until age 62 (Autor and Duggan, 2003; Dorn and Sousa-Poza, 2008; Riphahn, 1997)
  - Hiring difficulties could make it harder to find partial-retirement jobs as bridge to retirement (Cahill et al., 2006; Johnson et al., 2009)

Did discrimination play a role?

- Increase in unemployment durations for older workers has led to media focus on age discrimination
- May be some reasons to expect more discrimination in very slack labor markets, as long queues of job applicants make it less costly for employers to discriminate (Biddle and Hamermesh, 2012)
  - Later, I will suggest other reasons discrimination may have increased during Great Recession

Many states offer stronger age discrimination protections



Stronger remedies: shaded

Did stronger state age discrimination protections help older workers?

- Evidence of effectiveness of state age discrimination laws in other MRRC/SSA-sponsored research
  - E.g., more delaying of claiming benefits until the FRA and increased employment prior to the FRA, and increased hiring of affected older individuals into new jobs (Neumark and Song, 2011, 2012)
- We do not actually know whether age discrimination was or is occurring, but can ask whether state protections reduced the adverse effects of the Great Recession on older workers
- Research informs how severe recessions impact older workers, in ways that work against the goal of lengthening work lives, and whether stronger age discrimination protections mitigate adverse effects of sharp economic downturns on achieving this goal

Preview of findings

- For men, *no* evidence that stronger age discrimination protections helped older workers weather the Great Recession
  - If anything, made things worse (unemployment rates and durations)
- For women, evidence mixed, but mainly in same direction
  - Some evidence that stronger age discrimination protections were associated with relatively smaller increases in the unemployment durations during Great Recession
  - But in period after the Great Recession states with stronger remedies had larger relative increases in unemployment rates of older women, and relative declines in hiring
  - Also evidence of adverse effects on employment/population
- But some evidence that age discrimination laws helped older workers in "normal" times

Data on numerous labor market outcomes

- Age groups: prime-age (25 to 44) and older (55 and older)
  - Doesn't quite match ADEA's lower limit of 40, but QWI data are aggregated by age group
  - Workers considerably older than 40 are more interesting for policy
- Monthly CPS data – estimate unemployment rate, unemployment durations, and employment/population ratio, by age, sex, state, and month (2003-11)
- QWI data – construct total hires in each state and quarter for each age group; divided by average employment level from the QWI in 2005, to normalize hires as rates (2004-11)
  - We use employment levels for each of the two age groups, and for men and women separately
  - Data for almost all states available beginning in 2004

CPS data: usual lower unemployment rates, longer durations, of older workers

	Prime-age (25 - 44) Men					Prime-age (25 - 44) Women			
	Unweighted	Weighted	Min	Max		Unweighted	Weighted	Min	Max
Unemployment rate	6.1	6.5	0	21.1		5.6	6.1	0	19.2
	(3.1)	(3.1)				(2.5)	(2.5)		
Employment-to-	85.8	85.2	67.9	97.1		72.4	70.5	54.7	87.9
population ratio	(4.5)	(4.2)				(5.3)	(4.6)		
Median unem. dur.	13.6	14.2	0	104		13.0	13.8	1	64
	(9.7)	(9.2)				(9.1)	(8.8)		
	Older (55+) Men					Older (55+) Women			
	Unweighted	Weighted	Min	Max		Unweighted	Weighted	Min	Max
Unemployment rate	4.4	4.9	0	24.1		3.9	4.3	0	18.3
	(2.8)	(2.8)				(2.5)	(2.4)		
Employment-to-	44.2	43.3	23.4	62.4		33.0	31.8	17.4	50.5
population ratio	(5.7)	(4.6)				(5.0)	(3.8)		
Median unem. dur.	21.5	22.0	0	119		19.8	20.5	0	119
	(21.1)	(18.9)				(21.4)	(19.4)		

QWI data: hiring rate higher for prime-age than older, for men and women

	Prime-age (25 - 44) Men					Prime-age (25 - 44) Women			
	Unweighted	Weighted	Min	Max		Unweighted	Weighted	Min	Max
Hires	19.3	18.5	8.7	40.7		17.6	17.3	8.3	37.3
	(4.9)	(4.2)				(4.2)	(3.9)		
	Older (55+) Men					Older (55+) Women			
	Unweighted	Weighted	Min	Max		Unweighted	Weighted	Min	Max
Hires	13.8	13.6	6.6	33.4		11.9	12.1	6.1	27.4
	(3.6)	(3.0)				(3.2)	(2.9)		

DDD research design

- DDD isolates the effects of AD laws from other influences on outcomes for two age groups
  - Persistent differences by age
  - Baseline differences between older and younger workers that vary across states, which could be correlated with AD laws
    - Industrial composition, demographic makeup of broad age groups, other policies
  - Effects of Great Recession could have differed for older and younger workers nationally
- Other within-state, time-varying policies could have affected older and younger workers differently
  - National industry shocks coupled with variation in age composition of industry employment in state
  - UI benefit extensions

DDD research design

- DDD specification

$$Y_{ast} = \beta_0 + \beta_1 OLD_a + \beta_2 LAW_s + \beta_3 OLD_a \times LAW_s + \beta_4 GR_t + \beta_5 AFTERGR_t \times LAW_s + \beta_6 OLD_a \times GR_t + \beta_7 OLD_a \times AFTERGR_t + \beta_8 LAW_s \times GR_t + \beta_9 LAW_s \times AFTERGR_t + \boldsymbol{\beta_{10} OLD_a \times LAW_s \times GR_t + \beta_{11} OLD_a \times LAW_s \times AFTERGR_t} + \varepsilon_{ast}$$

- *GR* = dummy for the time period of the Great Recession as defined by the NBER (2007:Q4 to 2009:Q2 for the quarterly QWI data and December 2007 to June 2009 for the monthly CPS data)
- *AFTERGR* = dummy for the period after the Great Recession

DDD estimator explained

{(Y for older workers during/after GR in states *with* strong protections
– Y for older workers during /after GR in states *without* strong protections)
–
(Y for younger workers during/after GR in states *with* strong protections
– Y for younger workers during/after GR in states *without* strong protections)}
–
{(Y for older workers before GR in states *with* strong protections
– Y for older workers before GR in states *without* strong protections)
–
(Y for younger workers before GR in states *with* strong protections
– Y for younger workers before GR in states *without* strong protections)}

DDD estimator explained

{(Y for older workers during/after GR in states *with* strong protections
– Y for older workers during /after GR in states *without* strong protections)
–
(Y for younger workers during/after GR in states *with* strong protections
– Y for younger workers during/after GR in states *without* strong protections)
–
{(Y for older workers before GR in states *with* strong protections
– Y for older workers before GR in states *without* strong protections)
–
(Y for younger workers before GR in states *with* strong protections
– Y for younger workers before GR in states *without* strong protections)}

DDD estimator explained

{(Y for older workers during/after GR in states *with* strong protections
– Y for older workers during /after GR in states *without* strong protections)
–
(Y for younger workers during/after GR in states *with* strong protections
– Y for younger workers during/after GR in states *without* strong protections)
–
{(Y for older workers before GR in states *with* strong protections
– Y for older workers before GR in states *without* strong protections)
–
(Y for younger workers before GR in states *with* strong protections
– Y for younger workers before GR in states *without* strong protections)}

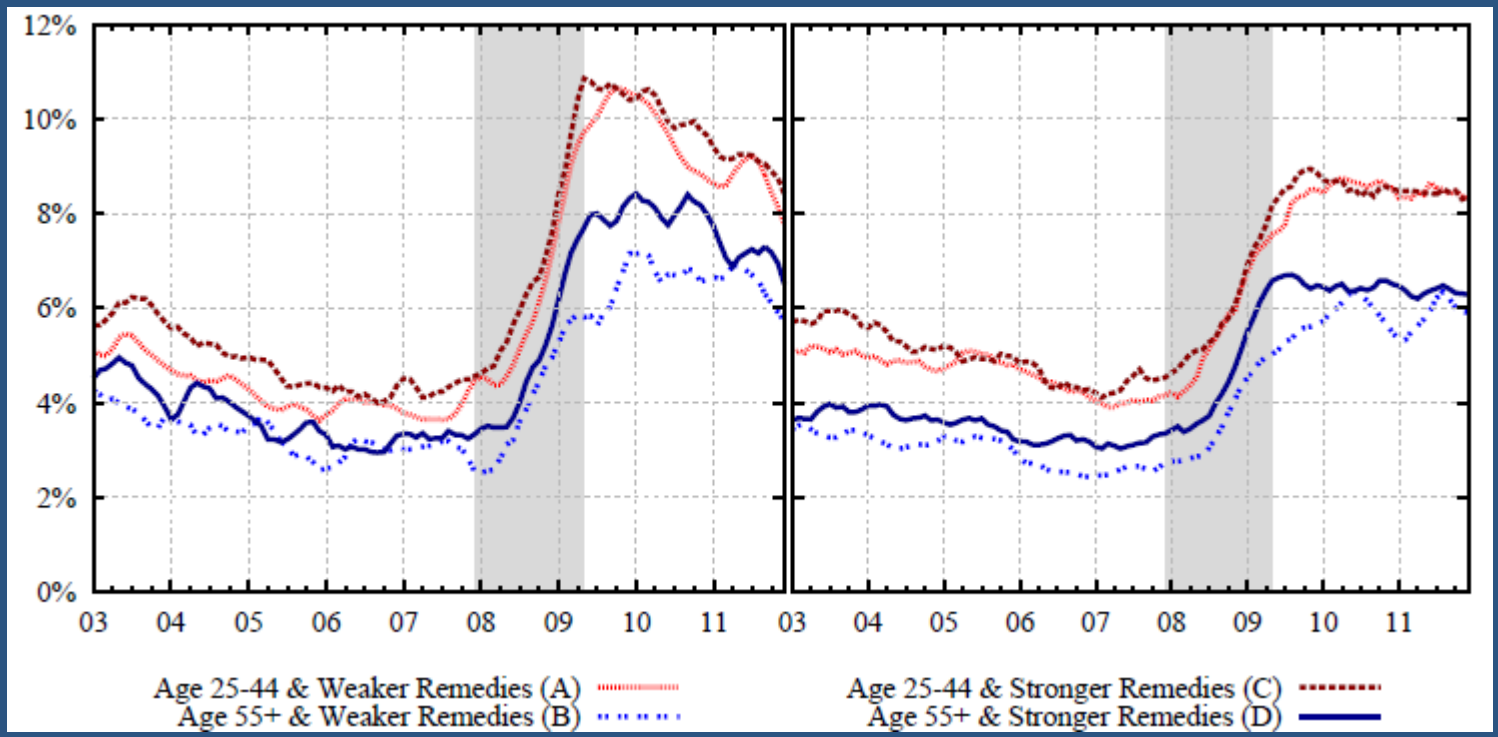
Also learn something about effects of laws prior to Great Recession

$$Y_{ast} = \beta_0 + \beta_1 OLD_a + \beta_2 LAW_s + \boldsymbol{\beta_3 OLD_a \times LAW_s} + \beta_4 GR_t + \beta_5 AFTERGR_t \times LAW_s$$
$$+ \beta_6 OLD_a \times GR_t + \beta_7 OLD_a \times AFTERGR_t + \beta_8 LAW_s \times GR_t + \beta_9 LAW_s \times AFTERGR_t$$
$$+ \boldsymbol{\beta_{10} OLD_a \times LAW_s \times GR_t} + \boldsymbol{\beta_{11} OLD_a \times LAW_s \times AFTERGR_t} + \varepsilon_{ast}$$

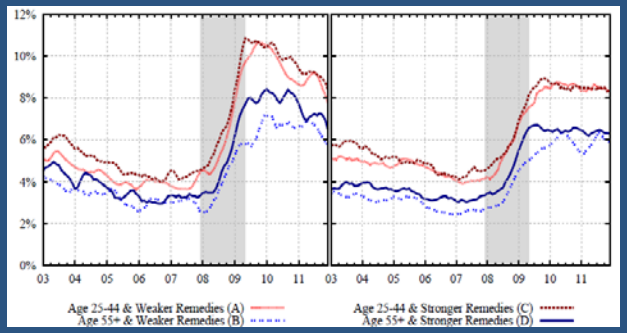
- Only a DD estimate, so less compelling causal identification
  - Essentially no changes in age discrimination laws over sample period

Unemployment rates—stronger remedies

Men on left, women on right

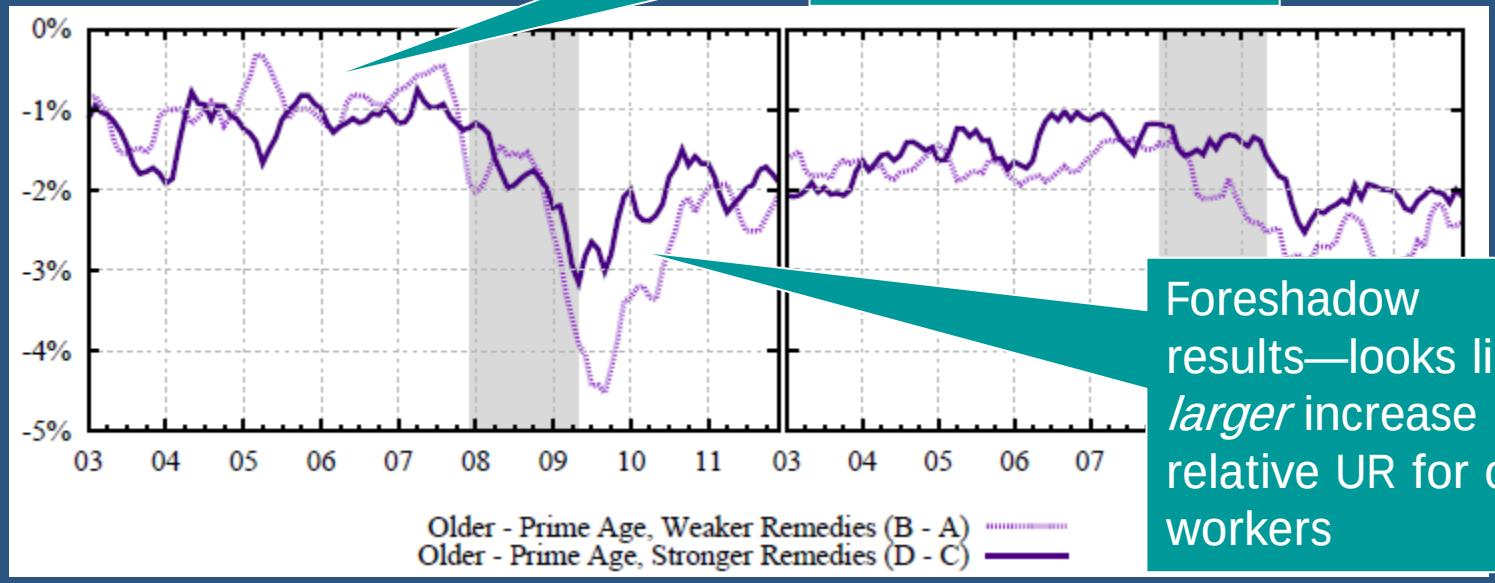


Unemployment rates—stronger remedies



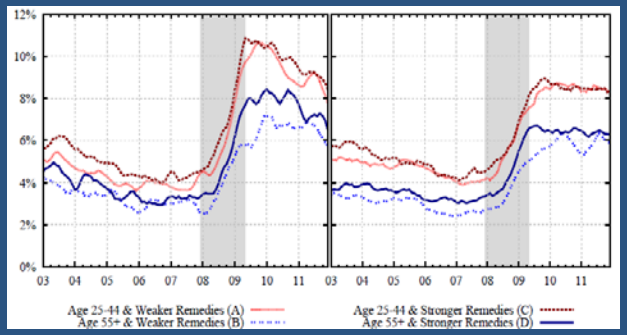
Men on left, women on right

In pre-GR period, law associated with lower relative UR for older men

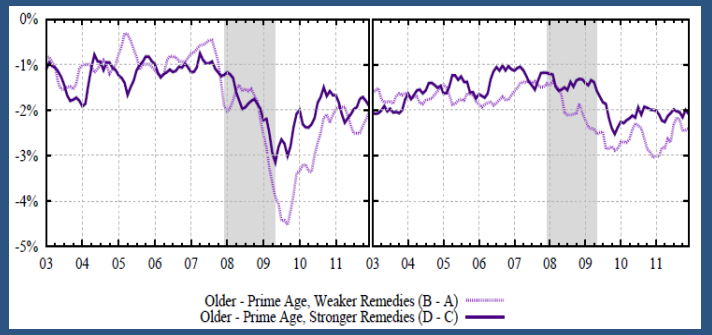


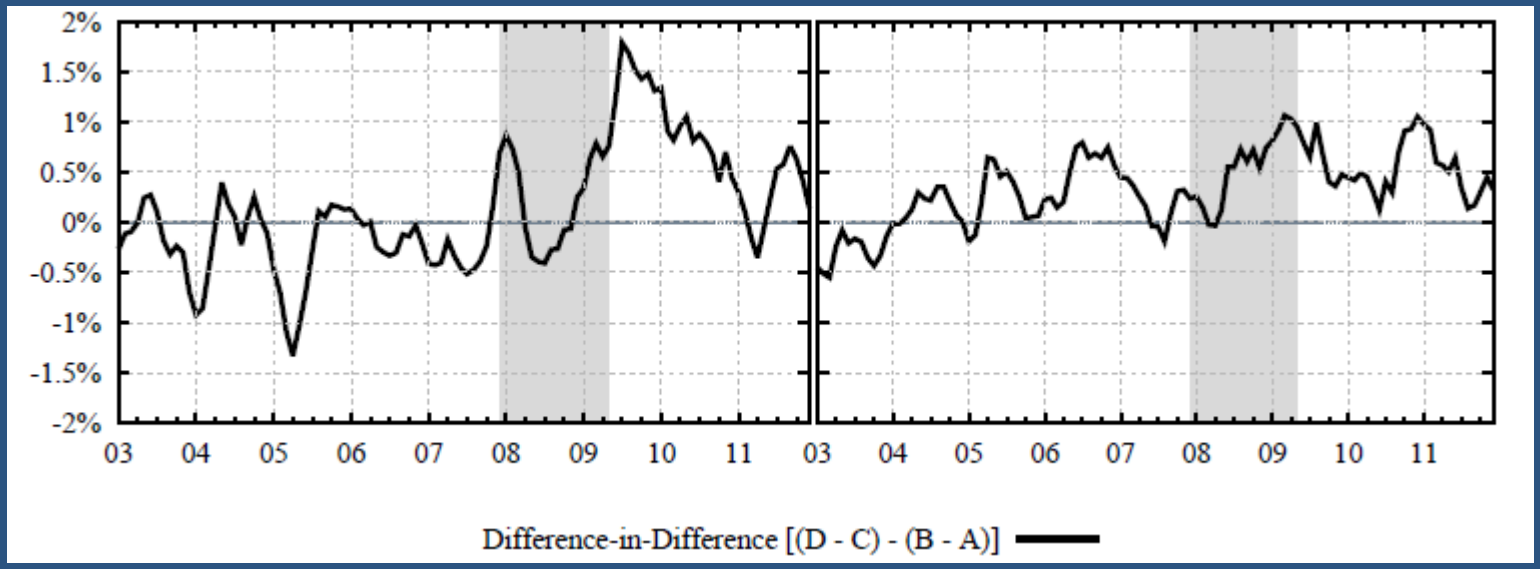
Foreshadow results—looks like *larger* increase in relative UR for older workers

Unemployment rates—stronger remedies

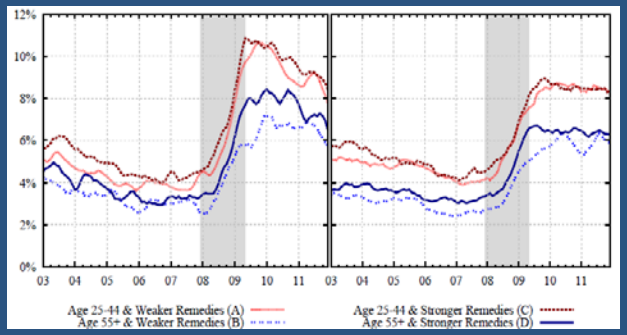


Men on left, women on right

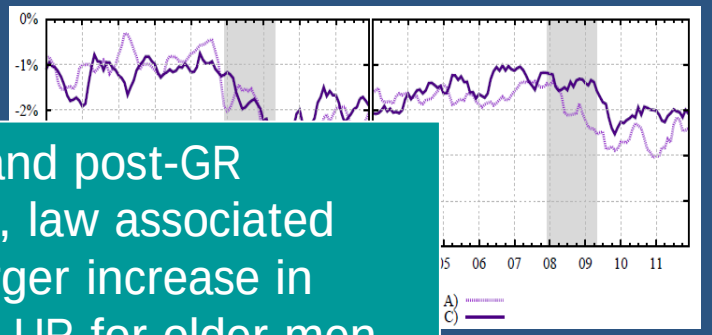




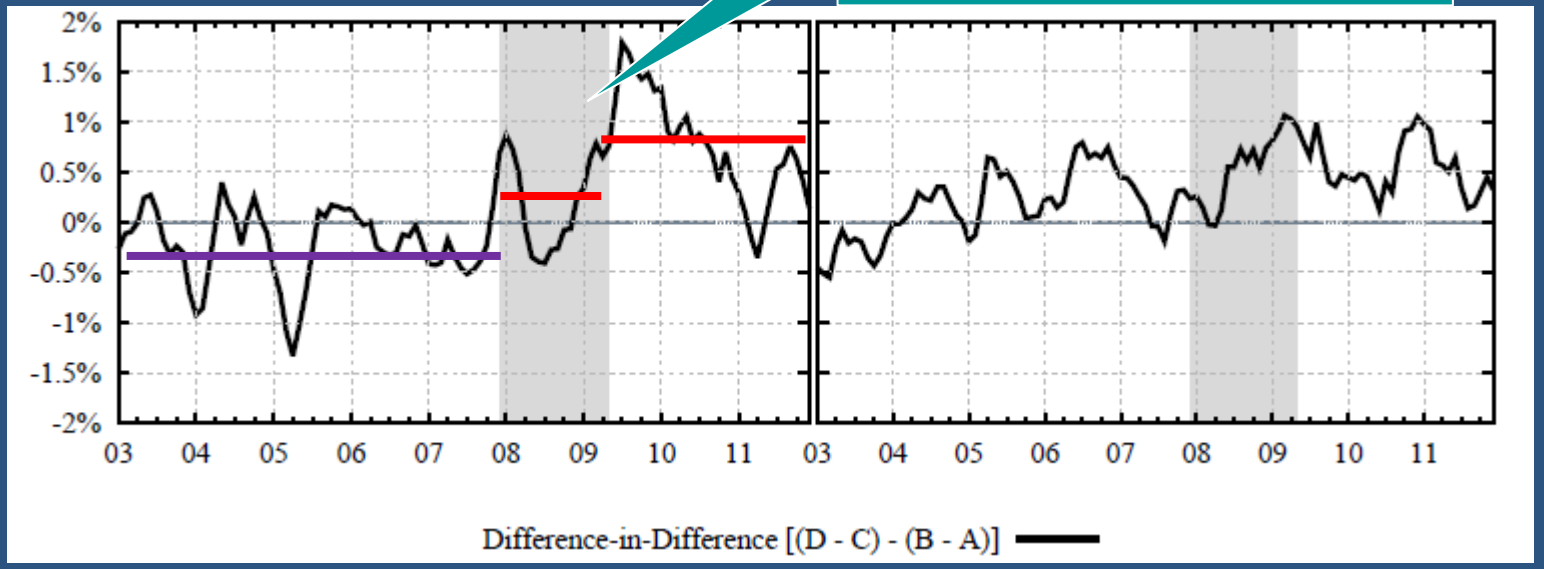
Unemployment rates rates—firm-size cutoff



Men on left, women on right



In GR and post-GR periods, law associated with larger increase in relative UR for older men

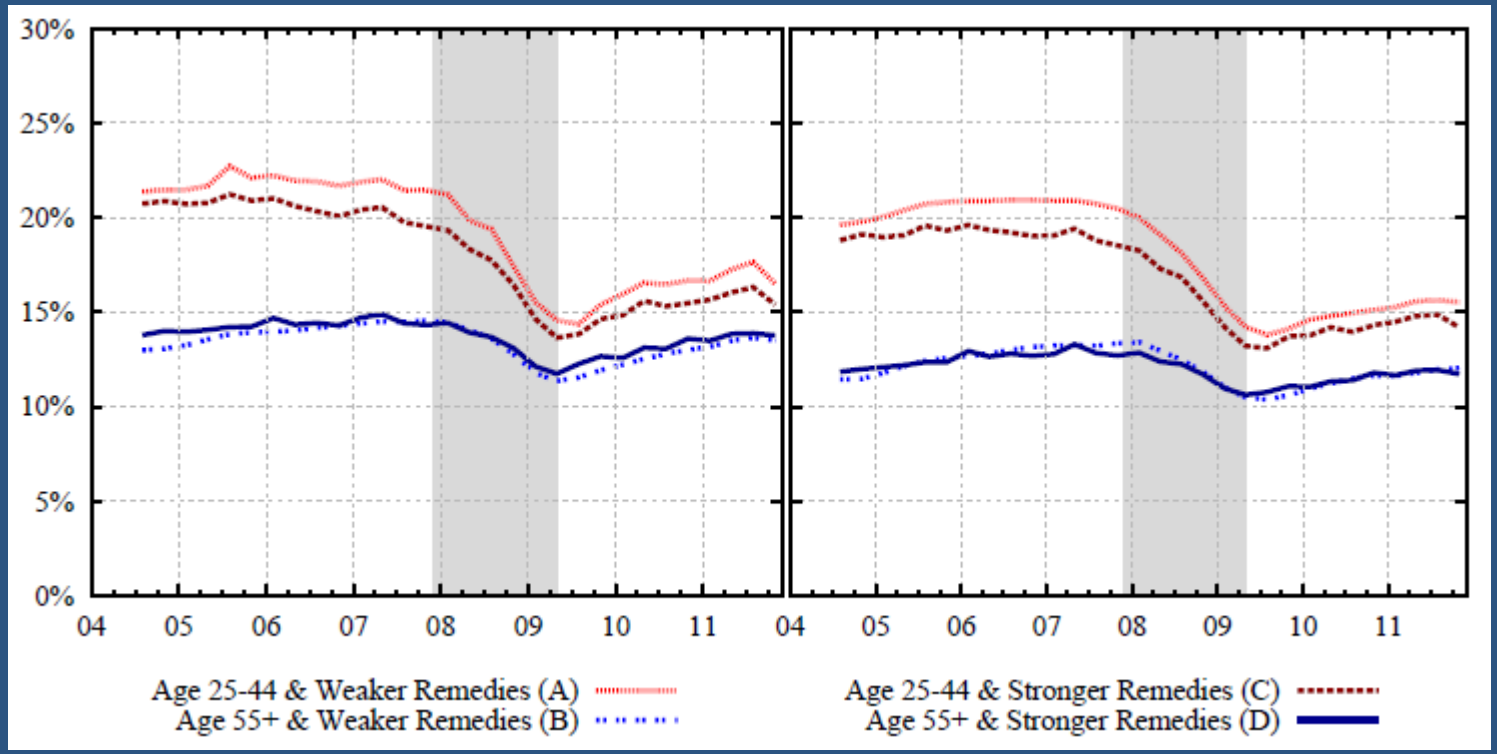


Regression results for unemployment rates, stronger remedies, selected coefficients

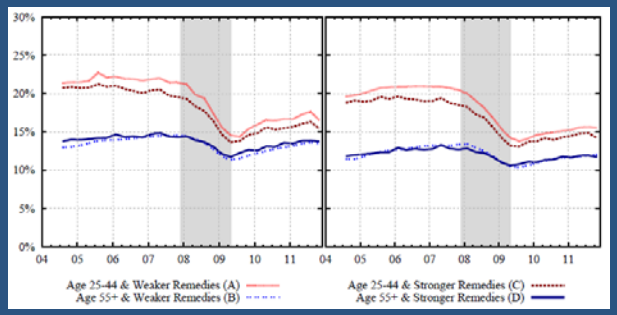
	Men	Men	Men	Men	Men	Women	Women	Women
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OLD × LAW	-1.42***	…	-2.04**	…	…	-0.19	0.43	…
	(0.39)		(0.78)			(0.32)	(0.44)	
GR × OLD × LAW	0.56	0.57	0.56	0.57	0.47	0.38	0.31	0.37
	(0.40)	(0.40)	(0.38)	(0.39)	(0.32)	(0.46)	(0.44)	(0.44)
After GR × OLD × LAW	0.96***	0.97***	1.05***	1.05***	0.59	0.42	0.52	0.57
	(0.26)	(0.26)	(0.26)	(0.27)	(0.37)	(0.55)	(0.54)	(0.55)
Cumulative effect, 2 years:								
UI benefit extensions	…	…	0.11***	0.08***	0.07***	…	0.07***	0.05***
(weeks)			(0.01)	(0.01)	(0.01)		(0.01)	(0.01)
UI benefit extensions	…	…	-0.01	-0.00	-0.01	…	-0.01	-0.01
(weeks) × OLD			(0.01)	(0.01)	(0.01)		(0.01)	(0.01)
Age composition control	…	…	24.01**	41.93***	26.74***	…	16.82	32.98***
			(10.00)	(9.47)	(6.22)		(14.26)	(5.75)
Age composition control	…	…	-7.48	-11.51**	-9.13*	…	-3.92	-16.65**
× OLD			(5.06)	(4.82)	(5.44)		(11.87)	(7.94)
State d.v.s and X with OLD		Yes		Yes	Yes			Yes
Weighted	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Hiring/2005 employment—stronger remedies

Men on left, women on right



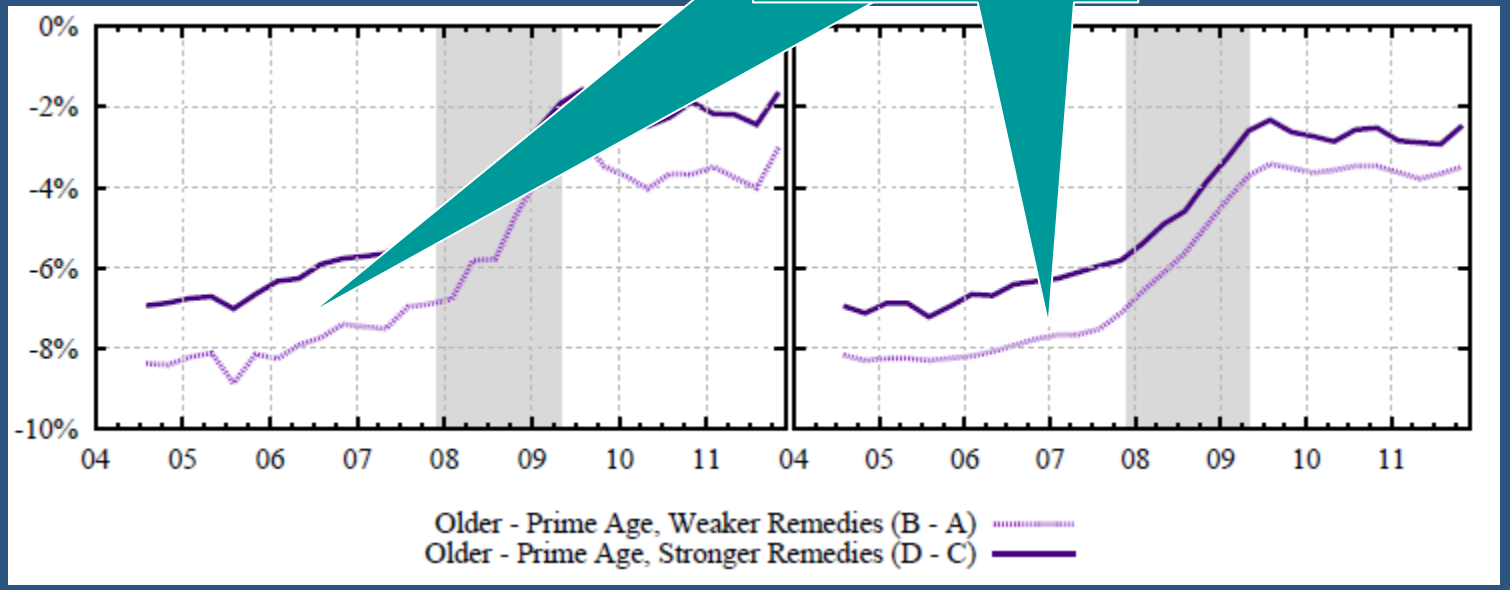
Hiring/2005 employment—stronger remedies



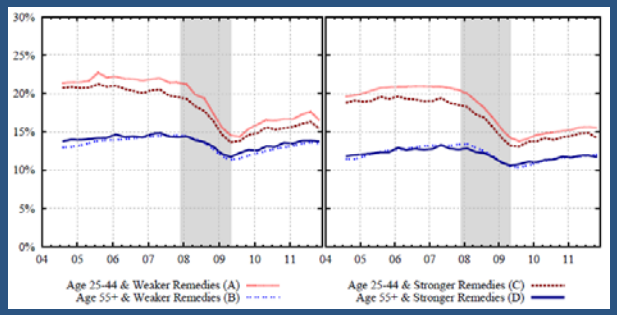
Men on left, women on right

In pre-GR period, law associated with higher relative hiring rates for olde

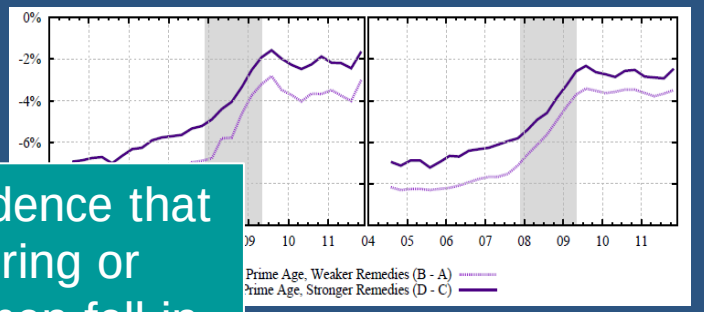
... and women



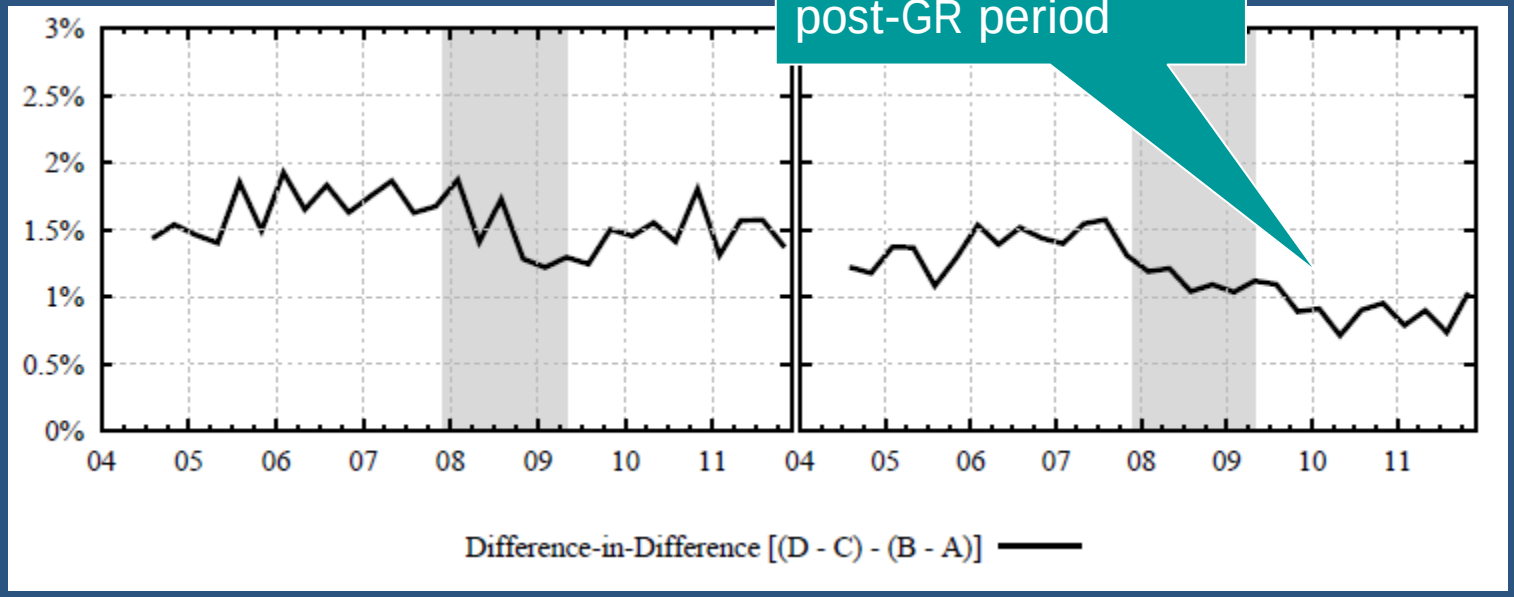
Hiring/2005 employment—stronger remedies



Men on left, women on right



Some evidence that relative hiring or older women fell in post-GR period



Regression results for hiring, stronger remedies, selected coefficients

	Men	Men	Men	Men	Men	Women	Women	Women
OLD × LAW	1.16**	…	-0.56	…	…	0.88**	7.07***	…
	(0.55)		(1.67)			(0.41)	(1.47)	
GR × OLD × LAW	-0.11	-0.10	-0.11	-0.10	0.30	-0.21	-0.46	-0.35
	(0.30)	(0.30)	(0.31)	(0.30)	(0.26)	(0.25)	(0.28)	(0.27)
After GR × OLD × LAW	-0.12	-0.09	-0.36	-0.22	0.23	-0.49	-0.84***	-0.57*
	(0.36)	(0.35)	(0.38)	(0.36)	(0.34)	(0.30)	(0.30)	(0.32)
Cumulative effect, 2 years:								
UI benefit extensions	…	…	-0.08**	-0.02	-0.05*	…	-0.06**	-0.04**
(weeks)			(0.03)	(0.01)	(0.03)		(0.02)	(0.02)
UI benefit extensions	…	…	0.09***	0.00	0.01	…	0.04***	0.00
(weeks)× OLD			(0.02)	(0.01)	(0.01)		(0.01)	(0.01)
Age composition control	…	…	-9.48	-22.68***	-18.08***	…	-19.97**	-29.98***
			(5.90)	(3.15)	(3.04)		(9.61)	(7.28)
Age composition control	…	…	4.81	9.83***	7.98***	…	26.67***	13.18***
× OLD			(3.16)	(1.86)	(1.32)		(4.96)	(3.37)
State d.v.s and X with OLD		Yes		Yes	Yes			Yes
Weighted	Yes	Yes	Yes	Yes		Yes	Yes	Yes

Summary/collection of results

		Men				Women		
			DDD				DDD	
Relative to GR		Pre	During	After		Pre	During	After
Unemployment rates	Lower firm size	–	–	+		?	–	+
	Stronger remedies	$-^{***}$	+	$+^{***}$		?	+	+
Employment-to-population ratio	Lower firm size	$+^{*}$	+	–		–	–	$-^{**}$
	Stronger remedies	+	–	+		?	$-^{**}$	?
Median unemployment durations	Lower firm size	–	+	–		?	–	+
	Stronger remedies	–	$+^{***}$	$+^{***}$		$-^{**}$	$-^{**}$	–
Hiring rates	Lower firm size	$+^{**}$	+	?		$+^{**}$	?	?
	Stronger remedies	?	–	–		$+^{***}$	–	$-^{**}$

Summary/collection of results

		Men				Women		
			DDD				DDD	
Relative to GR		Pre	During	After		Pre	During	After
Unemployment rates	Lower firm size	–	–	+		?	–	+
	Stronger remedies	$-^{***}$	+	$+^{***}$		?	+	+
Employment-to-population ratio	Lower firm size	$+^{*}$	+	–		–	–	$-^{**}$
	Stronger remedies	+	–	+		?	$-^{**}$	?
Median unemployment durations	Lower firm size	–	+	–		?	–	+
	Stronger remedies	–	$+^{***}$	$+^{***}$		$-^{**}$	$-^{**}$	–
Hiring rates	Lower firm size	$+^{**}$	+	?		$+^{**}$	?	?
	Stronger remedies	?	–	–		$+^{***}$	–	$-^{**}$

Older workers helped during/after Great Recession

Summary/collection of results

		Men				Women		
			DDD				DDD	
Relative to GR		Pre	During	After		Pre	During	After
Unemployment rates	Lower firm size	–	–	+		?	–	+
	Stronger remedies	–***	+	+***		?	+	+
Employment-to-population ratio	Lower firm size	+*	+	–		–	–	–**
	Stronger remedies	+	–	+		?	–**	?
Median unemployment durations	Lower firm size	–	+	–		?	–	+
	Stronger remedies	–	+***	+***		–**	–**	–
Hiring rates	Lower firm size	+**	+	?		+**	?	?
	Stronger remedies	?	–	–		+***	–	–**

Older workers helped during/after Great Recession

Older workers hurt during/after Great Recession

Summary/collection of results

		Men				Women		
			DDD				DDD	
Relative to GR		Pre	During	After		Pre	During	After
Unemployment rates	Lower firm size	–	–	+		?	–	+
	Stronger remedies	–***	+	+***		?	+	+
Employment-to-population ratio	Lower firm size	+*	+	–		–	–	–**
	Stronger remedies	+	–	+		?	–**	?
Median unemployment durations	Lower firm size	–	+	–		?	–	+
	Stronger remedies	–	+***	+***		–**	–**	–
Hiring rates	Lower firm size	+**	+	?		+**	?	?
	Stronger remedies	?	–	–		+***	–	–**

Older workers helped during/after Great Recession

Older workers hurt during/after Great Recession

Older workers helped prior to Great Recession, hurt during/after

Summary of findings

- For men, *no* evidence that stronger age discrimination protections helped older workers weather the Great Recession
  - If anything, made things worse (unemployment rates and durations)
- For women, evidence mixed, but generally in same direction
  - Some evidence that stronger age discrimination protections were associated with relatively smaller increases in the unemployment durations during Great Recession
  - But in period after the Great Recession states with stronger remedies had larger relative increases in unemployment rates of older women, and relative declines in hiring
  - Also evidence of adverse effects on employment/population
- But some evidence that age discrimination laws helped older workers in “normal” times

Interpretation?

- Why might these laws lead to relatively worse outcomes for older workers during and after a severe recession?
- Hint may be that in some cases where AD law worsened outcomes for older workers during and after Great Recession it nonetheless improved outcomes pre-recession
- Laws may reduce age discrimination in normal times, but become ineffective during severe downturn, resulting in a relative worsening of labor market outcomes for older workers
  - With severe disruptions in labor markets sorting out the effects of age discrimination vs. changing business conditions becomes difficult
  - May reduce the likelihood that workers perceive age discrimination or that claims of age discrimination can prevail
  - Could even imagine "pent-up demand for discrimination" that firms act on during recession, with more pent-up demand in states with stronger AD laws

Potential policy implications

- As economy recovers, stronger state age discrimination protections will help older workers recover
- If it became easier to discriminate during and after Great Recession, extended periods of unemployment may have hastened labor force exit for older workers near retirement
- May need to think about how to strengthen effectiveness of age discrimination laws (including ADEA) during severe recessions