

# Citizenship and Labor Market Integration: Experiences from Norway

**Bernt Bratsberg**

**Conference on  
*Migration policy challenges:  
from new arrivals to naturalization*  
Collegio Carlo Alberto, February 3, 2017**

**Bernt Bratsberg and Oddbjørn Raaum (2017),  
«Citizenship and Labor Market Integration of  
Immigrants in Norway»**

*Ragnar Frisch Centre for Economic Research*

*[www.frisch.uio.no](http://www.frisch.uio.no)*



# Naturalization and Labor Market Outcomes

- Evidence from the United States

Bratsberg, Ragan, and Nasir (2002), “The Effect of Naturalization on Wage Growth: A Panel Study of Young Male Immigrants,” *Journal of Labor Economics*.

- New evidence from Norway

Bratsberg and Raaum (2017), “Citizenship and Labor Market Integration of Immigrants in Norway”

- Methodological challenge:

- Disentangle effect of naturalization from underlying integration process



# U.S. Naturalization

Old observation, correlation between US citizenship and earnings among immigrants

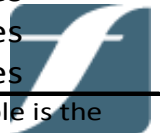
- Chiswick (1978), “The Effect of Americanization of the Earnings of Foreign-born Men,” *Journal of Political Economy*.
- 1970 census data
- Naturalized foreign-born men earn 15 percent more than non-naturalized men with similar socioeconomic characteristics
- (falls to 7 percent and loses statistical significance when control for years since migration)



# The Effect of Naturalization on the Hourly Wage, Young Males (BRN2002)

	(1)	(2)	(3)	(4)	(5)
<b>A. 1990 Census</b>					
Naturalized	0.0736*** (0.0060)	0.0698*** (0.0060)	0.0662*** (0.0060)	0.0591*** (0.0060)	0.0526*** (0.0059)
$R^2$	0.1547	0.1567	0.1644	0.1876	0.2046
<b>B. 1994-1998 CPS (Synthetic Panels)</b>					
Naturalized	0.1117*** (0.0114)	0.1013*** (0.0116)	0.0825*** (0.0117)	0.0735*** (0.0114)	0.0573*** (0.0111)
$R^2$	0.2893	0.2938	0.3036	0.3449	0.3865
<b>C. NLSY79 (Random Effects)</b>					
Naturalized	0.0770** (0.0302)	0.0771** (0.0306)	0.0716** (0.0307)	0.0665** (0.0304)	0.0587** (0.0294)
$R^2$	0.3196	0.3220	0.3275	0.3541	0.3791
Control Variables:					
Human Capital	Yes	Yes	Yes	Yes	Yes
Immigrant Cohort	No	Yes	Yes	Yes	Yes
Country of Birth	No	No	Yes	Yes	Yes
Industry	No	No	No	Yes	Yes
Occupation	No	No	No	No	Yes

Note: Standard errors reported in parentheses. Sample sizes are 44,130 (panel A), 15,676 (panel B), and 2,514 (panel C). The dependent variable is the natural logarithm of the hourly wage. Human capital control variables include age and its square (panels A and B), experience and its square (panel C), tenure and its square (panel C), schooling, English speaking ability (panel A), interview in English (panel C), marital status, SMSA, health status (panel A),



# Naturalization Premium, Three Alternative Channels

1. Does the premium merely reflect the superior skills/ability of those who naturalize (and pass the “citizenship test”)?
2. Alternatively, returns to investments tied to the commitment to long-term stay? (“Human Capital Acquisition Model”)
3. Or, is there a *causal* effect? E.g., does naturalization open doors in the labor market? Do requirements encourage skill formation?

The three mechanisms have different implications for relationship between experience and wages; permits researcher to test between them



# Why Would Naturalization Open Doors?

- Close to 50% of job announcements aimed at Ph.D. economists by non-academic employers in the United States explicitly require U.S. citizenship.
- Employment in many federal agencies, think tanks, and the defense industry is limited to U.S. citizens.
- Many states require citizenship for jobs involving public safety, including police officer.
- Some employers may prefer to hire naturalized citizens over non-naturalized immigrants because of a taste for discrimination.
- When citizens and noncitizens are equally qualified for a job, employers may legally use U.S. citizenship as the basis for employment.



# Empirical Study of The Effect of Naturalization on the Hourly Wage

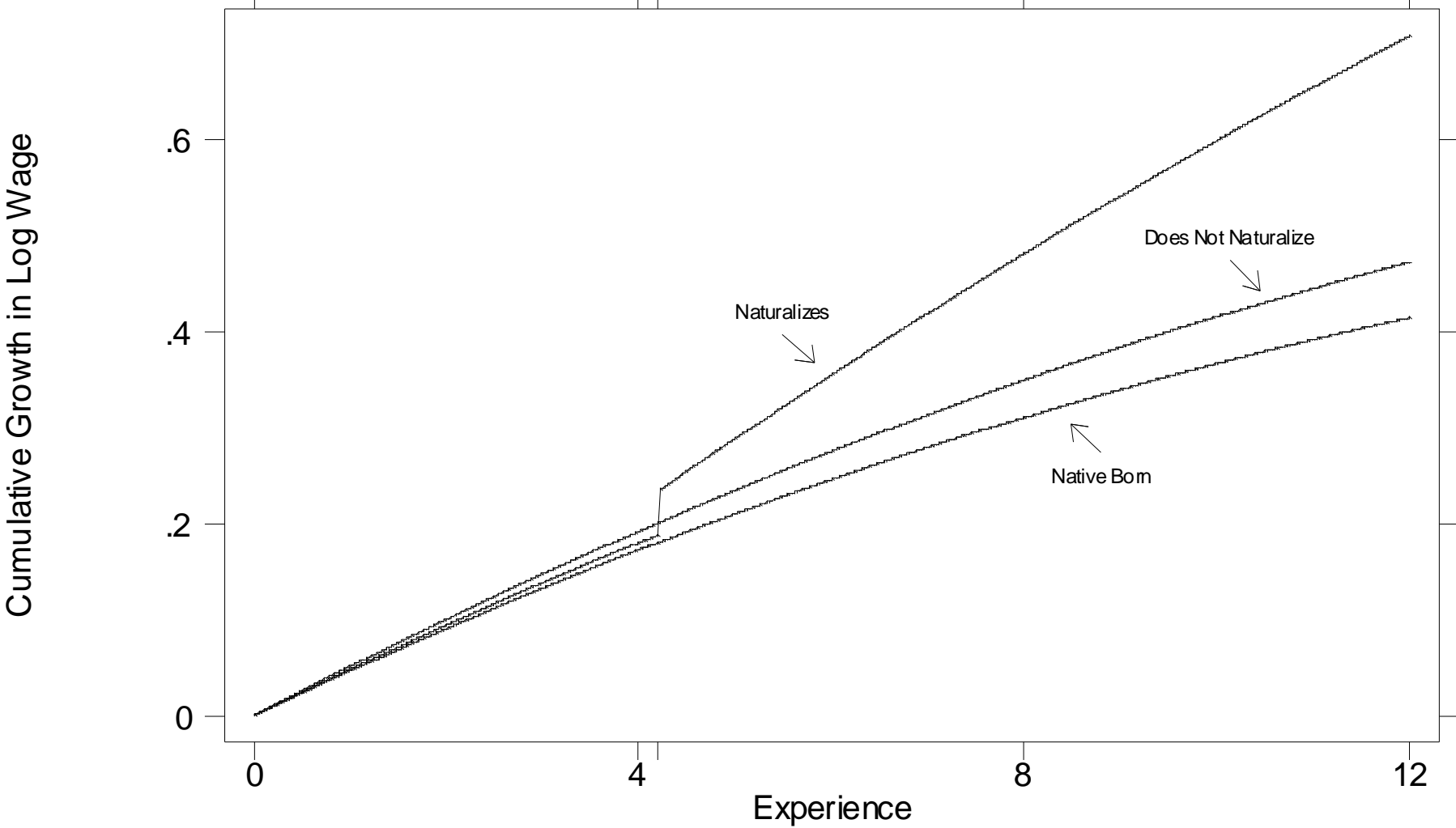
Empirical model:

$$\ln w_{it} = \alpha_0 N_{it} + \alpha_1 N_{it} (X_{it} - X_{iN}) + \alpha_2 D_i X_{it} + \gamma_1 X_{it} + \gamma_2 X_{it}^2 + \delta Z_{it} + \mu_i + u_{it}$$

N="naturalized," D="ever naturalized," X="Experience"



# To sum up U.S. study: Predicted Wage Growth, Young Immigrant and Native Men





# US Study: Other Issues

- Type of employment, probit regressions: Probability of *public-sector* or *union* jobs increases with years since naturalization
- Accounting for faster wage growth in public-sector jobs explains some of the experience-since-naturalization effect
- Accounting for job mobility (quits, layoffs) reinforces results
- Effect stronger for immigrants from *low-income source countries*



# Other countries

Similar patterns observed in

- Germany (Steinhardt, 2012; panel data)
- France (Fougère and Safi, 2009; IV)
- US (Mazzolari, 2009; quasi-experiment)

What about Norway?



# Norway

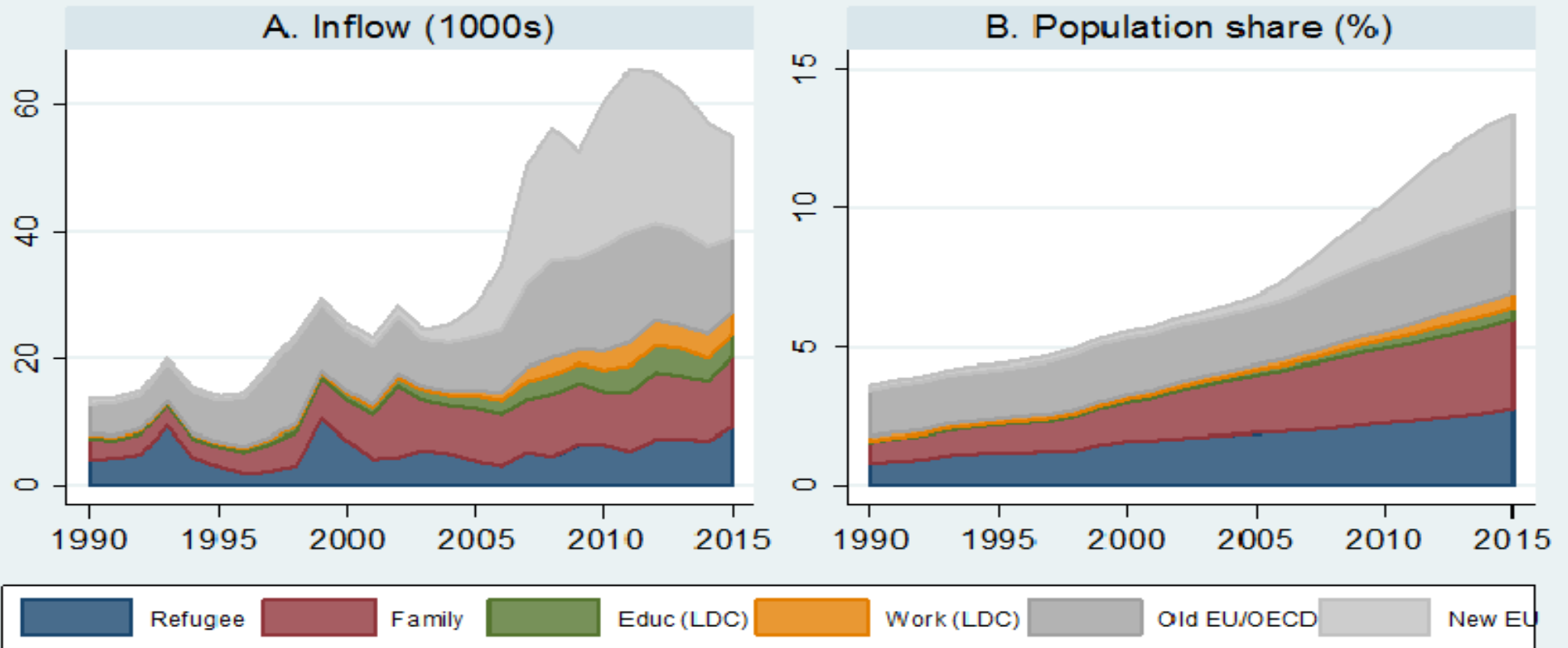
## *General requirements for naturalization:*

- 7 years of continuous residence in the country (or 7 of last 10); 5 years if married Norwegian citizen
- Good moral character, *probationary period*
- Document release from prior citizenship (exemptions)
- Document courses in Norwegian language, civics, and history (*test as of Jan 1, 2017*)

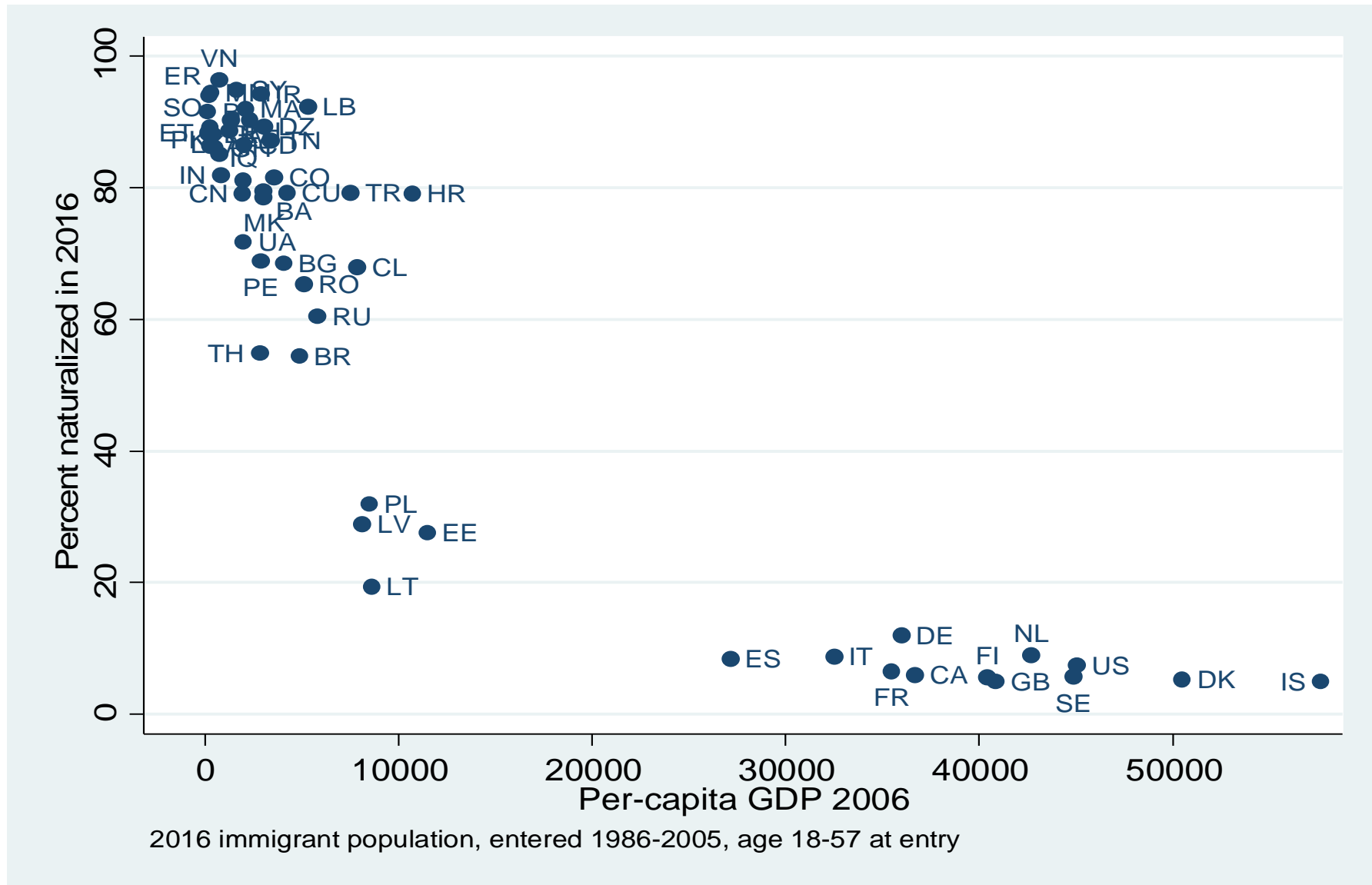
Concern: Do requirements cause *anticipation* effects (or *sorting*) that invalidate empirical analysis?



# Norway: Immigration and population shares



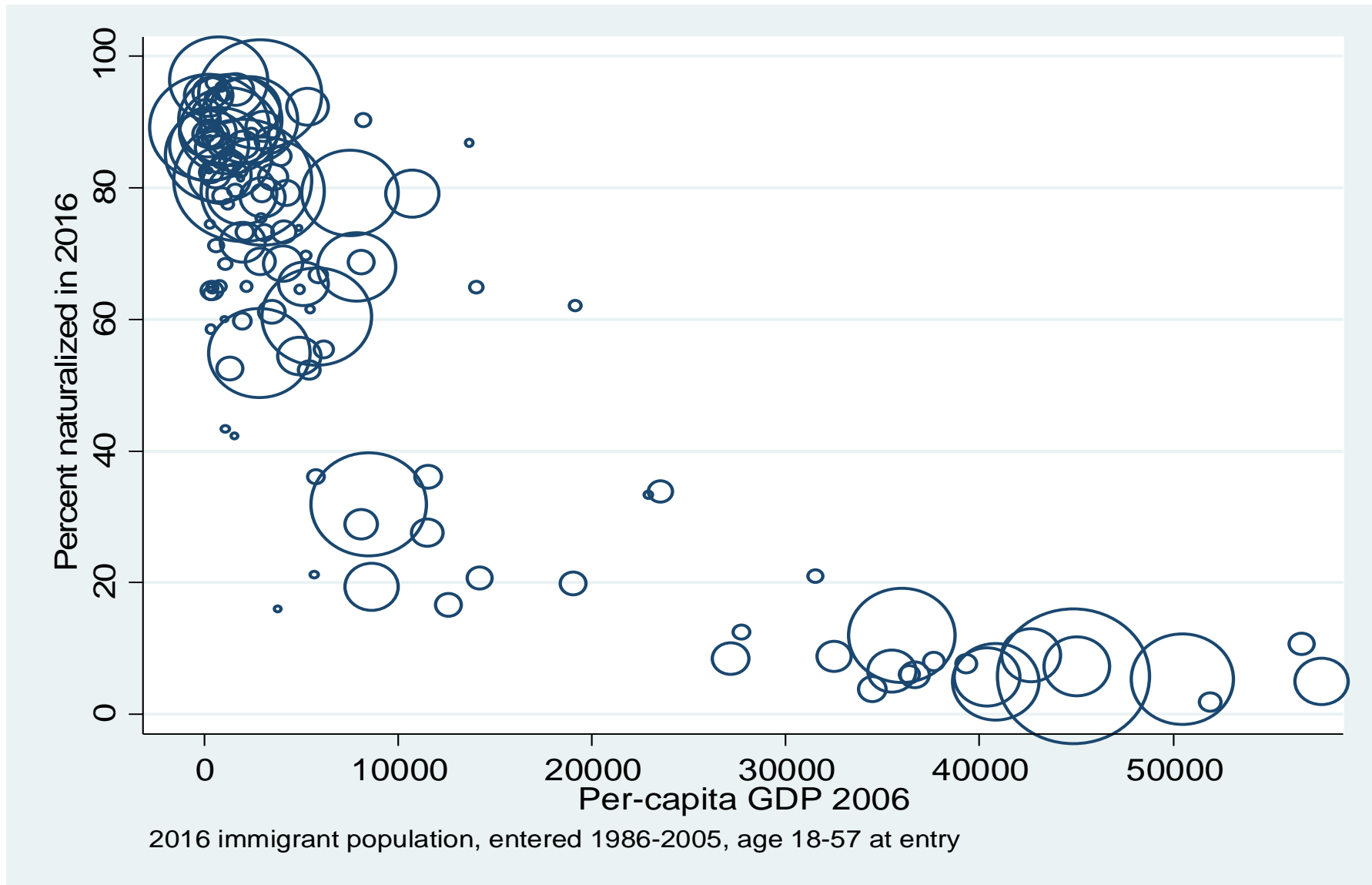
# Norway: Naturalization Rate vs. Source Country per-capita GDP



Note: Per-capita GDP collected from the World Bank; only source countries with at least 400 observations in the underlying data are shown.



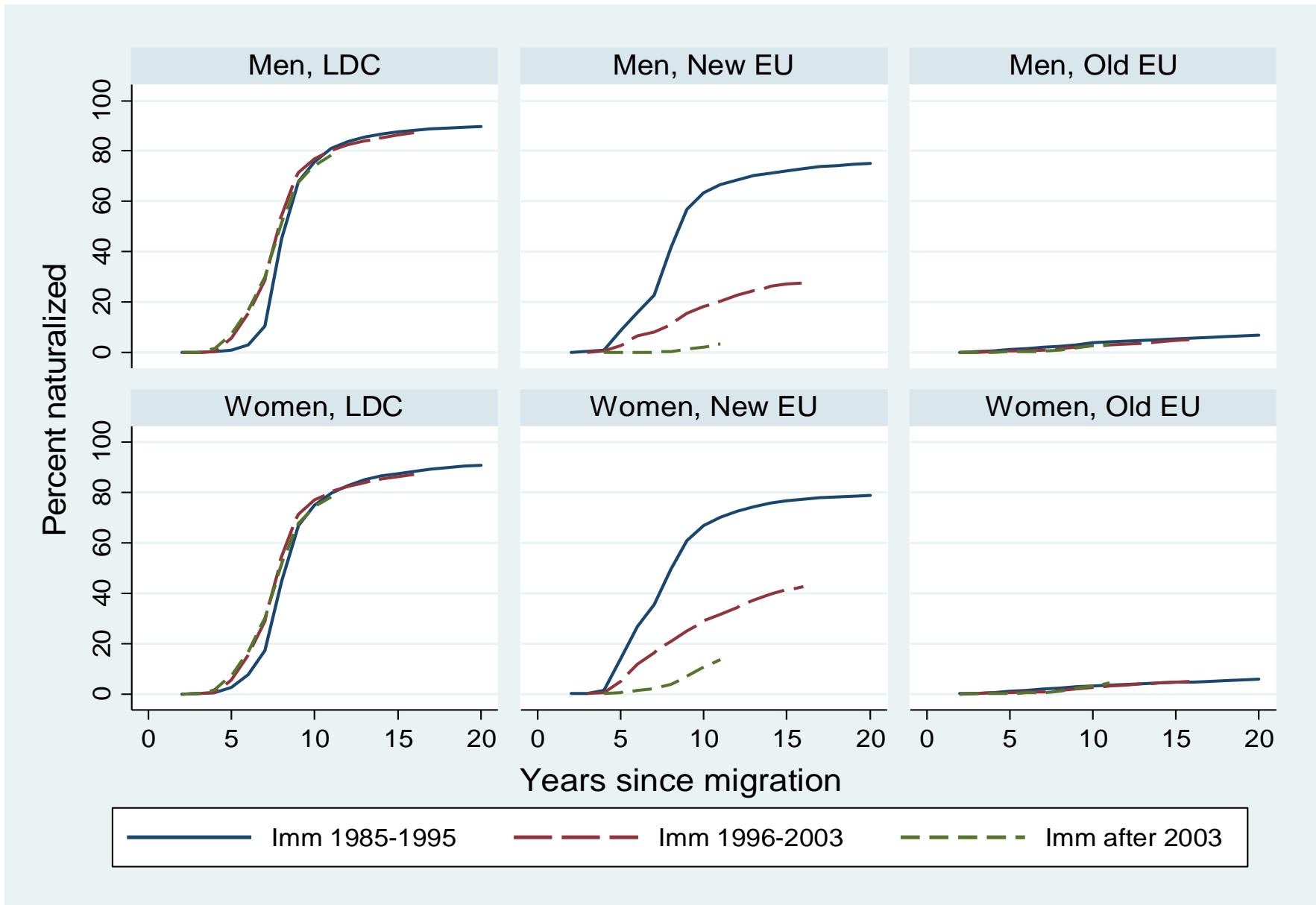
# Norway: Naturalization Rate vs. Source Country per-capita GDP



Note: All countries weighted by cell size



# Norway: Naturalization Rate by Years since Entry, Cohort, and Source Region



Note: Samples consist of immigrants who arrived 1985-2005 at 17-47 years of age and were present in Norway in 2016.



# Immigrant Cohorts Subject to Analysis

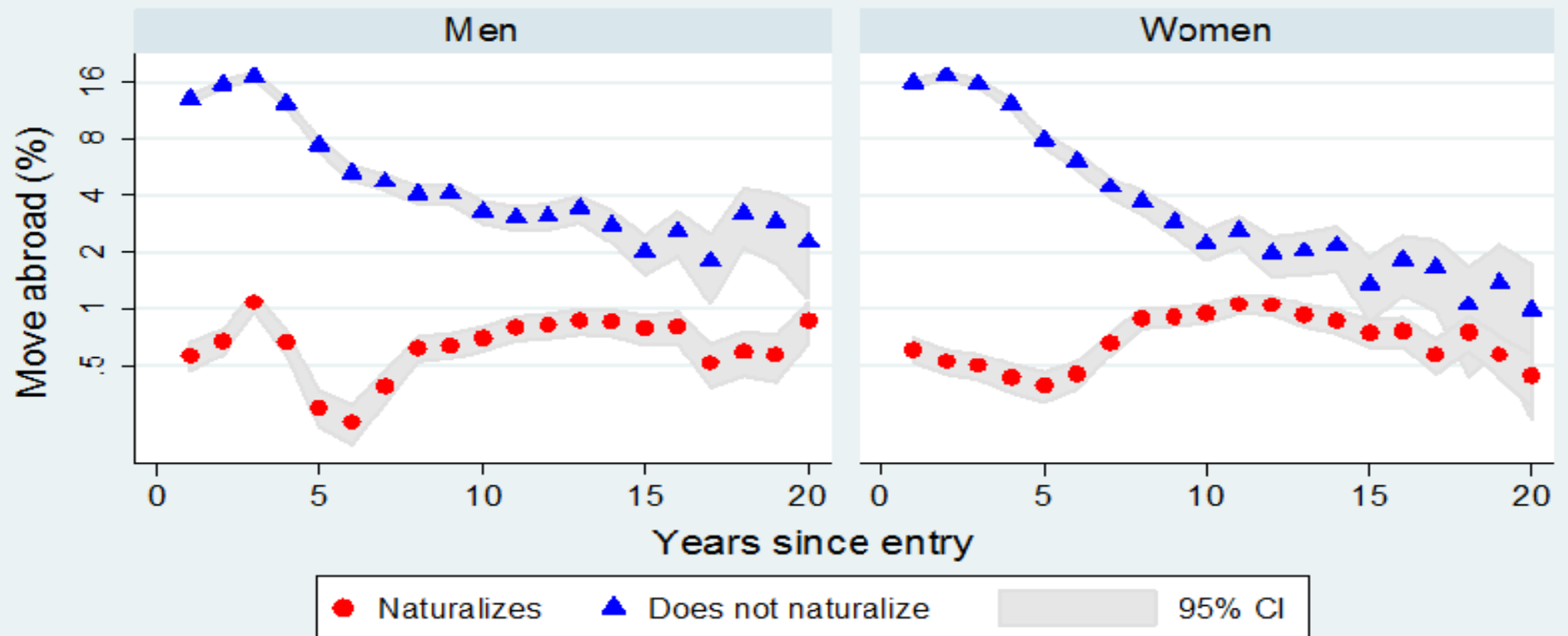
	Men	Women
	(1)	(2)
<b>Individuals</b>	<b>32,578</b>	<b>35,483</b>
<b>Median year of arrival</b>	<b>1999</b>	<b>1999</b>
<b>Median age at arrival</b>	<b>28</b>	<b>27</b>
<b>Percent naturalized by 2016</b>	<b>79.4</b>	<b>86.3</b>
<b>Percent in Norway 2016</b>	<b>93.9</b>	<b>95.0</b>
<b>Main source countries (% naturalized)</b>		
<b>Iraq</b>	<b>18.0 (71.2)</b>	<b>13.9 (93.9)</b>
<b>Somalia</b>	<b>11.9 (83.3)</b>	<b>10.8 (92.7)</b>
<b>Bosnia and Herzegovina</b>	<b>10.3 (79.9)</b>	<b>10.0 (81.5)</b>
<b>Iran</b>	<b>7.2 (88.1)</b>	<b>7.0 (94.5)</b>
<b>Kosovo</b>	<b>6.5 (86.1)</b>	<b>6.1 (91.8)</b>
<b>Afghanistan</b>	<b>5.7 (81.0)</b>	
<b>Sri Lanka</b>		<b>4.9 (86.5)</b>

Note: Population consists of individuals born to two foreign-born parents outside the EU/OECD areas, admitted between 1990 and 2005 with refugee or family reunification (to immigrant) status, were 18-47 years of age at arrival and present in Norway at least ten years after entry.





# Cross-border mobility by years since entry among immigrants who do and do not naturalize



# Empirical concern

Does extraordinary low cross-country mobility in years leading up to naturalization reflect anticipation (or sorting)?

Bias in longitudinal analyses (akin to «Ashenfelter Dip»)?

- Negative bias in within estimates of naturalization effect?



# Descriptive Statistics, Regression Samples

	Men	Women
	(1)	(2)
<b>Observations (person years)</b>	481,491	532,595
<b>Employment</b>	0.641	0.485
<b>Log earnings if employed</b>	12.792	12.575
<b>Naturalized</b>	0.430	0.463
<b>Years since entry</b>	8.6	8.9
<b>Age</b>	37.5	36.8
<b>Observation year</b>	2006.1	2006.0

Note: Samples are based on populations described in Table 1, with the additional sample restriction that individuals are between 20 and 60 years of age and present in Norway at the end of the observation year. Observation period is 1992-2014.



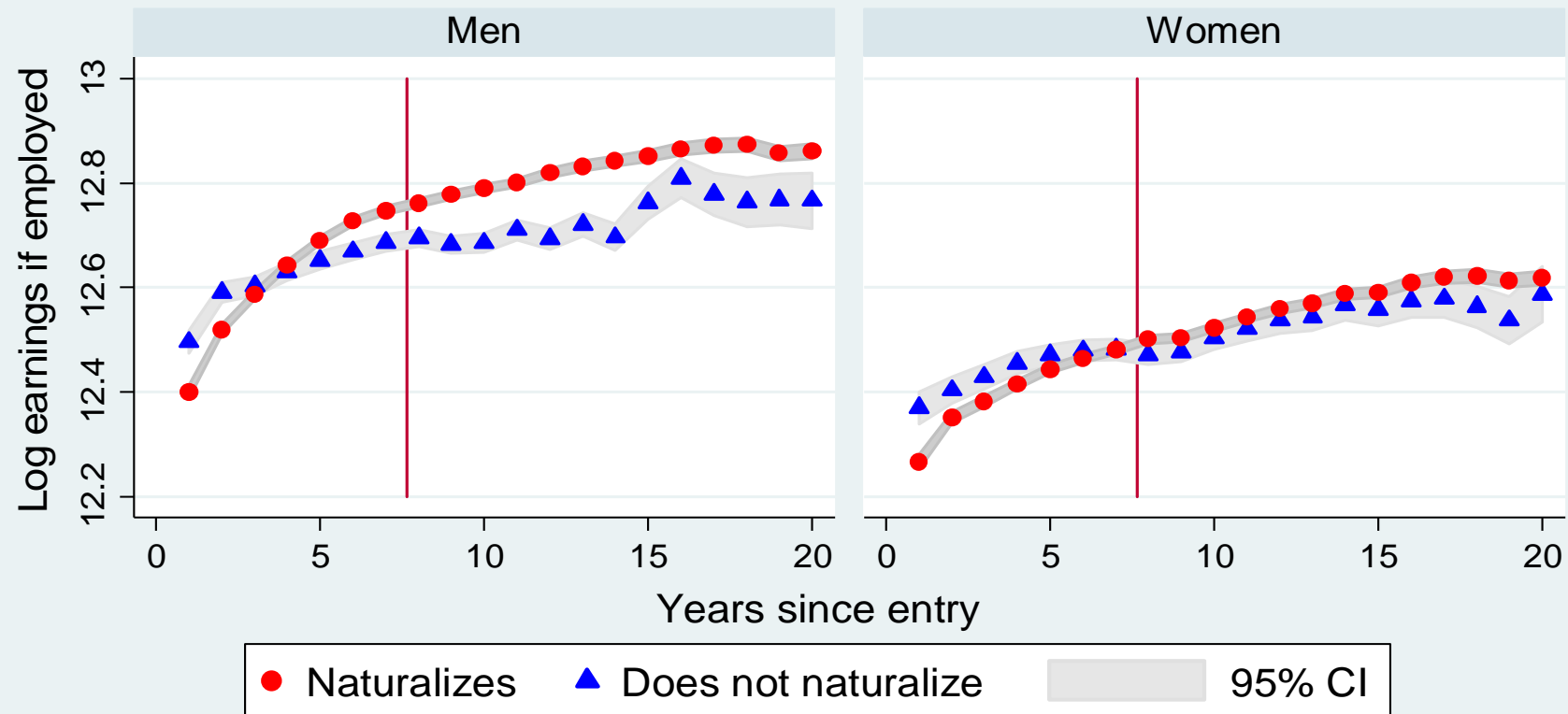
# Employment Profiles by Naturalization Status



Note: Sample consists of immigrants admitted between 1990 and 2005 and age 18-47 at entry; excluded are those who outmigrated within 10 years of admission. Observation period is 1992-2014; employment rates are computed for those aged 20-60 at the end of each observation year.



# Earnings Profiles by Naturalization Status



dashed (blue) line the profile of those who do not naturalize. Shaded areas indicate 95% confidence interval around predicted values. Scatter points show mean employment by YSM for the two groups, respectively. Vertical lines indicate average years until naturalization for those who naturalize. For sample sizes and descriptive statistics, see paper.



# Empirical Study of The Effect of Naturalization on Labor Market Outcomes

Flexible empirical model:

$$y_{it} = \sum_{s=1}^{t-1} \alpha_s N_{it} + \sum_{p=1}^T \beta_p D_{it} X_{itp} + \sum_{p=1}^T \gamma_p (1 - D_{it}) X_{itp} + \delta Z_{it} + u_i + \varepsilon_{it}$$

N=naturalized, D=ever naturalized, X=set of indicators for years since entry

y = (1) employment or (2) log earnings if employed



# Naturalization and Employment

	Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Naturalized</b>	0.059***	-0.022***	0.044***	0.039***	-0.012***	0.041***
	(0.004)	(0.003)	(0.008)	(0.004)	(0.003)	(0.008)
<b>Observations</b>	3404406	3404406	3202100	3341601	3341601	3220186
<b>Fixed effects</b>		189628	189626		185971	185971
<b>Note:</b>	<b>Cross-section</b>	<b>Ind fixed effects</b>	<b>Ind fixed effects, drop pre-period</b>	<b>Cross-section</b>	<b>Ind fixed effects</b>	<b>Ind fixed effects, drop pre-period</b>

Note: Standard errors, clustered within individual, are listed in parentheses. Specification in cols 1 and 4 control for years since entry (23), age (40), age at entry (30), year of observation (22), and country of birth (132), using a flexible functional form (with dummy variables; number of categories indicated in parentheses). Specifications in cols 2, 3, 5, and 6 add interactions between years since entry and ever naturalized (and drop age at entry and country of birth). Regressions in cols 3 and 6 drop observations from the pre-naturalization period between three years before and the year of naturalization



# Naturalization and log Earnings

	Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Naturalized</b>	0.064***	-0.006	0.018*	0.027***	-0.001	<b>0.038***</b>
	(0.005)	(0.004)	(0.011)	(0.005)	(0.003)	<b>(0.011)</b>
<b>Observations</b>	2802762	2802762	2730917	2490081	2490081	<b>2432821</b>
<b>Fixed effects</b>		182847	182228		174612	<b>173540</b>
<b>Note:</b>	<b>Cross-section</b>	<b>Ind fixed effects</b>	<b>Ind fixed effects, drop pre-period</b>	<b>Cross-section</b>	<b>Ind fixed effects</b>	<b>Ind fixed effects, drop pre-period</b>

Note: Standard errors, clustered within individual, are listed in parentheses. Specification in cols 1 and 4 control for years since entry (23), age (40), age at entry (30), year of observation (22), and country of birth (132), using a flexible functional form (with dummy variables; number of categories indicated in parentheses). Specifications in cols 2, 3, 5, and 6 add interactions between years since entry and ever naturalized (and drop age at entry and country of birth). Regressions in cols 3 and 6 drop observations from the pre-naturalization period between three years before and the year of naturalization





# Naturalization and Employment, Robustness

	Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Naturalized</b>	0.046***	0.015**	0.056***	0.042***	0.022***	<b>0.033***</b>
	(0.007)	(0.007)	(0.011)	(0.007)	(0.006)	<b>(0.010)</b>
<b>Observations</b>	3404406	3327451	3327451	3341601	3250353	<b>3250353</b>
<b>Fixed effects</b>	189628	189627	189627	185971	185971	<b>185971</b>
<b>Note:</b>	Full sample, with pre-year dummies	Drop two pre-years	Drop two pre-years, add flexible years since entry spec	Full sample, account for pre-years	Drop two pre-years	Drop two pre-years, add flexible years since entry spec

Note: Standard errors, clustered within individual, are listed in parentheses. Specification in cols 1 and 4 builds on that in Table 3, cols 2 and 5, but adds indicator variables for three pre-naturalization years. Specification in cols 2, 3, 5 and 6 omits two pre-years from sample; and that in cols 3 and 6 adds separate years since entry indicators for those who naturalize eight years since entry or later



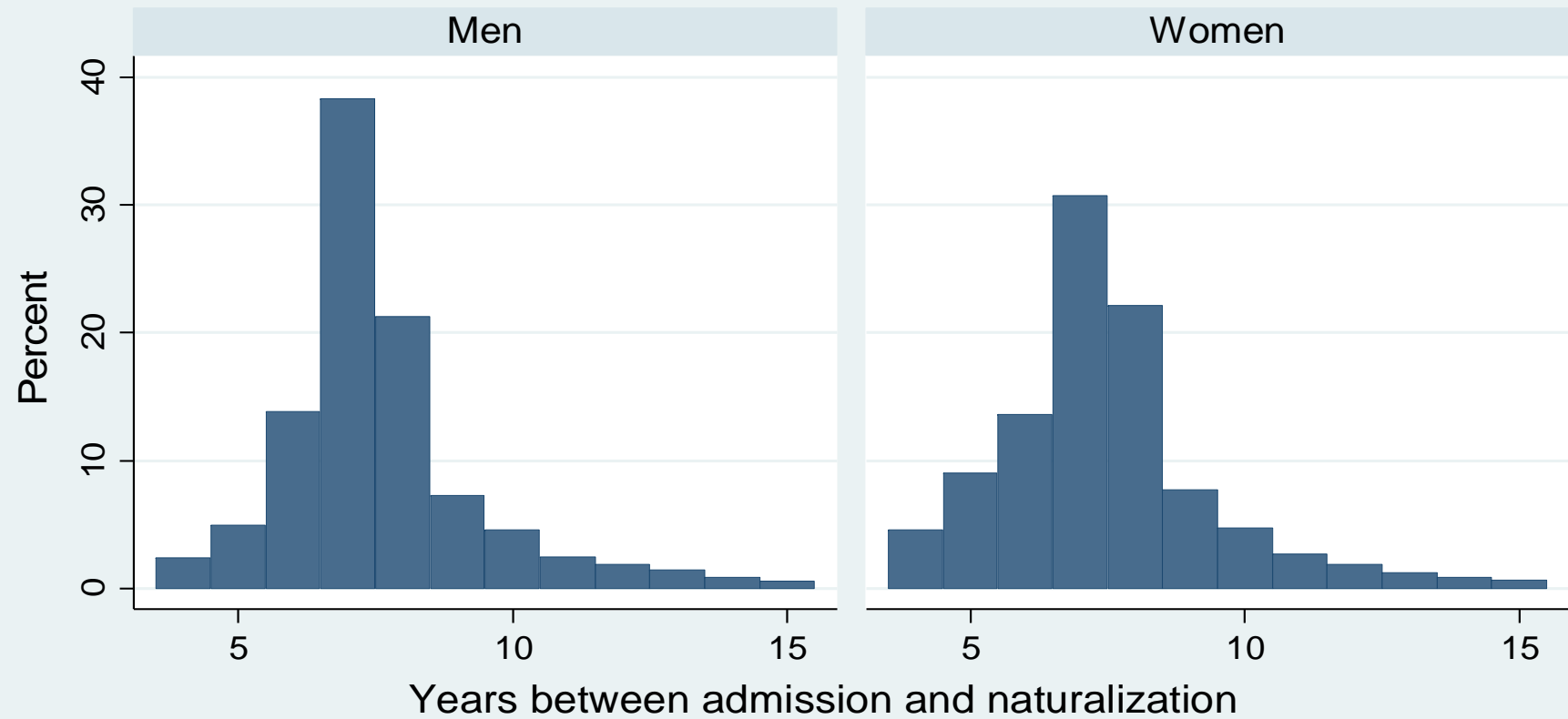
# Naturalization and log Earnings, Robustness

	Men			Women		
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Naturalized</b>	0.039***	0.008	0.038***	0.057***	0.022**	<b>0.023*</b>
	(0.010)	(0.009)	(0.013)	(0.010)	(0.009)	<b>(0.014)</b>
<b>Observations</b>	2802762	2747545	2747545	2490081	2444973	<b>2444973</b>
<b>Fixed effects</b>	182847	182480	182480	174612	173930	<b>173930</b>
<b>Note:</b>	Full sample, with pre-year dummies	Drop two pre-years	Drop two pre-years, add flexible years since entry spec	Full sample, account for pre-years	Drop two pre-years	Drop two pre-years, add flexible years since entry spec

Note: Standard errors, clustered within individual, are listed in parentheses. Specification in cols 1 and 4 builds on that in Table 3, cols 2 and 5, but adds indicator variables for three pre-naturalization years. Specification in cols 2, 3, 5 and 6 omits two pre-years from sample; and that in cols 3 and 6 adds separate years since entry indicators for those who naturalize eight years since entry or later



## Years between entry and naturalization in regression sample



Next, add further flexibility, with naturalization effect by years since naturalization



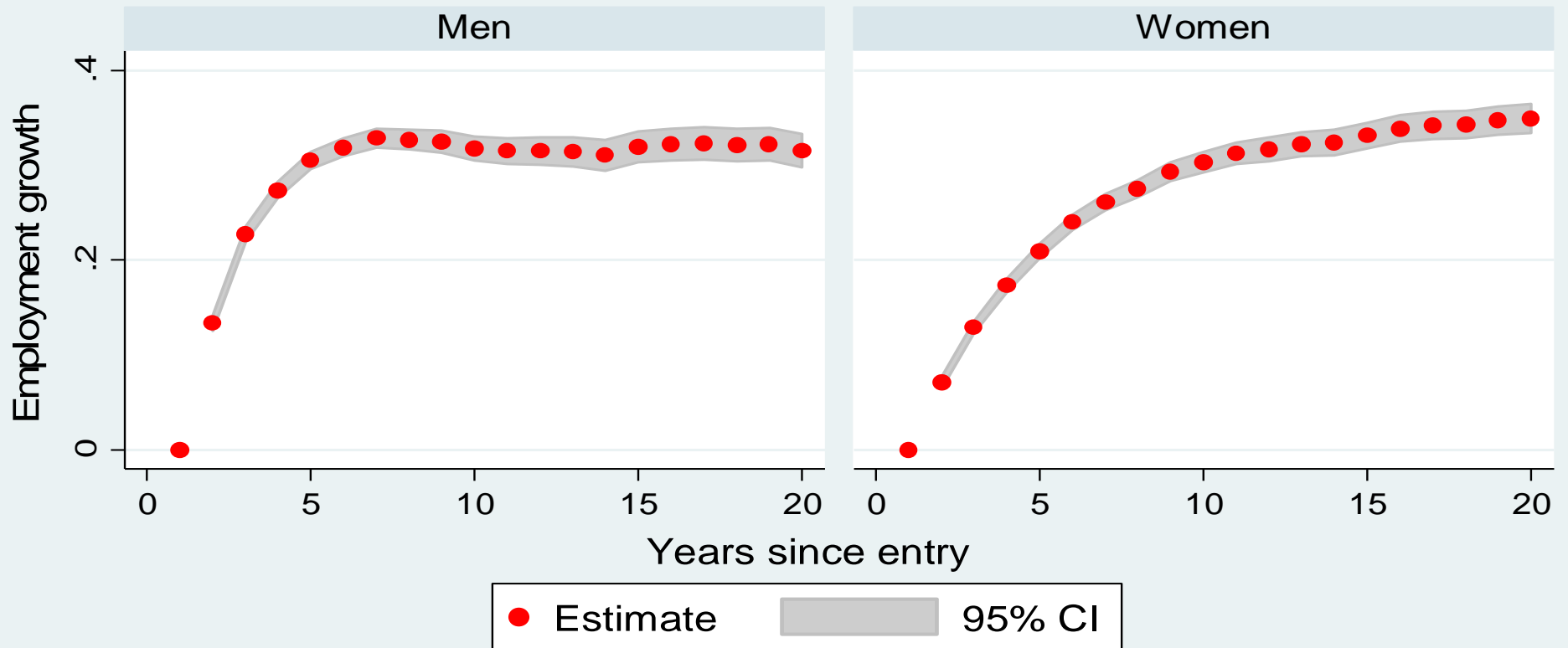
# Naturalization, Employment, and log Earnings

	Men				Women			
	Employment		Log Earnings		Employment		Log Earnings	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Year after</b>	0.038***	0.041***	0.017	0.044***	0.036***	0.035***	0.032***	<b>0.054***</b>
	(0.009)	(0.008)	(0.011)	(0.010)	(0.008)	(0.007)	(0.012)	<b>(0.010)</b>
<b>2 yrs after</b>	0.026***	0.033***	0.015	0.052***	0.029***	0.030***	0.030**	<b>0.061***</b>
	(0.010)	(0.009)	(0.012)	(0.012)	(0.009)	(0.008)	(0.013)	<b>(0.013)</b>
<b>3 yrs after</b>	0.019*	0.028***	0.010	0.053***	0.019*	0.022**	0.020	<b>0.057**</b>
	(0.011)	(0.010)	(0.014)	(0.013)	(0.010)	(0.009)	(0.014)	<b>(0.013)</b>
<b>4 yrs after</b>	0.011	0.023**	0.014	0.061***	0.011	0.016	0.016	<b>0.056***</b>
	(0.011)	(0.011)	(0.015)	(0.014)	(0.010)	(0.010)	(0.015)	<b>(0.014)</b>
<b>5 yrs after</b>	-0.000	0.016	0.010	0.064***	0.002	0.007	0.011	<b>0.055***</b>
	(0.013)	(0.012)	(0.017)	(0.016)	(0.012)	(0.011)	(0.017)	<b>(0.016)</b>
<b>Observations</b>	3202100	3404406	2730917	2802762	3220186	3341601	2432821	<b>2490081</b>
<b>Fixed effects</b>	189626	189628	182228	182847	185971	185971	173540	<b>174612</b>
<b>Note:</b>	<b>drop pre-period</b>	<b>account for pre-years</b>	<b>drop pre-period</b>	<b>account for pre-years</b>	<b>drop pre-period</b>	<b>account for pre-years</b>	<b>drop pre-period</b>	<b>account for pre-years</b>

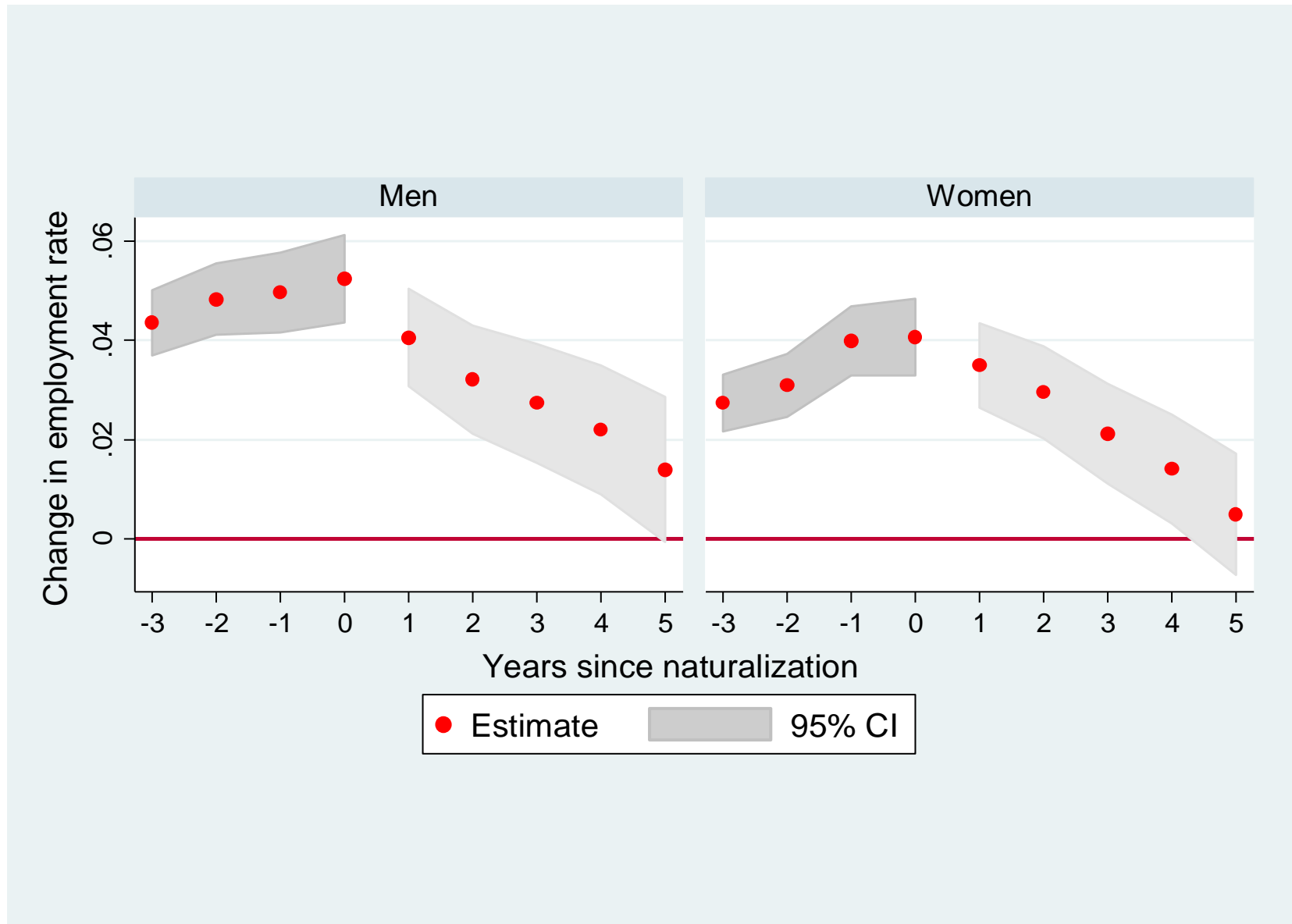
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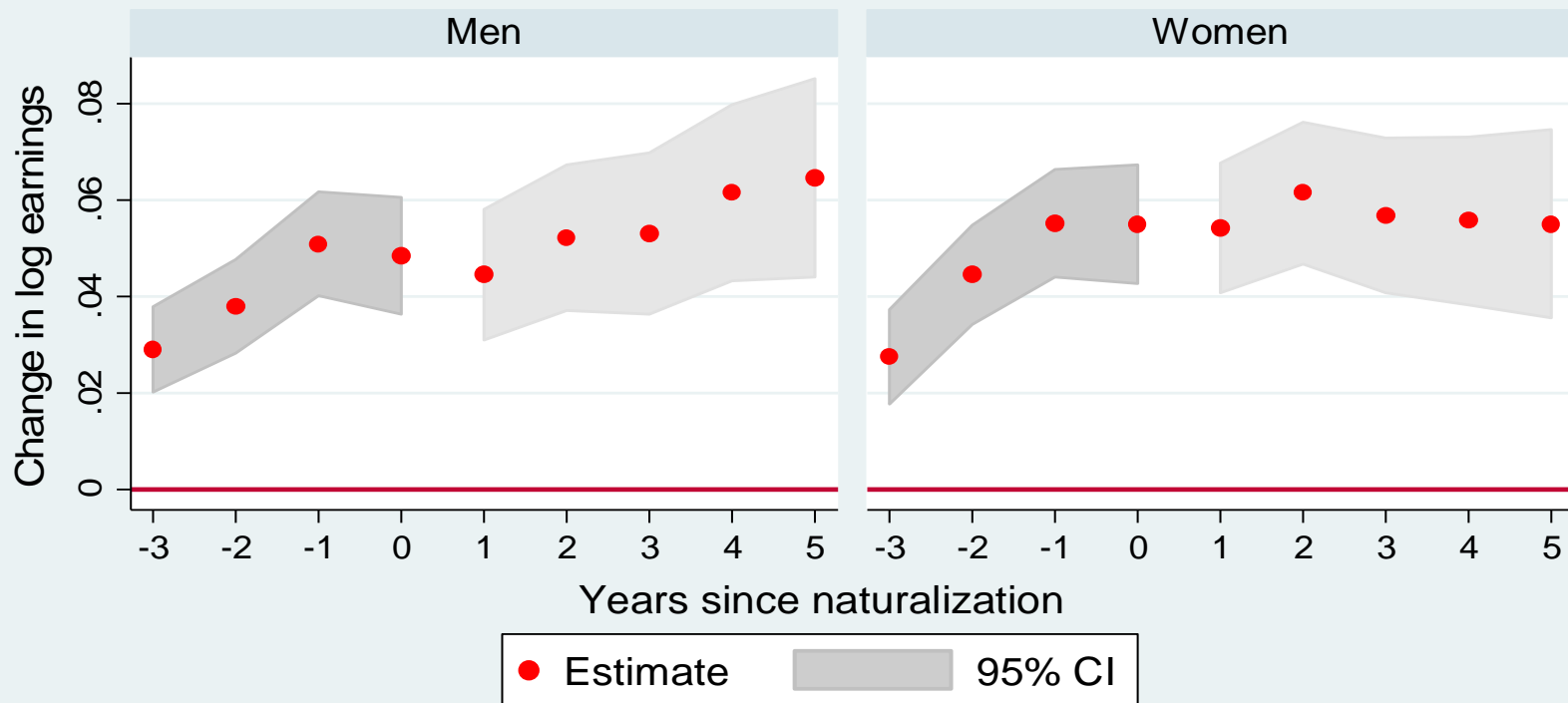
# Estimated counterfactual baseline employment profile for immigrants who naturalize



## Estimated effects of naturalization on employment



## Estimated effects of naturalization on log earnings





# Norway: Naturalization and Labor Market Outcomes of Immigrants from Low-Income Regions

- Naturalized citizens have better outcomes than immigrants with foreign citizenship
- Naturalized citizens have faster labor market integration rates
- BUT—superior outcomes and higher growth rates *precede* naturalization date
- Accounting for anticipation, we find that naturalization improves labor market outcomes
- Estimated size of naturalization effect sensitive to approach for handling anticipation

