Foreign immigration and native female employment

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Introduction

Introduction

- Two important economic forces in 19th/20th century American economy:
    1. The rise of women in the workplace
    2. The resurgence of the immigrant worker
- Much literature on each, little on both
    - Immigration: Card (1990), Altonji and Card (1991) Card (2001, 2009), Borjas (2003, 2006, 2017), Ottaviano and Peri (2011) Peri and Sparber (2011), Wozniak and Murray (2012), Clemens and Hunt (2019), Hunt (2019)
    - Female labor supply/gender inequality: Killingsworth and Heckman (1986), Blundell and Macurdy (1999), Goldin (2006), Blau and Kahn (2007, 2013), Goldin (2014)

Introduction

- Exceptions:
    - Cortés and Tessada (2011) show that immigrants decrease prices for household services, allowing native women to work longer hours (cf. Farr et al. 2011, Barone and Mocetti 2011, Forlani et al. 2015, and Furtado 2016, Cortés and Pan, 2019).
    - Recent work by Borjas and Edo (2021) shows that female attrition from labor force attenuates wage impact estimates

The stylized fact

- Using geographic and temporal variation in foreign immigrant shares, I show that immigration decreases employment for native women

- A 10% increase in the foreign immigration share $\Rightarrow$ 1.8–2.5% decrease in female employment

- This effect persists across skill groups and decades

- No corresponding employment effect for men, consistent with existing literature (Card 1990; Altonji and Card 1991; Card 2001)

- The effect appears causal, surviving several variations on the immigrant enclave instrumental variables strategy (Altonji and Card 1991; Card 2001)

The mechanism

- Gender gap in employment effects decreases monotonically over time
- Dovetails with Blau and Kahn's (2007) estimated declining female labor-supply elasticities
- Disemployment effects are also driven by married women (and those with children), for whom labor-supply elasticities are greater
- This hints at a mechanism, albeit one that requires that immigration also impacts wages

The mechanism

- I find that immigration
  - Depresses native married women's wages
  - Increases native single women's wages
  - Does not affect native men's wages (consistent with the literature, see Card 1990; Altonji and Card 1991; Card 2001)
- Gender differences in education and industry/occupation don't explain gender differences in immigration effects
- Effects for native women appear to be driven by competition from female immigrants, suggesting something like imperfect substitution between men and women

Data and summary evidence

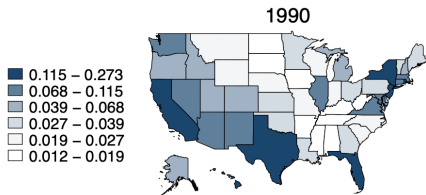- Primary dataset: 1960-2000 Census, 2010 ACS from IPUMS (Ruggles et al., 2010)
- Construct state×decade employment population ratios and immigrant shares
- Employment is stratified by skill groups (HS or less, greater than HS)
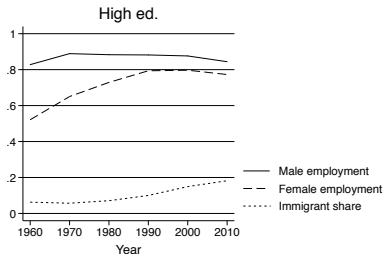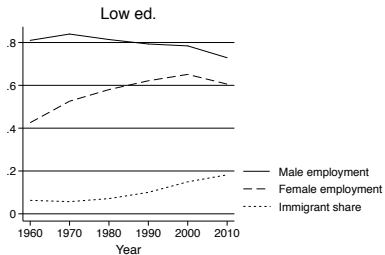
State-level immigration shares
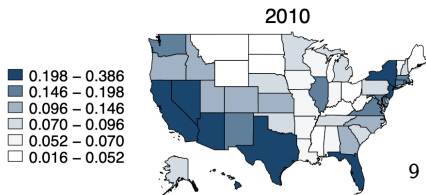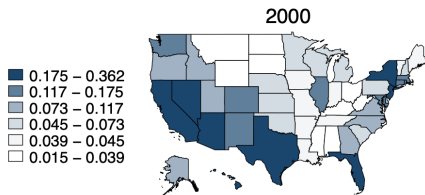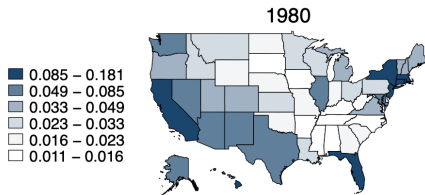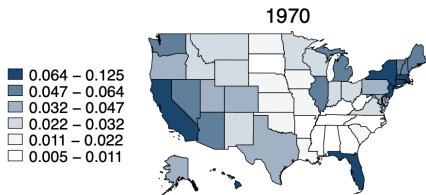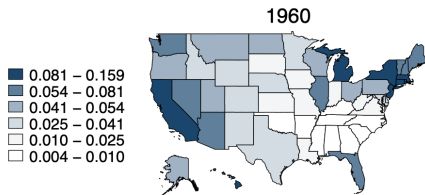
Employment effects

Identification and estimation

- Identification: Relate gender/skill-specific native employment in state s and decade t to overall immigrant shares in s and t:

$$\text{Gender} \times \text{Skill Emp.}_{gkst} = \beta_{kt}\text{Immig.}_{st} + \delta_{kt}\text{Female}_g \times \text{Immig.}_{st}$$
$$+ \text{Gender} \times \text{Skill State, Time FEs} + \varepsilon_{gkst}$$

  - δ_{kt} is the female-male gap in immigration effects on employment
  - Immigrant shares are not skill specific $\Rightarrow \beta_{kt}$ and $\beta_{kt} + \delta_{kt}$ identify the *total* effect of immigration for members of a gender-skill group
  - Immigration coefficients indexed by t
  - Everything is weighted by the size of the (g, k, s, t) sample and clustered on state

Gender gaps (δ_{kt}) in employment effects (OLS estimates)
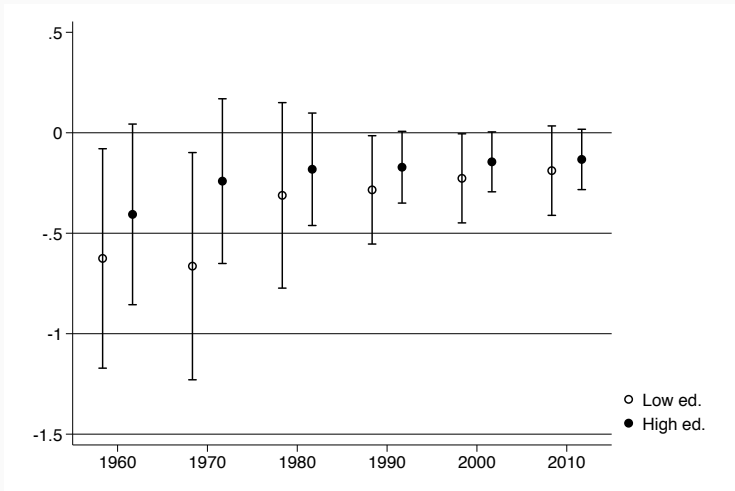
Gender-specific effects (OLS estimates)
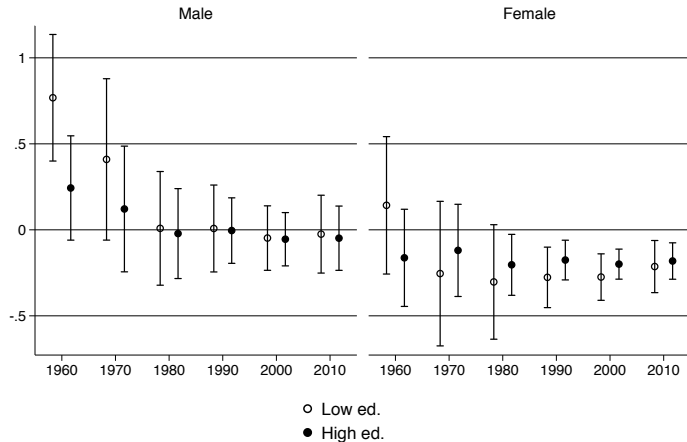
- Immigrants are not randomly assigned to geographic areas
  - Selection into areas experiencing relative booms, attenuating estimated impacts
  - Gender differencing and state-year covariates partially address this concern
- Standard approach: Instrument for immigrant shares using shares predicted from historical settlement patterns (Bartel 1989; Altonji and Card 1991; Card 2001)
  - Theory: The variation in immigration due to historical shares is orthogonal to contemporary economic conditions (conditional on FEs)
  - Predict contemporaneous migration using 1940 settlement patterns (source-country×state-specific)

IV estimates

(1) original, (2) state FE from individual regressions with age controls, (3) state×decade covariates (avg. age/educ., racial comp)

		(1)		(2)		(3)	
		Low	High	Low	High	Low	High
Female – Male	1960	-0.513***	-0.457***	-0.500***	-0.530***	-0.519***	-0.454***
		(0.177)	(0.175)	(0.174)	(0.177)	(0.177)	(0.175)
	1970	-0.567***	-0.224	-0.584***	-0.382**	-0.573***	-0.224
		(0.196)	(0.154)	(0.194)	(0.158)	(0.195)	(0.155)
	1980	-0.328	-0.264*	-0.334*	-0.335**	-0.332*	-0.262*
		(0.201)	(0.149)	(0.194)	(0.164)	(0.201)	(0.150)
	1990	-0.242**	-0.238**	-0.226**	-0.287**	-0.245**	-0.237**
		(0.110)	(0.110)	(0.109)	(0.117)	(0.110)	(0.111)
	2000	-0.151*	-0.171**	-0.145*	-0.205***	-0.153*	-0.171**
		(0.0823)	(0.0779)	(0.0806)	(0.0789)	(0.0825)	(0.0784)
	2010	-0.0765	-0.131*	-0.0672	-0.167**	-0.0797	-0.131*
		(0.0770)	(0.0694)	(0.0785)	(0.0699)	(0.0774)	(0.0695)
Observations		588	588	588	588	588	588
R-squared		0.977	0.984	0.748	0.784	0.981	0.985

Alternative IV estimates

- Wozniak and Murray (2012): Exclude *current* immigration to state s at time t when allocating the national stock of immigrants to that state according to historical patterns
- Clemens and Hunt (2019): Spurious correlation between current and lagged immigrant shares because of shared denominator
  - More relevant to short panels
  - Placebo test: Replace predicted number of immigrants with white noise, resulting estimates insignificant
- Metro-level estimates
- Decade-pair specific estimates `Decade-pair-specific estimates`
  - Allow for unobserved heterogeneity to change over time
  - Results suggest that the pooled specification is better (I explain the theory for this in Appendix B)

Alternative IV estimates

- Jaeger et al. (2018): Contemporaneous economic outcomes may reflect responses to previous waves of immigration, misstating short-run effects
  - Solution: Control for lagged migration
  - I use two-decade lagged shares and instrument for lagged migration using further lags Lagged migration estimates
  - Gender difference in estimated effects remains negative and statistically significant conditional on two lags and negative conditional on three (this later specification uses fewer years, both OLS estimates are neg. and sig.)

Alternative IV estimates

(1) Wozniak and Murray (2012) instrument, (2) two-decade lag shares, (3) Clemens and Hunt (2018) placebo test

		(1)		(2)		(3)	
		Low	High	Low	High	Low	High
Female − Male	1960	-0.630***	-0.610***	-0.546***	-0.413**	-0.193	-4.860
		(0.187)	(0.168)	(0.191)	(0.184)	(3.041)	(6.577)
	1970	-0.722***	-0.342*	-0.621***	-0.148	0.437	-4.620
		(0.230)	(0.180)	(0.205)	(0.152)	(3.464)	(6.620)
	1980	-0.498**	-0.447**	-0.348*	-0.187	0.422	-3.234
		(0.235)	(0.182)	(0.189)	(0.124)	(2.386)	(4.342)
	1990	-0.327**	-0.370**	-0.266***	-0.183**	0.254	-2.146
		(0.153)	(0.148)	(0.100)	(0.0852)	(1.593)	(2.738)
	2000	-0.197*	-0.260**	-0.186**	-0.136**	0.378	-1.728
		(0.118)	(0.104)	(0.0744)	(0.0627)	(1.126)	(2.123)
	2010	-0.110	-0.213**	-0.142*	-0.116*	0.294	-1.442
		(0.114)	(0.0965)	(0.0737)	(0.0592)	(0.931)	(1.818)
Observations		588	588	604	604	612	612
R-squared		0.977	0.983	0.978	0.984	<0	0.431

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Metro level

		WLS		IV	
		Low	High	Low	High
Female – Male	1960	-0.227	-0.130	-0.0403	0.0639
		(0.140)	(0.0958)	(0.117)	(0.0770)
	1970	-0.385**	-0.133	-0.228	0.120
		(0.153)	(0.123)	(0.140)	(0.101)
	1980	-0.196	-0.116*	-0.127	-0.0109
		(0.126)	(0.0694)	(0.101)	(0.0646)
	1990	-0.211**	-0.135**	-0.138**	-0.0681
		(0.0895)	(0.0571)	(0.0665)	(0.0479)
	2000	-0.187***	-0.130***	-0.106**	-0.0564
		(0.0707)	(0.0470)	(0.0496)	(0.0384)
	2010	-0.173**	-0.137***	-0.0877*	-0.0563
		(0.0674)	(0.0455)	(0.0485)	(0.0381)
Observations		2,710	2,710	1,956	1,956
R-squared		0.980	0.976	0.983	0.980

- Borjas (2006) and Hunt (2019) find similar differences between state- and metro-level estimates
- Potential reasons: Internal migration, greater endogeneity at the metro level (particularly among low skilled)

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Mechanisms

Labor-supply elasticities

- Declining gender gaps in effects of immigration on employment are consistent with declining female labor-supply elasticities (Blau and Kahn, 2007)
- This suggests a potential mechanism for the gender gaps in effects
- However, a labor-supply elasticity story requires that immigration decreases wages (which is not well-supported by the literature)

Immigration and wages

		WLS				IV			
		Annual		Weekly		Annual		Weekly	
		Low	High	Low	High	Low	High	Low	High
Male	1960	2.392**	0.571*	2.230**	0.587*	2.208***	-0.179	2.049***	-0.0663
		(0.956)	(0.329)	(0.873)	(0.311)	(0.753)	(0.479)	(0.715)	(0.472)
	1970	1.150	0.525	1.540*	0.662	1.146	-0.544	1.462*	-0.0527
		(1.008)	(0.434)	(0.916)	(0.462)	(0.829)	(0.702)	(0.761)	(0.640)
	1980	0.0290	0.103	0.279	0.290	-0.00614	-0.827	0.207	-0.505
		(0.680)	(0.278)	(0.640)	(0.257)	(0.656)	(0.586)	(0.626)	(0.563)
	1990	0.375	0.627***	0.576	0.702***	0.250	0.0277	0.500	0.227
		(0.494)	(0.191)	(0.488)	(0.187)	(0.480)	(0.336)	(0.466)	(0.316)
	2000	-0.0202	0.410**	0.175	0.502***	-0.170	-0.0832	0.0400	0.0950
		(0.411)	(0.156)	(0.397)	(0.149)	(0.355)	(0.273)	(0.348)	(0.258)
	2010	0.0763	0.431**	0.208	0.511***	0.0157	-0.0481	0.0929	0.112
		(0.470)	(0.206)	(0.435)	(0.183)	(0.438)	(0.270)	(0.394)	(0.255)

Immigration and wages

		WLS				IV			
		Annual		Weekly		Annual		Weekly	
		Low	High	Low	High	Low	High	Low	High
Female – Male	1960	1.716***	-0.185	1.225***	-0.153	1.636***	-0.390	1.357***	-0.175
		(0.629)	(0.356)	(0.320)	(0.271)	(0.473)	(0.369)	(0.234)	(0.284)
	1970	1.285	-0.891	0.674	-0.605	0.876	-1.141**	0.718*	-0.710*
		(0.872)	(0.541)	(0.497)	(0.384)	(0.764)	(0.566)	(0.421)	(0.418)
	1980	1.163**	-0.149	0.623*	-0.175	0.767	-0.498	0.537*	-0.337
		(0.538)	(0.294)	(0.316)	(0.239)	(0.548)	(0.401)	(0.298)	(0.312)
	1990	0.963***	-0.0528	0.621***	0.0805	0.787**	-0.297	0.621***	-0.0474
		(0.290)	(0.154)	(0.158)	(0.127)	(0.342)	(0.269)	(0.156)	(0.195)
	2000	0.645**	-0.114	0.408***	0.0132	0.469	-0.304	0.398***	-0.0926
		(0.246)	(0.136)	(0.138)	(0.113)	(0.303)	(0.218)	(0.137)	(0.167)
	2010	0.617**	-0.190	0.408**	-0.0322	0.453	-0.344	0.420***	-0.0922
		(0.293)	(0.152)	(0.175)	(0.132)	(0.313)	(0.226)	(0.142)	(0.176)
Observations		612	612	612	612	588	588	588	588
R-squared		0.979	0.991	0.973	0.989	0.979	0.990	0.973	0.988

- No wage effects for men, no systematic effects for women

Employment effects by marital status

| | | WLS | | | | IV | | | |
| | | Low | | High | | Low | | High | |
		Single	Married	Single	Married	Single	Married	Single	Married
Female – Male	1960	0.261*	-1.013***	0.153	-0.790***	0.441***	-0.967***	0.351***	-0.952***
		(0.152)	(0.234)	(0.116)	(0.253)	(0.121)	(0.170)	(0.104)	(0.225)
	1970	0.412**	-1.205***	0.448***	-0.819***	0.616***	-1.232***	0.740***	-0.998***
		(0.163)	(0.267)	(0.126)	(0.240)	(0.168)	(0.201)	(0.136)	(0.239)
	1980	0.272*	-0.634***	0.163*	-0.511***	0.350**	-0.728***	0.358***	-0.742***
		(0.154)	(0.226)	(0.0816)	(0.180)	(0.157)	(0.210)	(0.113)	(0.218)
	1990	0.127*	-0.502***	0.0853*	-0.362***	0.204**	-0.498***	0.200***	-0.518***
		(0.0679)	(0.144)	(0.0436)	(0.124)	(0.0848)	(0.121)	(0.0743)	(0.164)
	2000	0.118*	-0.424***	0.0767*	-0.304***	0.194***	-0.358***	0.166***	-0.381***
		(0.0650)	(0.108)	(0.0404)	(0.0962)	(0.0670)	(0.0805)	(0.0562)	(0.110)
	2010	0.144*	-0.407***	0.0921*	-0.304***	0.233***	-0.262***	0.208***	-0.348***
		(0.0730)	(0.116)	(0.0500)	(0.0921)	(0.0746)	(0.0827)	(0.0583)	(0.0979)
Observations		612	612	612	612	588	588	588	588
R-squared		0.921	0.987	0.907	0.989	0.917	0.987	0.905	0.989

- The employment effects are driven by married women (the group for whom Blau and Kahn, 2007, find declining elasticities)
- Similar effects by parental status

Wage effects by marital status

		WLS				IV			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Male	1960	4.003***	2.050***	0.693*	0.561	3.819***	1.967***	-0.450	-0.0305
		(1.111)	(0.721)	(0.391)	(0.338)	(1.008)	(0.596)	(0.672)	(0.493)
	1970	1.703	1.337*	0.354	1.003**	1.780	1.450**	-1.220	0.367
		(1.205)	(0.770)	(0.534)	(0.474)	(1.219)	(0.667)	(1.103)	(0.631)
	1980	0.367	0.287	-0.353	0.402	0.262	0.326	-1.924**	-0.242
		(0.738)	(0.527)	(0.393)	(0.272)	(0.888)	(0.531)	(0.910)	(0.538)
	1990	0.736	0.635	0.492**	0.742***	0.612	0.597	-0.497	0.328
		(0.565)	(0.380)	(0.229)	(0.200)	(0.619)	(0.419)	(0.523)	(0.308)
	2000	-0.00709	0.239	0.166	0.531***	-0.114	0.115	-0.606	0.172
		(0.434)	(0.316)	(0.180)	(0.157)	(0.484)	(0.279)	(0.428)	(0.251)
	2010	0.196	0.351	0.161	0.643***	0.218	0.343	-0.578	0.320
		(0.482)	(0.374)	(0.247)	(0.198)	(0.559)	(0.342)	(0.407)	(0.259)

Wage effects by marital status

		WLS				IV			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Female – Male	1960	1.235***	1.202**	-0.0428	-1.004*	1.395***	0.952*	0.483**	-1.713***
		(0.389)	(0.552)	(0.225)	(0.520)	(0.346)	(0.489)	(0.205)	(0.555)
	1970	1.775***	0.540	-0.0518	-2.069***	1.748***	-0.113	0.561*	-3.105***
		(0.561)	(0.770)	(0.377)	(0.678)	(0.518)	(0.769)	(0.331)	(0.795)
	1980	1.294***	0.523	0.562**	-1.053**	1.298***	-0.00414	1.164***	-2.008***
		(0.359)	(0.484)	(0.251)	(0.412)	(0.398)	(0.548)	(0.243)	(0.620)
	1990	0.961***	0.465*	0.403***	-0.600**	1.039***	0.183	0.817***	-1.241***
		(0.182)	(0.273)	(0.142)	(0.260)	(0.181)	(0.397)	(0.164)	(0.465)
	2000	0.795***	0.344	0.313***	-0.473**	0.669***	0.179	0.557***	-0.914***
		(0.130)	(0.220)	(0.0878)	(0.199)	(0.182)	(0.304)	(0.0846)	(0.330)
	2010	0.773***	0.316	0.339***	-0.593***	0.639***	0.106	0.593***	-0.992***
		(0.188)	(0.260)	(0.106)	(0.208)	(0.226)	(0.305)	(0.0991)	(0.328)
Observations		612	612	612	612	588	588	588	588
R-squared		0.918	0.989	0.961	0.994	0.918	0.989	0.958	0.994

Wage effects by marital status

- Potential explanation:
    - Immigration puts downward pressure on native women's wages
    - Married women exit the labor force
    - This more than offsets the immigration effect for single women, among whom LFP increases

The gender gap in wage effects

- What causes the underlying difference in wage effects?
- Card (2009) and Blau and Kahn (2007) argue that observable skill differences are important for immigration/gender inequality
- Levels and changes in gender gaps in employment are not consistent with national gender differences in
  - Education
  - Occupational and industrial selection

Education (M/F vs. immigrant)
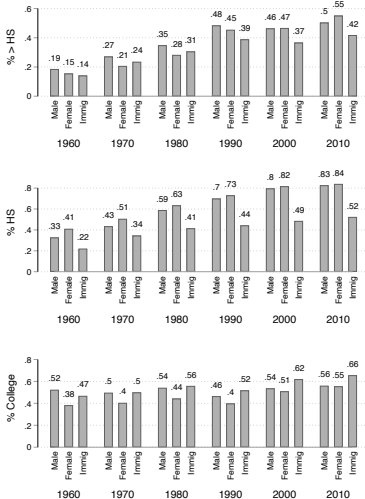
- Coarse ed.: Women not systematically more similar
- Low ed.: Women are more different
- High ed.: Women start out more different, catch up

Observable skill differences

Education (Native vs. immigrant, by gender)
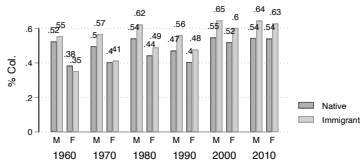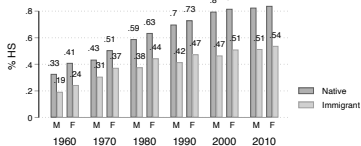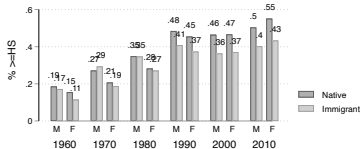
- Similar native-immigrant differences for both genders

Observable skill differences

Occupation/industry (M/F vs. immigrant)
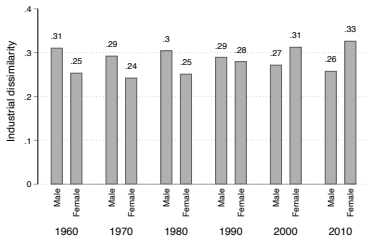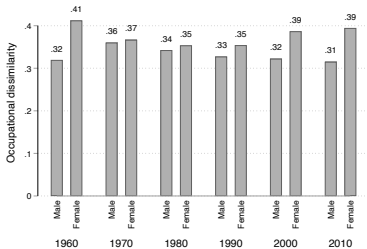
- Occupation: Women are more dissimilar
- Industry: Women start out more similar, end up more dissimilar

Observable skill differences

Occupation/industry (Native vs. immigrant, by gender)
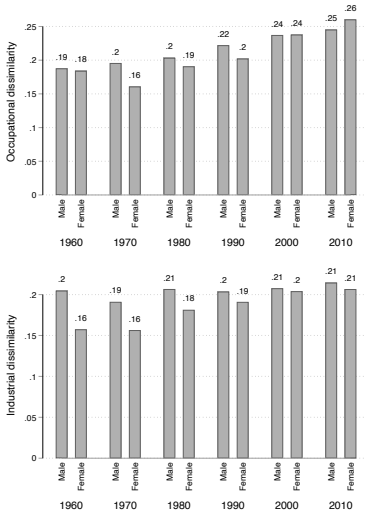
- Women start out more similar, end up about the same

Observable skill differences

- These figures are national level, and descriptive
- Estimate main specification by IV within narrow education groups, occupations and industries, by gender
- Estimate counterfactual effects that would arise if immigration affected women the same as men, *holding female skill distributions constant*
- If gender differences in employment effects are due to native gender differences in skill distributions, this should produce the same average effects as previous regressions

Observable skill differences

Education

		Education (employment)				Education (wages)			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Male coeffs.	1960	0.668***	0.608***	0.210	0.176	3.369***	1.605***	0.106	0.366
		(0.132)	(0.161)	(0.172)	(0.122)	(0.913)	(0.454)	(0.422)	(0.309)
	1970	0.224	0.367*	-0.117	0.0874	1.005	1.045**	-0.688	0.871**
		(0.240)	(0.206)	(0.309)	(0.156)	(0.920)	(0.505)	(0.611)	(0.406)
	1980	-0.244	0.0410	-0.224	-0.0125	-0.469	-0.0455	-1.225**	0.234
		(0.157)	(0.180)	(0.183)	(0.126)	(0.663)	(0.356)	(0.543)	(0.283)
	1990	-0.142*	0.00815	-0.0759	-0.0113	0.0187	0.334	-0.134	0.584***
		(0.0856)	(0.111)	(0.120)	(0.0857)	(0.385)	(0.219)	(0.291)	(0.181)
	2000	-0.202***	0.00650	-0.135	-0.0614	-0.678**	-0.0888	-0.364	0.360***
		(0.0687)	(0.0776)	(0.0896)	(0.0666)	(0.298)	(0.154)	(0.233)	(0.138)
	2010	-0.124	0.0350	-0.133	-0.0600	-0.460	0.0430	-0.391	0.466***
		(0.0801)	(0.0893)	(0.105)	(0.0751)	(0.348)	(0.216)	(0.252)	(0.164)

Observable skill differences

		Education (employment)				Education (wages)			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Fem. coeffs.	1960	1.020***	-0.251**	0.470***	-0.773***	5.193***	2.912***	0.971***	-0.626
		(0.155)	(0.126)	(0.162)	(0.147)	(0.694)	(0.509)	(0.375)	(0.643)
	1970	0.701***	-0.857***	0.496*	-0.857***	3.316***	1.260	0.559	-1.323
		(0.254)	(0.158)	(0.292)	(0.175)	(0.949)	(0.788)	(0.616)	(0.887)
	1980	-0.0176	-0.734***	-0.00273	-0.636***	1.074**	-0.0476	0.138	-0.923*
		(0.229)	(0.145)	(0.157)	(0.166)	(0.459)	(0.475)	(0.336)	(0.559)
	1990	-0.0103	-0.557***	0.0163	-0.473***	1.151***	0.238	0.745***	-0.113
		(0.0819)	(0.0790)	(0.102)	(0.104)	(0.330)	(0.304)	(0.254)	(0.345)
	2000	-0.0380	-0.457***	-0.0276	-0.420***	0.183	-0.205	0.342**	-0.197
		(0.0688)	(0.0542)	(0.0729)	(0.0719)	(0.201)	(0.228)	(0.173)	(0.269)
	2010	0.0843	-0.396***	0.00365	-0.413***	0.411*	-0.109	0.350*	-0.222
		(0.0526)	(0.0648)	(0.0746)	(0.0723)	(0.230)	(0.228)	(0.195)	(0.271)

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Observable skill differences

Occupation/industry

		Occupation (wages)				Industry (wages)			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Male coeffs.	1960	1.655**	1.037*	-0.380	0.154	2.034***	1.576***	0.0742	0.454
		(0.705)	(0.530)	(0.437)	(0.360)	(0.757)	(0.593)	(0.450)	(0.404)
	1970	0.483	0.688	-1.041	0.483	0.468	1.046	-0.158	0.719
		(0.835)	(0.601)	(0.695)	(0.489)	(0.777)	(0.643)	(0.738)	(0.515)
	1980	-0.773	-0.0579	-1.521**	-0.00979	-0.543	0.106	-1.030**	0.123
		(0.572)	(0.445)	(0.641)	(0.376)	(0.560)	(0.461)	(0.524)	(0.388)
	1990	0.0225	0.378	-0.369	0.422*	0.194	0.592*	-0.0162	0.535**
		(0.389)	(0.309)	(0.351)	(0.227)	(0.340)	(0.347)	(0.298)	(0.248)
	2000	-0.529*	-0.0345	-0.495*	0.240	-0.507**	0.0317	-0.255	0.266
		(0.284)	(0.218)	(0.274)	(0.173)	(0.254)	(0.248)	(0.240)	(0.201)
	2010	-0.305	0.0605	-0.603**	0.309	-0.224	0.204	-0.295	0.340
		(0.324)	(0.278)	(0.289)	(0.190)	(0.287)	(0.306)	(0.242)	(0.218)

(Negative estimates for highly educated men consistent with
marital-status-specific wage results)

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Observable skill differences

		Occupation (wages)				Industry (wages)			
		Low		High		Low		High	
		Single	Married	Single	Married	Single	Married	Single	Married
Fem. coeffs.	1960	2.684***	1.554***	0.464	-1.306**	2.694***	1.300***	0.527	-1.219*
		(0.440)	(0.414)	(0.390)	(0.627)	(0.404)	(0.445)	(0.471)	(0.709)
	1970	1.664**	0.511	-0.223	-2.065**	1.506*	0.315	-0.0126	-1.882**
		(0.820)	(0.668)	(0.515)	(0.854)	(0.879)	(0.763)	(0.702)	(0.942)
	1980	0.340	-0.203	-0.528	-1.464***	0.337	-0.305	-0.288	-1.348**
		(0.412)	(0.414)	(0.349)	(0.568)	(0.430)	(0.449)	(0.414)	(0.616)
	1990	0.822**	0.295	0.238	-0.560	0.798***	0.257	0.432	-0.398
		(0.320)	(0.268)	(0.226)	(0.347)	(0.291)	(0.272)	(0.274)	(0.378)
	2000	-0.0107	-0.0944	-0.0432	-0.510*	0.0235	-0.121	0.122	-0.360
		(0.213)	(0.201)	(0.170)	(0.264)	(0.213)	(0.206)	(0.203)	(0.291)
	2010	0.221	-0.00211	-0.0325	-0.503*	0.200	-0.0473	0.145	-0.333
		(0.241)	(0.216)	(0.187)	(0.264)	(0.246)	(0.207)	(0.214)	(0.288)

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Gender-specific employment effects of gender-specific immigration

		WLS			
		Low		High	
		Male immig.	Fem. immig.	Male immig.	Fem. immig.
Male	1960	-5.440*	5.664**	-2.913**	3.163
		(3.233)	(2.507)	(1.411)	(3.016)
	1970	-4.721	5.987**	-2.785**	1.698
		(3.371)	(2.523)	(1.281)	(1.921)
	1980	-5.198**	2.004	-1.779*	1.169
		(2.122)	(2.018)	(1.000)	(1.193)
	1990	-0.842	2.155**	0.0913	1.071
		(1.130)	(0.852)	(0.496)	(0.780)
	2000	-1.471*	0.373	-0.109	0.386
		(0.838)	(0.595)	(0.400)	(0.439)
	2010	-1.621*	0.409	0.239	0.856**
		(0.949)	(0.784)	(0.390)	(0.397)

Gender-specific employment effects of gender-specific immigration

		WLS			
		Low		High	
		Male immig.	Fem. immig.	Male immig.	Fem. immig.
Female	1960	3.985*	-3.323**	2.066**	-2.110
		(2.018)	(1.622)	(0.902)	(1.943)
	1970	3.546	-4.515**	2.100**	-1.285
		(2.471)	(1.842)	(0.931)	(1.454)
	1980	4.002**	-1.885	1.379	-1.121
		(1.691)	(1.634)	(0.875)	(0.974)
	1990	0.567	-2.056***	-0.0978	-1.052*
		(0.876)	(0.661)	(0.409)	(0.600)
	2000	1.076	-0.598	0.0102	-0.532
		(0.687)	(0.445)	(0.341)	(0.330)
	2010	1.260	-0.551	-0.271	-0.905***
		(0.836)	(0.640)	(0.373)	(0.314)
Observations		612		612	
R-squared		0.979		0.985	

- Suggests imperfect substitution between men and women
- Possibly consistent with gender-specific native-immigrant skill differences

Conclusion

Conclusion

- Immigration decreases female employment, though less so over time
- Potential role in slowing female-male convergence
- Driven by immigration-induced wage declines discouraging married women from working
- Single women face wage increases, work more
- Wage declines for women are unusual, can't be explained by native gender differences in education or occupation and industry
- Native female wage declines driven by competition from female immigrants

Additional slides

- Add 1940-1950 Census to construct lagged immigration for IV strategy
- Sample selections and variables:
  - Keep those 26-65
  - Define employment as nonzero wage/salary income
  - Immigrant status according to country of birth
  - Skill: low $= \leq$ HS, high $= >$ HS

Employment rates and immigrant shares

	Employment/population									
	Male				Female					
	Low ed.		High ed.		Low ed.		High ed.		Immig./pop.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1960	0.79	0.07	0.82	0.04	0.43	0.06	0.52	0.04	0.05	0.04
1970	0.83	0.06	0.88	0.03	0.53	0.05	0.64	0.04	0.04	0.03
1980	0.81	0.04	0.88	0.02	0.59	0.05	0.73	0.03	0.05	0.04
1990	0.79	0.04	0.88	0.02	0.64	0.05	0.80	0.03	0.06	0.06
2000	0.78	0.04	0.87	0.02	0.68	0.05	0.81	0.03	0.10	0.08
2010	0.72	0.05	0.84	0.02	0.64	0.05	0.79	0.03	0.12	0.08

Additional descriptives

Immigrant shares by gender and skill

	Male						Female					
	Overall		Low ed.		High ed.		Overall		Low ed.		High ed.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1960	0.06	0.05	0.06	0.05	0.06	0.04	0.06	0.05	0.07	0.05	0.05	0.03
1970	0.05	0.04	0.05	0.04	0.06	0.03	0.06	0.04	0.06	0.04	0.05	0.03
1980	0.07	0.06	0.07	0.07	0.07	0.04	0.07	0.06	0.07	0.06	0.07	0.04
1990	0.10	0.09	0.11	0.12	0.09	0.06	0.10	0.08	0.11	0.11	0.08	0.06
2000	0.15	0.11	0.18	0.14	0.12	0.07	0.14	0.11	0.17	0.14	0.12	0.08
2010	0.18	0.11	0.21	0.14	0.15	0.08	0.18	0.11	0.22	0.15	0.15	0.09

Employment rates by gender, nativity and skill

		Male						Female					
		Overall		Low ed.		High ed.		Overall		Low ed.		High ed.	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Native	1960	0.82	0.05	0.81	0.06	0.83	0.03	0.44	0.04	0.43	0.04	0.52	0.03
	1970	0.85	0.03	0.84	0.04	0.89	0.02	0.55	0.03	0.53	0.04	0.65	0.02
	1980	0.84	0.02	0.81	0.03	0.88	0.02	0.63	0.04	0.58	0.04	0.73	0.02
	1990	0.84	0.02	0.79	0.03	0.88	0.02	0.71	0.03	0.63	0.04	0.80	0.02
	2000	0.83	0.03	0.78	0.03	0.88	0.02	0.73	0.03	0.67	0.04	0.81	0.02
	2010	0.78	0.03	0.71	0.04	0.84	0.02	0.71	0.03	0.62	0.04	0.78	0.03
Immigrant	1960	0.78	0.04	0.78	0.04	0.80	0.04	0.40	0.05	0.38	0.05	0.51	0.06
	1970	0.85	0.02	0.84	0.03	0.87	0.03	0.52	0.05	0.49	0.05	0.62	0.04
	1980	0.84	0.02	0.82	0.02	0.87	0.03	0.58	0.04	0.54	0.05	0.67	0.03
	1990	0.83	0.02	0.80	0.03	0.86	0.02	0.61	0.05	0.55	0.05	0.73	0.03
	2000	0.82	0.02	0.80	0.03	0.87	0.02	0.61	0.05	0.55	0.05	0.72	0.02
	2010	0.82	0.03	0.81	0.04	0.85	0.03	0.61	0.04	0.54	0.05	0.71	0.03

- Predicted immigration is $\hat{\rho}_{st} = \left(\sum_j M_{jt} \mu_{js1940} \right) / \left(N_{st} + M_{st} \right)$, where
  - M_{jt} is the total # of immigrants from source j in decade t,
  - μ_{js1940} is the fraction of all immigrants from j living in s in 1940, and
  - M_{st} and N_{st} are the sizes of the immigrant and native populations in state s and decade t

		WLS				IV			
		Low	High	Low	High	Low	High	Low	High
Male	Immig.	0.148	0.180*	-0.113	0.0778	-0.291	0.0717	-0.133	-0.374
		(0.150)	(0.0902)	(0.189)	(0.107)	(0.214)	(0.194)	(1.754)	(0.741)
	Immig.$_{t-1}$	-0.383**	-0.290**	-0.0776	-0.0395	0.172	-0.332	-1.242	0.891
		(0.181)	(0.126)	(0.242)	(0.127)	(0.374)	(0.292)	(5.680)	(1.930)
	Immig.$_{t-2}$	0.320*	0.125	0.0429	-0.192	-0.0326	0.242	1.361	-0.945
		(0.163)	(0.108)	(0.332)	(0.145)	(0.352)	(0.226)	(5.259)	(1.685)
	Immig.$_{t-3}$			0.128	0.180			-0.112	0.265
				(0.262)	(0.146)			(0.854)	(0.287)
Female - Male	Immig.	-0.633***	-0.348***	-0.466***	-0.322***	-0.895***	-0.455**	-0.738	-0.381
		(0.192)	(0.0926)	(0.129)	(0.0831)	(0.342)	(0.219)	(1.941)	(0.442)
	Immig.$_{t-1}$	0.673***	0.253**	0.0749	-0.0227	1.213***	0.598	0.862	0.0883
		(0.213)	(0.111)	(0.147)	(0.119)	(0.392)	(0.389)	(6.629)	(1.245)
	Immig.$_{t-2}$	-0.496**	-0.127	0.475**	0.363***	-0.847**	-0.425	-0.146	0.282
		(0.205)	(0.0785)	(0.204)	(0.128)	(0.350)	(0.324)	(6.168)	(1.102)
	Immig.$_{t-3}$			-0.526***	-0.384***			-0.541	-0.365*
				(0.171)	(0.118)			(0.802)	(0.207)
Observations		408	408	306	306	400	400	298	298
R-squared		0.974	0.979	0.970	0.977	0.970	0.978	0.964	0.964

		WLS		IV	
		Low	High	Low	High
Female − Male	1960-1970	-0.180	-0.680***	-0.364**	-1.195***
		(0.263)	(0.240)	(0.167)	(0.338)
	1970-1980	0.318***	0.187**	0.244*	-0.0281
		(0.111)	(0.0903)	(0.136)	(0.209)
	1980-1990	-0.390***	-0.184***	-0.179	-0.231***
		(0.140)	(0.0494)	(0.219)	(0.0598)
	1990-2000	-0.175	-0.128*	0.136	0.0637
		(0.117)	(0.0755)	(0.0995)	(0.0798)
	2000-2010	-0.135	-0.227	-6.088	-3.077
		(0.241)	(0.242)	(7.397)	(2.726)
Observations		204	204	196	196

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