

CARD (JLE 2001)

attempts to overcome three conceptual difficulties w/ the cross-sectional approach to ~~was~~ estimating the impact of immigration on native wages + employment rates?

- ① possibility of native out-migration in response to immigration so increase in fraction of ~~immigrants~~ immigrants in a city doesn't necessarily raise supply of labor
- ② local demand shocks may raise wages + thus attract more immigrants into the city (conversely a local demand shock may lower wages + thus repel immigrants away from the city) so ~~there may be~~ the effect of immigration on wage may be underestimated i.e. "upward-biased" because immigration may have negative effect on wage
- ③ if intercity trade ~~could~~ lead to FPE then effect of immigration on wage spread across entire economy

ENDOGENEITY  
BIAS

Card also points out that immigrants are a very diverse population, so overall fraction of immigrants in a city is a poor index of competition for any particular sub-group of natives

~~Ass.~~ e.g. if 75% of immigrants have a college education, then can we really say that immigrants compete with the low-skilled for jobs? NO

### CARD'S APPROACH

ASSUME that labor markets stratified by occupation so that immigrants affect the structure of wages by raising/lowering rel. pop. shares of different occupation groups

→ large influx of low-skill immigrants affects wages of laborers more than it affects wages of economists

→ balanced flow of immigrants leaves rel. pop. shares unchanged, so no effect on the rel. wage structure

Use probabilities that an individual will work in a given occupation to calculate:

- local supply of workers in a given occupation
- city-specific wages + employment rates

"who competes w / whom?"

CARV

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- which groups of workers are perfect substitutes for each other?
- how many different types of labor are present in an individual labor market?

assumption of occupationally-stratified labor mkt. implies that those who work in same occupation are perfect substitutes for each other

BUT: • individuals can move between occupations  
• occupation only observed for those who work  
overcome these difficulties by using ~~individual~~ probabilities that an individual will work in a given occupation

degree of competition between natives + immigrants

- two groups with very similar predicted occupation distributions are in direct competition
- two groups with very different predicted occupation distributions are not in direct competition
- Card develops a summary index of the degree of competition between groups  
His index measures the effective increase in labor supply experienced by one group as the population of another group rises

# DO IMMIGRANT INFLOWS TO A PARTICULAR CITY LEAD TO OFFSETTING ~~INFLOWS~~ OUTFLOWS BY NATIVES + EARLIER IMMIGRANTS?

Card tackles this question by regressing native outflows + inflows + earlier immigrant outflows + inflows on the inflow rate of recent immigrants

- His OLS estimates of the effect of recent immigrant inflows on native + earlier immigrant flows are small and contrary to expectations immigration leads to <sup>net</sup> inflows of natives + earlier immigrants
- OLS estimates are subject to the "local demand shock bias problem" however
- to <sup>correct</sup> ~~account~~ for such a bias, CARD uses the tendency of recent immigrants to settle in enclaves established by earlier immigrants from the same source country as an instrument ~~variable~~ ~~to~~ ~~the~~ ~~data~~
- "Supply-push component of recent immigrant inflows" forms the basis of his predicted immigrant inflow

Card still found that immigration leads to net inflows of natives + earlier immigrants

## ∴ NO EVIDENCE OF ∴

- local demand shocker drawing in both recent immigrants and natives + earlier immigrants
- less educated occupation groups responding differently than other groups

no evidence of ENDOGENEITY BIAS

## EFFECTS OF LOCAL POP. SHARES ON EMPLOYMENT

CARD

n. 5

OLS: an increase in the fraction of the city pop in a particular occupation group decreases the employment rate of natives + earlier immigrants in that ~~particular~~ occupation group

IV: w/ predicted immigrant inflows as instrument for actual immigrant inflows  
same as OLS except that estimates are more negative

Higher immigrant inflow rates reduce native employment rates

OLS: an increase in the fraction of the city pop in a particular occupation group decreases the ~~employment~~ wage rate of natives + earlier immigrants

IV: w/ pred. immigr inflows as instrument  
Coefficients more variable than OLS estimates  
Some positive, some negative why? higher wage individuals in a given occupation are more likely to remain employed in the face of declining demand conditions - others, particularly women, leave the labor mkt  $\therefore$  upward bias (toward zero)

REMEMBER: he's examining the ps. 1985-90

Conclusions

- 1. immigrant inflows to individual cities were NOT offset by net outflows of natives + earlier immigrants
  - o cities that received large inflows of new immigrants generally experienced large increases in the relative size of their less-skilled populations
- 2. shifts in pop shares of different skill groups are associated w/ systematic changes in relative employment
  - o inflows of new immigrants reduced the rel. employment rates of natives + earlier immigrants in laborer + low-skill service occupations

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TENTATIVE CONCLUSION

- 3. shifts in rel. pop shares are associated w/ changes in rel. wages - trouble here is selective labor force participation
  - o immigrant inflows probably reduced rel wages of laborers + less-skilled service workers in high immigrant cities

elasticity of substitution between different skill categories is relatively high

∴ shifts in the rel. supply of different occupations do not affect the rel. wage structure very much

measured effects of immigrant inflows on the native wage structure are small

We're interested in wage elasticities, but that's just the inverse of the factor price elasticity.

Cross-factor price elasticity:

$$\epsilon = \frac{p}{x} \cdot \frac{dx}{dp} < 0$$

$$\frac{w_j}{x_i} \cdot \frac{\partial x_i}{\partial w_j} = k_j (\sigma_{ij} + \epsilon)$$

where:  $\epsilon$  is the price elasticity of demand for the firm's output  $\frac{p}{x} \cdot \frac{dx}{dp}$   
 $k_j$  is the share of factor  $j$  in total cost  
and  $\sigma_{ij}$  is the elasticity of substitution between factors  $i$  and  $j$

Card's model assumed CES production functions, so his estimator can be used to compute  $\sigma_{ij}$

Some of his  $\sigma_{ij}$  were ~~negative~~ negative (violating CES) but ~~many~~ his positive estimates ranged from 3,4 to 96,5. (Values from IV regressions were generally lower than values from OLS regressions).

Cross-factor price elasticities high  
wage elasticities LOW