Rethinking the Effect of Immigration on Wages

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Introduction

- **Main Question: What is the Effect of Immigrants on national labor markets?**
  - based on CES production function, compatible with various areas of labor literature (wage inequality, technological progress, education)
  - accounting for all interactions across skills (competition-complementarity)
  - incorporating long-run response of physical capital, while total factor productivity is kept fixed

- **Main contributions:**
  - improved estimation of substitutability between different workers
  - distinction between partial and total wage effects of immigration
  - simulation of total wage effects for each group of native skills.

The Debate in the Literature

- Studies using national data and an aggregate production function approach found significant negative effect of immigration on native wages (Borjas, 2003; Borjas & Katz, 2007)
  - negative 4 to 5% effect in the long-run on real wage of unskilled (i.e. high school dropouts) over 1980-2000
  - negative 8 to 9% effect in the short-run on real wage of unskilled

- Empirical analysis based on cross-cities or cross-states evidence found small, often insignificant effects (Card, 2001; 2007; Card & Lewis, 2007; Cortes, 2008; Kugler & Yuksel, 2008)
  - between 0 and negative 1% effect in the long-run on real (or relative) wages of unskilled (defined either using education or using education-occupation combination)
  - no evidence of displacement effect on employment/population

Preview of Results

- We find that immigration 1990-2006 had a small positive effect on the wages of native workers with no high school degree (between +0.6% and +1.7%) and on average native wages (+0.6%).

- The key component of this results are the following:

  - The model indicates a specific structure of complemetariety, captured by a specific CES nesting (summarized by Model B below). In it, workers with no degree and workers with high school degree turn out to be much closer substitutes than college and non college workers.

  - Immigrants and natives with similar education and age have a small but significant degree of imperfect substitution.

  - After estimating elasticity we use a structural model to identify total effect of immigration

  - The model accounts for direct and indirect impact of immigration in all skill groups

Modeling skill interactions

- Introduce an aggregate production function as basis for labor demand
  - parametrize elasticity of substitution $\sigma_n > 0$ between different types of workers
  - structural foundation to the wage regressions

- Use variation in immigrant population across skill groups as an exogenous supply shock, conditional on a set of fixed effects.

- Estimate basic parameters and analyze the effect of different changes in supply of skills

Production Structure

σ_{HL} σ_{LL} σ_{HH} = elasticity of subst. across schooling groups
σ_{EXP} = elasticity of subst. across experience
σ_{IMMI} = elasticity of subst. US Domestic − Foreign-born
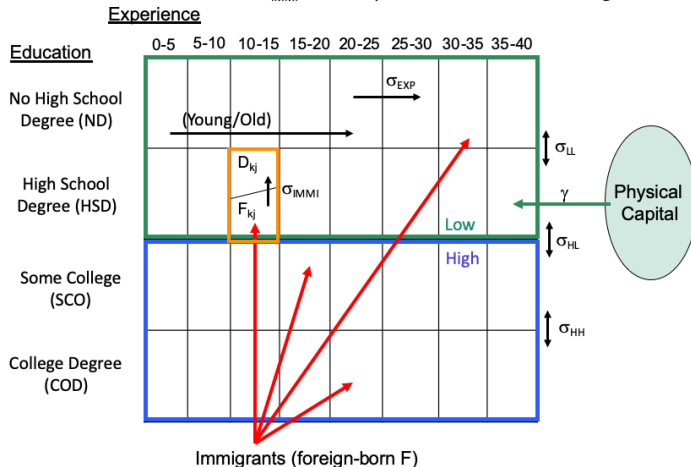
Role of the Model

- The Rich skill differentiation identified above, needs some structure
  - It has 992 cross-skill effects implied
  - US Census data only consists of 192 skill-by-year observations

- How do we realize that?
  - structure a nested-CES approach, sequential partitioning with $\sigma_{n+1} > \sigma_n$ ▸ General CES
  - estimate elasticities in the CES
  - combine those with supply changes in each cell to produce the effect on marginal productivity (= wages in the long run)

- Adjust the average wage to account for capital response

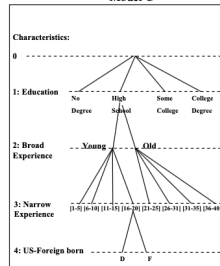- We considered and tested 4 alternative nesting structures
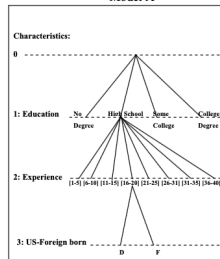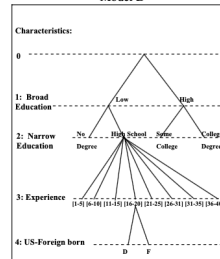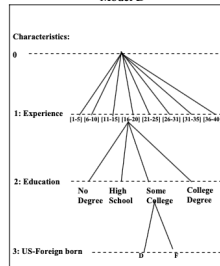
Production Function

$$Y = AL^{\alpha}K^{1-\alpha}$$

- In the long run the economy follows a balanced growth path
  - a rise in labor supply boosts marginal productivity of capital, which is accumulates to keep the capital–labor ratio on its balanced growth path
  - supported by time-series of aggregate US data ▸ Capital/Output ▸ Capital/Labor

- Average wage does not depend on labor supply and on immigration in the long run
  ▸ Capital & Avg. Wages

- However unequal labor supply generates asymmetric effects on skill groups

Production Function - Nesting

- L is a CES aggregate of different types $i(n)$ of labor

$$L_{i(n)} = \left[\sum_{i(n+1) \in i(n)} \theta_{i(n+1)} \left(L_{i(n+1)} \right)^{\frac{\sigma_{n+1}-1}{\sigma_{n+1}}} \right]^{\frac{\sigma_{n+1}}{\sigma_{n+1}-1}}, \ n = 0, .., N$$

- High educated nest college graduate and some college. Less educated nest some high school and high school degree (Goldin & Katz, 2009)

$$L_t = \left[\theta_{Ht} L_{Ht}^{\frac{\sigma_{HL}-1}{\sigma_{HL}}} + \theta_{Lt} L_{Lt}^{\frac{\sigma_{HL}-1}{\sigma_{HL}}} \right]^{\frac{\sigma_{HL}}{\sigma_{HL}-1}}$$

$$L_{Ht} = \left[\theta_{SCOt} L_{SCOt}^{\frac{\sigma_{HH}-1}{\sigma_{HH}}} + \theta_{CODt} L_{CODt}^{\frac{\sigma_{HH}-1}{\sigma_{HH}}} \right]^{\frac{\sigma_{HH}}{\sigma_{HH}-1}} \quad \text{and} \quad L_{Lt} = \left[\theta_{NDt} L_{NDt}^{\frac{\sigma_{LL}-1}{\sigma_{LL}}} + \theta_{HSDt} L_{HSDt}^{\frac{\sigma_{LL}-1}{\sigma_{LL}}} \right]^{\frac{\sigma_{LL}}{\sigma_{LL}-1}}$$

- Instead of assuming: $\sigma_{LL} = \sigma_{HH} = \sigma_{HL}$ (Borjas, 2003; Borjas & Katz, 2007)

Production Function - Nesting cont'd

- Symmetric nest of 8 experience groups (Card & Lemieux, 2001; Welch, 1979)

$$L_{kt} = \left[\sum_{j=1}^{8} \theta_{kj} L_{kjt}^{\frac{\sigma_{EXP}-1}{\sigma_{EXP}}} \right]^{\frac{\sigma_{EXP}}{\sigma_{EXP}-1}}$$

- Nest between natives (D) and immigrants (F) (Ottaviano & Peri, 2006)

$$L_{kjt} = \left[\theta_{Dkj} D_{kjt}^{\frac{\sigma_{IMMI}-1}{\sigma_{IMMI}}} + \theta_{Fkj} F_{kjt}^{\frac{\sigma_{IMMI}-1}{\sigma_{IMMI}}} \right]^{\frac{\sigma_{IMMI}}{\sigma_{IMMI}-1}}$$

Beauty of the model

- Assumption: immigration change labor supply $L_{i(N)}$ but does not change the productivity parameters $\theta_{i(N)}$.

- Once we estimate σ's and immigrants' inflow as percentage of initial labor supply, we can calculate the effect on marginal productivity of each group
    - i.e. on equilibrium wage of a worker of type $i(N)$

$$\ln(w_{i(N)}) = \ln(\alpha A \kappa^{1-\alpha}) + \frac{1}{\sigma_1}\ln(L) + \sum_{n=1}^{N}\ln\theta_{i(n)} - \sum_{n=1}^{N-1}\left(\frac{1}{\sigma_n} - \frac{1}{\sigma_{n+1}}\right)\ln\left(L_{i(n)}\right) - \frac{1}{\sigma_N}\ln\left(L_{i(N)}\right)$$

- For the last level of nesting N, given two groups $i(N)$ and $j(N)$:

$$\ln\left(\frac{w_{i(N)}}{w_{j(N)}}\right) = \ln\frac{\theta_{i(n)}}{\theta_{j(n)}} - \frac{1}{\sigma_N}\ln\left(\frac{L_{i(N)}}{L_{j(N)}}\right)$$

Model at work

- Using immigration as a supply shock, where possible, we estimate equations for each of the elasticities: $\sigma_{HH}, \sigma_{HL}, \sigma_{HH}, \sigma_{EXP}, \sigma_{IMMI}$

- Data from 1960-70-80-90-2000 Census and 2006 ACS

- Additionally for more aggregate elasticities we use:
  - CPS annual data
  - best existing estimates as reference

- Simulate the long-run effects of immigration 1990-2006 on wages of each group
  - We find important differences with respect to previous results (Borjas, 2003; Borjas & Katz, 2007)

Data

- IPUMS samples: US Decennial Census 1% (1960-1970) and 5% (1980-1990-2000), and American Community Survey 1% (2006)

- Characteristics:
    - Education: some high school, high school degree, some college, college degree → 4 schooling groups
    - Experience: 1 to 40 years, divided in groups of 5 years → 8 potential experience groups
    - Foreign-born if non-citizens or naturalized citizens → 2 birthplace groups: domestic, foreign

- For each cell in year t, construct:
    - wages: average of individual weekly real wages (CPI adjusted) by cell, calculated either on full-time workers or weighting individual wages by person weight times hours worked
    - hours worked (labor supply): sum in each cell over all workers with positive weeks and hours worked
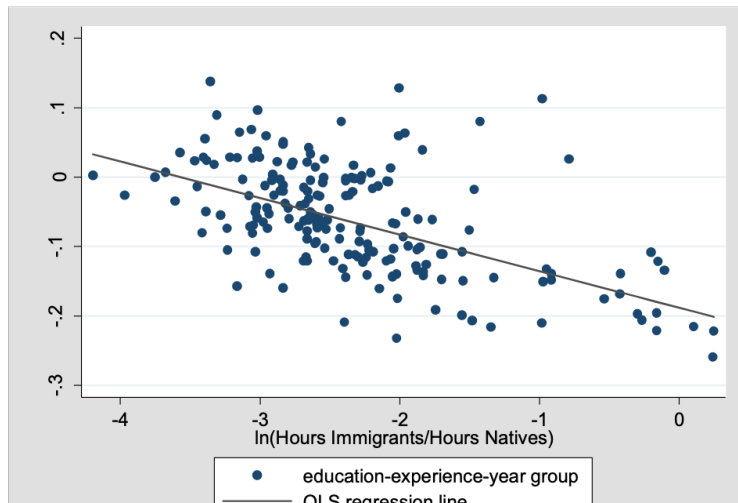
Estimates of σ_{IMMI}

- Assuming that relative productivity $\ln(\theta_{Fkt}/\theta_{Dkt})$ in skill group k can be represented as $\phi_k + \phi_t + u_{it}$, we can go from model to empirical specification:

$$\ln\left(\frac{w_{Fkt}}{w_{Dkt}}\right) = \ln\frac{\theta_{Fkt}}{\theta_{Dkt}} - \frac{1}{\sigma_{IMMI}}\ln\left(\frac{L_{Fkt}}{L_{Dkt}}\right)$$

$$\ln\left(\frac{w_{Fkt}}{w_{Dkt}}\right) = \phi_k + \phi_t - \frac{1}{\sigma_N}\ln\left(\frac{L_{Fkt}}{L_{Dkt}}\right) + u_{it}$$

- Education-experience-year specific demand factors are eliminated by within-group ratios

- Include progressively more dummies to allow for changes in relative productivity over time or and across education group

- 192 observations, 104 dummies when all effects introduced

Correlation between relative Native/Immigrant wages and hours worked

education-experience-year group
OLS regression line

Partial correlation Native/Immigrant wages: only workers with no degree
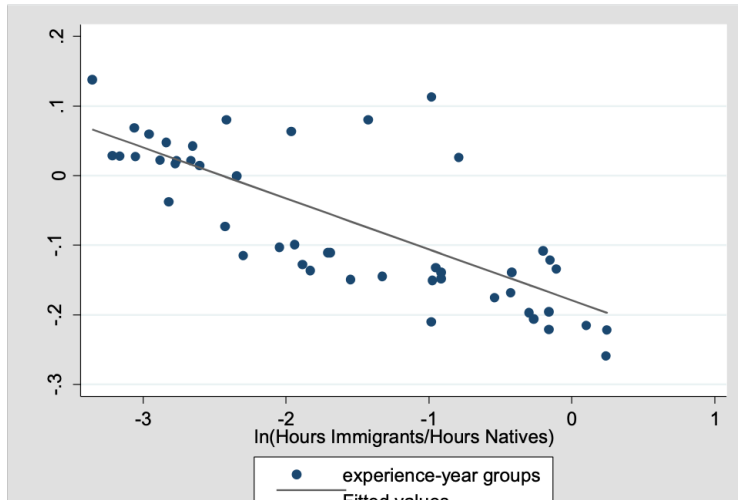
Imperfect substitutability: Estimates of σ_{IMMI}

Table 2
Estimates of the Coefficient (-1/σ_N)
National Census and ACS, U.S. data 1960-2006

Specification	(1) No Fixed Effects	(2) With FE	(3) Not weighted with FE	(4) No Fixed Effects	(5) With FE	(6) Not weighted with FE
Wage Sample:	All workers, weighted by hours			Full time workers only		
PANEL A						
Estimates of (-1/σ_N)						
Men	-0.053***	-0.033**	-0.045***	-0.063**	-0.048***	-0.059***
	(0.008)	(0.013)	(0.013)	(0.005)	(0.010)	(0.012)
Women	-0.037***	-0.058***	-0.067***	-0.050***	-0.066***	-0.071***
	(0.009)	(0.017)	(0.016)	(0.007)	(0.014)	(0.012)
Pooled Men and Women	-0.032***	-0.024*	-0.026**	-0.044***	-0.037***	-0.038***
	(0.008)	(0.015)	(0.015)	(0.006)	(0.012)	(0.013)
Men, Labor supply measured as employment	-0.057**	-0.027**	-0.030**	-0.066***	-0.040**	-0.041**
	(0.007)	(0.014)	(0.015)	(0.006)	(0.012)	(0.014)
PANEL B						
Separate Estimates of (-1/σ_N) by Education Group						
Men, No degree	-0.073***	-0.070***	-0.070***	-0.085***	-0.084**	-0.081***
	(0.007)	(0.010)	(0.009)	(0.004)	(0.006)	(0.007)
Men, High School Graduates	-0.089***	-0.090***	-0.093***	-0.097***	-0.099***	-0.100***
	(0.016)	(0.020)	(0.018)	(0.013)	(0.015)	(0.015)
Men, Some College education	-0.071**	-0.060	-0.070*	-0.077**	-0.068*	-0.075**
	(0.024)	(0.035)	(0.034)	(0.023)	(0.033)	(0.034)
Men; College Graduates	-0.017	0.006	0.019	-0.024	-0.009	-0.0150
	(0.026)	(0.042)	(0.030)	(0.027)	(0.041)	(0.029)

Reasonable estimates of σ_{IMMI}

- There seems to be evidence compatible with small but significant imperfect substitution: $\frac{1}{\sigma_{IMMI}} = 0.05$, $\sigma_{IMMI} = 20$
  - If differences across education and experience groups allowed, natives and immigrants have a particularly low substitutability among low educated worker and young workers
  - Possibly, for less educated: $\frac{1}{\sigma_{IMMI}} = 0.10$
  - Does this make a difference relative to perfect substitution? Yes

Estimates of σ_{EXP}

- From the model to empirical implementation (nesting structure of Model B)

$$\ln(\overline{W}_{kjt}) = \ln\left(\alpha A_t^{\frac{1}{\alpha}} \kappa_t^{\frac{1-\alpha}{1}}\right) + \frac{1}{\sigma_{HL}} \ln(L_t) + \ln\theta_{bt} - \left(\frac{1}{\sigma_{HL}} - \frac{1}{\sigma_{bb}}\right)\ln(L_{bt}) + \ln\theta_{bt} - \left(\frac{1}{\sigma_{bb}} - \frac{1}{\sigma_{EXP}}\right)\ln(L_{kt}) + \ln\theta_{kj} - \frac{1}{\sigma_{EXP}}\ln(L_{kjt})$$

$$\ln(\overline{W}_{kjt}) = I_t + I_{kt} + I_{kj} - \frac{1}{\sigma_{EXP}}\ln(\hat{N}_{kjt}) + e_{kjt}$$

- Immigrant labor supply as instrument; no experience-year term in the dummies

- Existing literature has estimated this coefficient
  - males: between -0.107 and -0.237 (Welch, 1979); between -0.080 and -0.218 (Card & Lemieux, 2001)

Table 3
Estimates of $(-1/\sigma_{EXP})$
(National Census and ACS U.S. data 1960-2006)

Structure of the nest	Model A and B	Model C		Model D
	(1)	(2)	(3)	(4)
Estimated coefficient:	$(-1/\sigma_{EXP})$	$(-1/\sigma_{EXP})$	$(-1/\sigma_{Y-O})$	$(-1/\sigma_{EXP})$
Men Labor Supply is Hours worked	-0.16*** (0.05)	-0.19** (0.08)	-0.31* (0.15)	-0.30*** (0.06)
Women Labor Supply is Hours worked	-0.05 (0.05)	-0.08* (0.045)	-0.14 (0.12)	-0.01 (0.06)
Pooled Men and Women Labor Supply is Hours worked	-0.14*** (0.04)	-0.17** (0.06)	-0.28** (0.12)	-0.23*** (0.05)
Men Labor Supply is Employment	-0.13*** (0.05)	-0.18** (0.08)	-0.26* (0.12)	-0.22*** (0.06)
Cells:	Education-experience-year	Education-experience-year	Education-Young/Old-year	Experience-year
Effects Included	Education by Year and Education by Experience	Education-Young-Year, Education-Old-Year and Education by Experience	Education- Year and Education-Young/Old	Experience effects and year effects
Observations	192	192	96	48

Estimates of $\sigma_{HL}, \sigma_{HH}, \sigma_{LL}$

- Model B assumption in line with much of the literature: split between two imperfectly substitutable education groups (High and Low)

- Too few observations in Census, we use yearly CPS data
  - 44 yearly observations (1963-2006) to estimate each elasticity
  - relative productivity decomposed into systematic time trend and random u

$$\ln\left(\frac{w_{Ht}}{w_{Lt}}\right) = I_t - \frac{1}{\sigma_{HL}} \ln\left(\frac{L_{Ht}}{L_{Lt}}\right) + u_t$$

$$\ln\left(\frac{w_{HSDt}}{w_{NDt}}\right) = I_{Lt} - \frac{1}{\sigma_{LL}} \ln\left(\frac{L_{HSDt}}{L_{NDt}}\right) + u_{Lt}$$

$$\ln\left(\frac{w_{CODt}}{w_{SCOt}}\right) = I_{Ht} - \frac{1}{\sigma_{HH}} \ln\left(\frac{L_{CODt}}{L_{SCOt}}\right) + u_{Ht}$$

Table 5

Elasticity of Substitution between Broad and Narrow Education Groups
CPS data 1962-2006, Pooled Men and Women

	Model B			
	(1) $-1/\sigma_{H\text{-}L}$	(2) $-1/\sigma_{EDU,L}$	(3) $-1/\sigma_{EDU,H}$	**Observations**
"Some College" split between L_{HIGH} and L_{LOW}	-0.54*** (0.06) [0.07]	-0.029 (0.018) [0.021]	-0.16* (0.08) [0.10]	44
"Some College" in L_{HIGH}	-0.32*** (0.06) [0.08]	-0.029 (0.018) [0.021]	-0.16* (0.08) [0.10]	44
Employment as a Measure of Labor Supply	-0.66*** (0.07) [0.09]	-0.039 (0.020) [0.024]	-0.08 (0.09) [0.11]	44
1970-2006	-0.52*** (0.06) [0.08]	0.021 (0.028) [0.025]	-0.13 (0.08) [0.09]	36

Note: Each cell is the estimate from a separate regression using yearly CPS data. In the first column we estimate the relative wage elasticity of the group of workers with a high school degree or less relative to those with some college or more. Method and construction of the relative supply (hours worked) and relative average weekly wages are described in the text in Section 4.2.2. In the first row we split workers with some college education between H and L. In the second row we include them in group H, following the CES nesting in our model. In the second column we consider only the groups of workers with no degree and those with a high school degree (the dependent variable is relative wages and the explanatory is relative hours worked). In the third column we consider only workers with some college education and workers with a college degree or more (the dependent variable is relative wages and the explanatory is relative hours worked). In brackets are the standard errors and in square brackets the Newey-West autocorrelation-robust standard errors.

***= significant at 1% level; **=significant at 5% level; *= significant at 10% level.

Some lessons so far

- Elasticity of substitution around 20 between natives and immigrants with the same education and experience, lower for less educated workers

- Common σ_{EXP} between any pair of experience group $\rightarrow$ model C absorbed into A

- However, $\sigma_{HL} = \sigma_{HH} = \sigma_{LL}$ rejected by the data
  - time-series evidence ▸ College degree and more vs. HS degree and less ▸ HS graduates vs. dropouts

- σ_{HL} around 2 in line with existing literature (Angrist, 1995; Katz & Murphy, 1992; Krusell et al., 2000)

- Elasticity of substitution between workers with a high school degree and those with no high school degree of 25 or above

- These features together imply that Model B is the one best representing the data.

Next

- With all elasticity estimates, we can calculate the wage effects of immigration
  - assessment of *total* effects

- Calculate effects of immigration under different assumptions and compare the implications
  - 1000 simulated effects for each skill group and each parameter configuration

- These are pure relative supply effects

Total effects ≠ Partial effects

$$\left(\frac{\Delta w_{i(N-1)}^{D}}{w_{i(N-1)}^{D}}\right)^{Total} = \frac{1}{\sigma_{H-L}} \sum_{H-L} \sum_{EDU} \sum_{EXP} \left(s_{j(N-1),F}^{0} \frac{\Delta L_{F,j(N-1)}}{L_{F,j(N-1)}}\right)$$

$$+ \left(\frac{1}{\sigma_{EDU,i}} - \frac{1}{\sigma_{H-L}}\right) \sum_{EDU} \sum_{EXP} \left(s_{j(N-1),F}^{1} \frac{\Delta L_{F,j(N-1)}}{L_{F,j(N-1)}}\right)$$

$$+ \left(\frac{1}{\sigma_{EXP}} - \frac{1}{\sigma_{EDU,i}}\right) \sum_{EXP} \left(s_{j(N-1),F}^{2} \frac{\Delta L_{F,j(N-1)}}{L_{F,j(N-1)}}\right)$$

$$+ \underbrace{\left(\frac{1}{\sigma_{N}} - \frac{1}{\sigma_{EXP}}\right)}_{} \left(s_{j(N-1),F}^{3} \frac{\Delta L_{F,j(N-1)}}{L_{F,j(N-1)}}\right)$$

Structurally derived partial effect
(it does not include all partial effects):
equal to -0.20 in our case

Simulations of the total long-run effects: US-born

Table 6
Calculated Long-Run Wage Effects of Immigration, 1990-2006
(with simulated standard errors)

Nesting Structures:	Model A/C			Model D		Model B			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parameter values (std. errors in parentheses):	$1/\sigma_N=0$	Estimated $1/\sigma_N$	Education specific $1/\sigma_N$	Estimated $1/\sigma_N$	Education specific $1/\sigma_N$	Estimated $1/\sigma_N$	Education specific $1/\sigma_N$	Katz-Murphy $1/\sigma_{HIGH-LOW}$	$1/\sigma_{EXP}=0.13$
$1/\sigma_{HIGH-LOW}$	0.30 (0.11)	0.30 (0.11)	0.30 (0.11)	0.28 (0.09)	0.28 (0.09)	0.54 (0.06)	0.54 (0.06)	0.71 (0.15)	0.54 (0.06)
$1/\sigma_{EDU,HIGH}$	0.30 (0.11)	0.30 (0.11)	0.30 (0.11)	0.28 (0.09)	0.28 (0.09)	0.16 (0.08)	0.16 (0.08)	0	0.16 (0.08)
$1/\sigma_{EDU,LOW}$	0.30 (0.11)	0.30 (0.11)	0.30 (0.11)	0.28 (0.09)	0.28 (0.09)	0.03 (0.02)	0.03 (0.02)	0	0.03 (0.02)
$1/\sigma_{EXP}$	0.16 (0.05)	0.16 (0.05)	0.16 (0.05)	0.30 (0.05)	0.30 (0.05)	0.16 (0.05)	0.16 (0.05)	0.16 (0.05)	0.13 (0.05)
$1/(\sigma_N)_H$	0	0.05 (0.01)	0.03 (0.03)	0.05 (0.01)	0.03 (0.03)	0.05 (0.01)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
$1/(\sigma_N)_L$	0	0.05 (0.01)	0.09 (0.01)	0.05 (0.01)	0.09 (0.01)	0.05 (0.01)	0.09 (0.01)	0.09 (0.01)	0.09 (0.01)

PANEL A
Real Percentage Change of the Wage of US-Born Workers Due to Immigration, 1990-2006.
(simulated standard errors in parentheses)

|									
Less than HS	-3.1 (1.0)	-2.0 (1.0)	-1.1 (1.0)	-1.8 (1.0)	-1.0 (1.0)	0.6 (0.4)	1.5 (0.4)	1.7 (0.4)	1.5 (0.5)
HS graduates	0.7 (0.3)	1.1 (0.3)	1.5 (0.3)	1.1 (0.4)	1.5 (0.4)	0.3 (0.1)	0.7 (0.1)	0.6 (0.2)	0.7 (0.1)
Some CO	1.6 (0.5)	1.9 (0.6)	1.8 (0.6)	1.8 (0.5)	1.7 (0.6)	1.3 (0.3)	1.2 (0.4)	0.3 (0.3)	1.1 (0.5)
CO graduates	-1.1 (0.5)	-0.3 (0.5)	-0.6 (0.6)	-0.2 (0.4)	0.5 (0.6)	0.3 (0.4)	0.0 (0.6)	0.6 (0.5)	0.0 (0.6)
Average US-born	0.0 (0.5)	0.6 (0.6)	0.6 (0.6)	0.6 (0.5)	0.6 (0.6)	0.6 (0.3)	0.6 (0.4)	0.6 (0.4)	0.6 (0.5)

▸ Effects on Immigrants

Conclusions

- Small but significant degree of imperfect substitutability between natives and immigrants within education and experience groups.

- Using Model B, supported by the data, we calculate that immigration over the 1990-2006 period (mostly unskilled-intensive) had a small positive effect on real wages of native workers with no high school of around 0.6%, not significantly different from 0

- Even with the assumption of 4 education groups with equal elasticity across them (As in Model A, whose restrictions are rejected by the data!), the effect of immigration on less skilled natives was a non-significant 1% (at most 2%)

Conclusions - cont'd

- Extension to the 2000-2020 period would find stronger positive results for the less educated, and small negative results for the less educated

- The overall average wage of native workers had a 0.6% real gain in the long-run also not significantly different from 0. Previous immigrants, however, suffered a wage loss of 6% due to 1990-2006 immigration
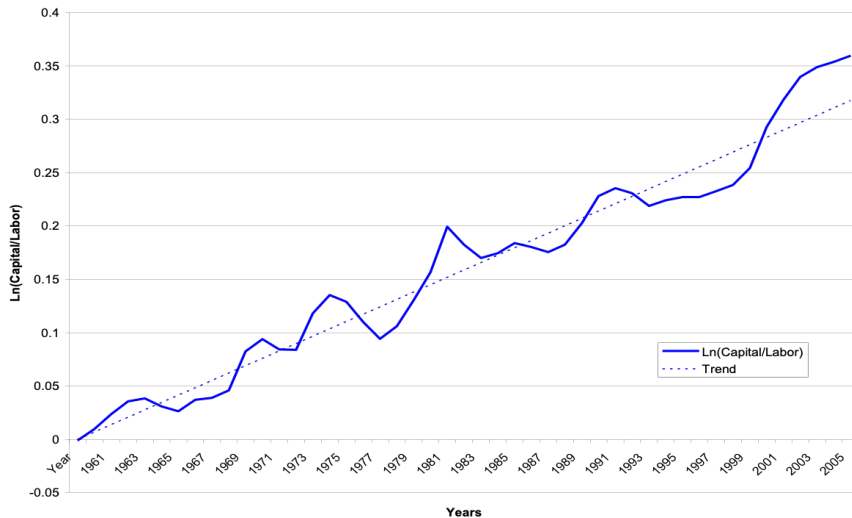
Appendix

General CES structure ⤷ Model
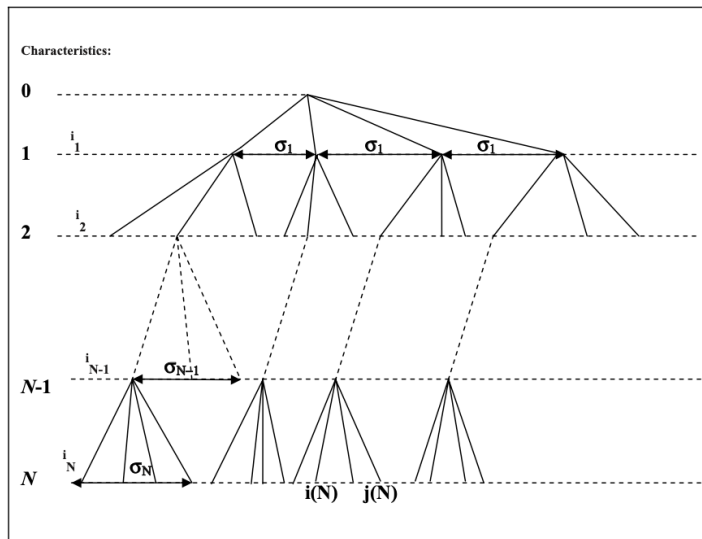
US Capital-Output Ratio 1960-2006 ▸ Production
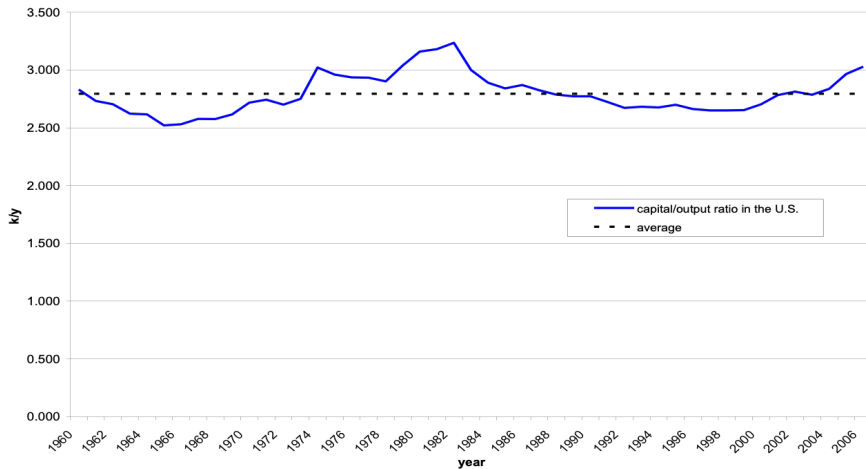
Log Capital-Labor Ratio and Trend 1960-2006 ⟩⟩ Production

Capital and Average Wages ⟩⟩ Production

- Average wage:

$$w_t^N = \frac{\partial Y_t}{\partial N_t} = \alpha A_t \left(\frac{K_t}{N_t}\right)^{1-\alpha}$$
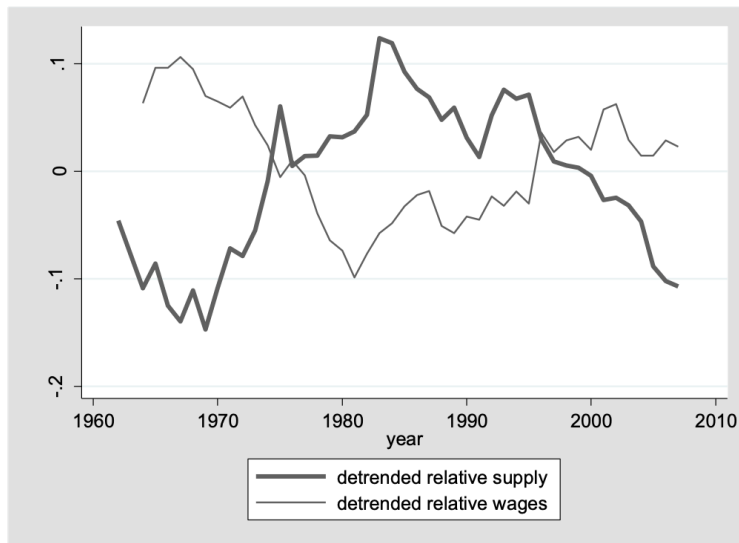
- Average wage and capital-labor ratio in the long run do not depend on labor supply:

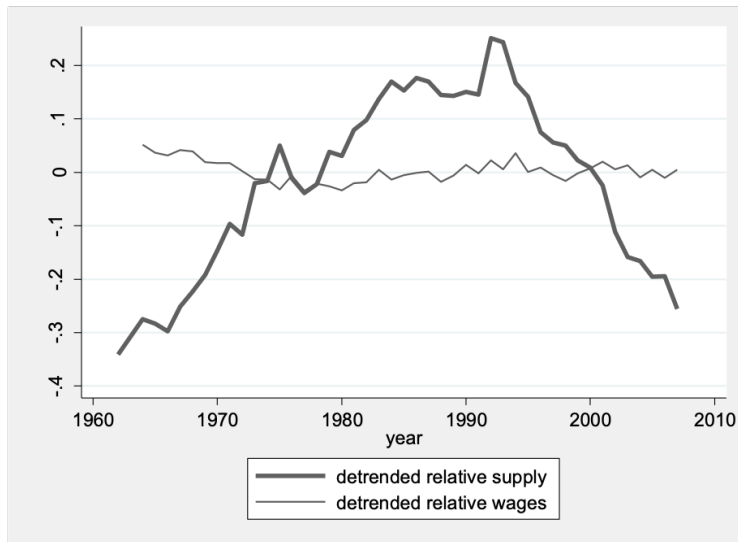$$w_t^N = \alpha A_t (\kappa_t)^{1-\alpha}$$

- In the short-run the effect on wages depends on the deviation of capital-labor ratio caused by immigration inflow:

$$\frac{\Delta w_t^N}{w_t^L} = (1 - \alpha) \left(\frac{\Delta \kappa_t}{\kappa_t}\right)_{immigration}$$

Relative wages and supplies: college degree and more, HS degree and less   ▸ Back

Relative wages and supplies: HS graduates, HS dropouts ▸ Back

Simulations of the total long-run effects: Foreign-born

PANEL B
Real Percentage Change of the Wage of Foreign-Born Workers Due to Immigration, 1990-2006
(simulated standard errors in parenthesis)

Less than HS	-3.1	-7.4	-10.6	-7.3	-10.5	-4.8	-8.1	-7.8	-8.1
	(1.0)	(1.4)	(1.3)	(1.3)	(1.4)	(0.9)	(0.9)	(0.9)	(0.9)
HS graduates	0.7	-6.3	-11.7	-6.3	-11.8	-7.1	-12.6	-12.8	-12.6
	(0.3)	(1.4)	(1.4)	(1.5)	(1.4)	(1.4)	(1.4)	(1.4)	(1.4)
Some CO	1.6	-2.9	-1.1	-3.1	-1.1	-3.6	-2.2	-2.6	-1.8
	(0.5)	(1.1)	(2.8)	(1.1)	(2.7)	(1.0)	(2.7)	(2.8)	(2.9)
CO graduates	-1.1	-8.8	-5.7	-8.8	-5.6	-8.2	-5.5	-4.6	-5.3
	(0.5)	(1.6)	(4.6)	(1.6)	(4.5)	(1.6)	(4.4)	(4.8)	(4.8)
Average Foreign-born	0.0	-6.8	-6.7	-6.8	-6.7	-6.4	-6.7	-6.3	-6.4
	(0.5)	(1.4)	(3.0)	(1.4)	(3.0)	(1.3)	(2.8)	(3.0)	(3.0)
Overall average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	(0.4)	(0.6)	(0.8)	(0.6)	(0.8)	(0.4)	(0.6)	(0.6)	(0.7)

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