

Do immigrants take or create residents' jobs? Quasi-experimental evidence from Switzerland

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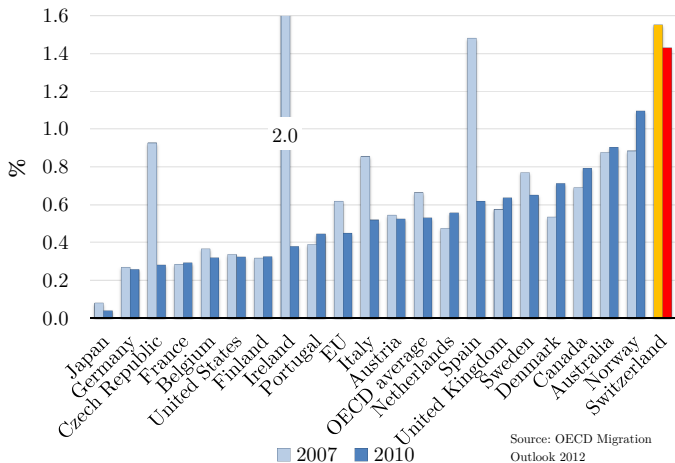
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Introduction: The question posed I

- Do foreign employees crowd out resident employees or do they reduce skill shortages and thus benefit the resident labor force?
- Empirical examination for the case of Switzerland
 - Substantial "new immigration wave" to Switzerland after gradual introduction of Free Movements of Persons with EU/EFTA since 2002. New immigrants mainly EU/EFTA nationals.

Introduction: The question posed II



Source: OECD Migration
Outlook 2012

Main contribution of the paper

- Provides (generic) method to identify the effect of immigration on the labor market outcomes of natives when using a skill cells and a national labor market. Approach tailored for (small) economies with spatially integrated labor markets (i.e. for which the area approach may be unsuited).
→ This presentation focuses on this methodological contribution

Empirical Strategy and Identification: Common methods

Two different methods to estimate labor market effects of immigration

- *Structural*: Estimate elasticities of substitution between migrants and residents within and between different "labor market cells" and simulate effects of inflow within a theoretical model of production (Borjas 2003; Ottaviano and Peri 2008, 2012, for CH: Müller et al. (2013))
- *Reduced-form* approach: Directly relate immigration inflow into "labor market cells" (mainly regions) to labor market situation of resident workforce in these cells (e.g., Card 2001; Friedberg 2001)

We aim at using reduced-form approach.

Modifying the reduced-form approach

- Endogeneity problem: Immigration related to economic situation in cell
- No “natural” experiment at hand. Also using “area approach” as in Card (2001) raises problems in the Swiss case:
 - Problem of native outflows/labor mobility. Specifically prevalent because
 - Switzerland is small
 - Many immigrants are highly skilled and hence affect more mobile natives (Kerr et al. 2013)
 - Instrumental variable strategy commonly applied in area approach relies on network effects. These are stronger for low- than for high-skilled workers (Patel and Vella 2013)
- *Solution*: Look at *national* labor market and exploit variation in immigration rates across occupations and experience (age) groups (reducing problems of outflows)

The endogeneity problem

- Immigration to Switzerland partly driven by labor shortages (lack of e.g. engineers). Creates an endogeneity problem:
 - Labor shortages create coincidence of low unemployment/high wage growth for natives in cells with high immigration rate
- *Solution*: instrument actual immigrant inflows → “shift-share” instrumental variable (predicting immigrant inflows into occupation-age cells)

Country (j)	Actual immigration (I_{ijt})		Total immigration (shifts \bar{I}_{jt})
	Skill cell (i)		
	Clerks (25–39 yrs)	Managers (25–39 yrs)	
Germany	50	100	150
Actual share	33%	67%	
Italy	25	25	50
Actual share	50%	50%	
Actual immigration (I_{jt})	75	125	200
	(Unconfounded) share (π_{ij})		
Germany	40%	60%	
Italy	70%	30%	
	Predicted immigration (shift-share \hat{I}_{ijt}^{basic})		
Germany	60	90	150
Italy	35	15	50
Instrument (\hat{I}_{jt})	95	105	200

IV strategy III: Shares

How do we built the (time-invariant) shares π_{ij} ?

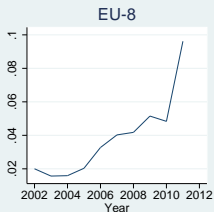
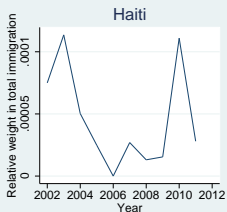
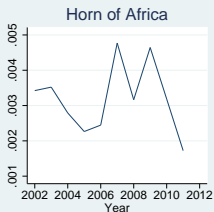
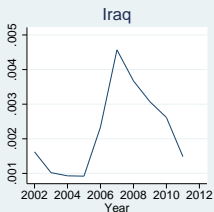
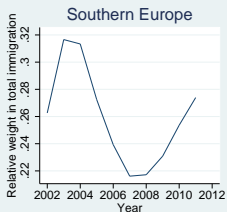
1. Stock of immigrants from country j in Switzerland in 1990
2. Labor force of (sending) country j (average distribution across cells 1998–2000)
3. Average of distribution in immigration data 2002–2011

IV strategy IV: Identifying variation

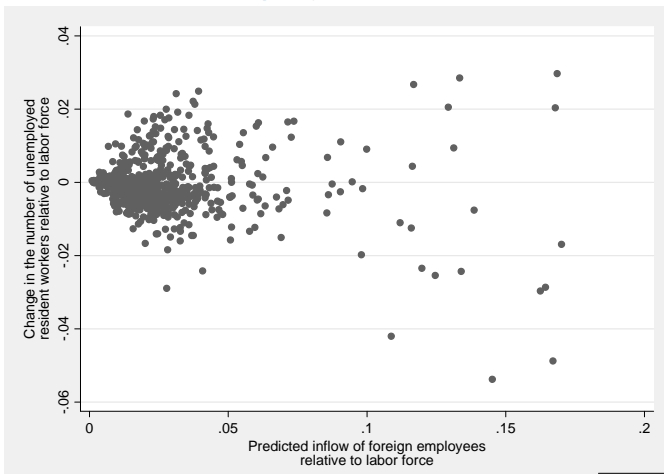
Where does the identifying variation come from?

- In the cross-section ...
 - ... from the shares
- Over time ...
 - ... from changes in the total number of immigrants from all countries → will be controlled for by year fixed effects
 - ... from changes in the *relative* importance of countries of origin of the immigrants (shifts in country composition)
 - Why are there shifts in the composition of immigrants' countries of origin? → summary measure of changes in push- and cost-factors affecting emigration from sending countries (economic situation in Switzerland the same for all countries)

IV strategy V: Identifying variation



Some results: Unemployment



Source: ZEMIS, AMSTAT, and SAKE, own calculations

Unemployment	(1)	(2)	(3)	(4)	(5)
VARIABLES	WLS Total	2SLS Total	2SLS Total	2SLS EU 25	2SLS Total
Immigrating employees	-0.035** (0.013)	-0.035** (0.015)	-0.049*** (0.015)		-0.035** (0.014)
Immigrating employees EU 25				-0.020 (0.013)	
Observations	648	648	648	648	648
Controls	Yes	Yes	Yes	Yes	Yes
Occupation-year effects	Yes	Yes	Yes	Yes	Yes
Age-year effects	No	No	Yes	No	No
Weights	Yes	Yes	Yes	Yes	Yes
F statistic first stage	-	55.59	57.14	9.81	7582
p-value of Hansen J statistic	-	0.247	0.675	0.887	0.177

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

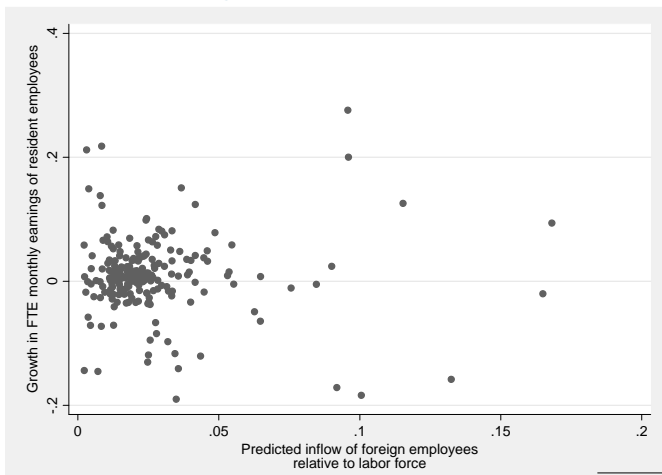
Instruments: Predicted share of immigrating foreign employees

Columns 2+3: Census 1990

Column 4: Occupation-age distribution of labor force in country of origin (only EU 25)

Column 5: Average of immigration data 2002–2011

Some results: Wages



Source: ZEMIS, and SESAM, own calculations

Summary of results

- Immigrants do not crowd out resident workers in Switzerland. On the contrary, immigration is largely beneficial
- Quasi-experimental results suggest that the roughly 100'000 immigrating employees per year
 - Lowered unemployment of natives by 3'000 persons
 - Had no measurable effect on employment, mean log earnings of natives, and the number of resident workers leaving the labor force (all of which might be due to lower data quality)
 - Enable professional advancements of resident workers

Thank you for your attention!

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Regression Model

Cells (i) defined in terms of 9 occupational (9 ISCO-88 major groups) and 9 age groups for national labor market. Scale effects accounted for as suggested in Peri and Sparber (2011):

$$\Delta O_{it} = \alpha + \beta(I_{it}/LF_{it-1}) + \gamma X_{it} + \tau T_t + \epsilon_{it} \quad (1)$$

- ΔO_{it} : absolute change in economic outcome of interest in skill group i and year t relative to size of labor force in $t - 1$ (LF_{it-1}):
 - Unemployment: $(U_{it} - U_{it-1})/LF_{it-1}$
 - Mean log earnings: Δw_{it}
- I_{it}/LF_{it-1} : number of newly hired foreign employees in skill group i relative to resident labor force size in $t - 1$
- Controls X_{it} : female share, share of state workers, job tenure, average age, occupation-year dummies

Data: Sources

- **ZEMIS/BFM** (complete count): immigrating employees by age, occupation, *country of origin*, residency permit, and year (2002–2011)
- **AMSTAT/SECO** (complete count): registered unemployment of resident workforce by age, nationality, occupation, and month (2004–2011)
- **Swiss Labor Force Survey** (SLFS, 2nd quarter): Employment and other controls of resident workforce (1991–2011)
 - **SESAM** (2nd quarter): mean log monthly FTE earnings in first job (1999–2010)
- **Swiss population census 1990**: Foreign resident employees by age, occupation, and country of origin
- **Labor Force Survey** (Eurostat): Labor force in (most) EU countries by occupation and age in 2000