



Wider effects of immigration; International migration and globalization. *Cont.*

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Study Materials and Reading List

- Slides of the lectures
- All materials provided on: <http://home.cerge-ei.cz/pytlikova/LaborSpring19/>

Compulsory Readings:

- Parrotta, P., Pozzoli, D. and M. Pytlikova (2014): "The Nexus between Labor Diversity and Firm's Innovation." *Journal of Population Economics*. Vol. 27 (2), pp 303-364.
- Bansak, Simpson, Zavodny: The Economics of Immigration, Part IV Other Effects of Immigration

Other Relevant Literature:

- Nathan, M. (2014): The wider economic impacts of high-skilled migrants: a survey of literature for receiving countries. *IZA Journal of Migration* 2014, 3:4.
- Card (2010): Immigration and Inequality. *American Economic Review*.
- Javorcik, B. S., Ç. Özden, et al. (2011). "Migrant networks and foreign direct investment." *Journal of Development Economics* 94(2): 231-241.
- Hunt, J. and M. Gauthier-Loiselle (2010). "How Much Does Immigration Boost Innovation?" *American Economic Journal: Macroeconomics* 2(2): 31-56.
- Kerr, S. P. and W. Kerr (2011). "Economic Impacts of Immigration: A Survey" *NBER Working Paper* 16736. Cambridge, MA, NBER.
- Peri, Giovanni, Kevin Shih, and Chad Sparber (2014), "Foreign STEM Workers and Native Wages and Employment in U.S. Cities", NBER Working Papers 20093
- Parrotta, P., Pozzoli, D. and M Pytlikova (2014): Does Labour Diversity affect Firm Productivity? *European Economic Review*, Vol. 66, February 2014, Pages 144–179.

WIDER EFFECT OF MIGRATION

- *LAST LECTURE :*
 - Technology and innovation
 - Productivity
- TODAY
 - **Housing**
 - **Prices of goods and services**
 - **Product diversity**
 - **Financial markets, capital investment**
 - **Entrepreneurship**
 - **FDI (impact on sending too)**
 - **Trade (impact on sending too)**
 - Remittances (impact on sending too) - *to be covered under the effects on origins*
 - Income and Income Inequality
 - Other - happiness, education, health, crime, human trafficking

IMPACT OF IMMIGRATION on housing

- Migration unevenly distributed across space – tend to cluster in cities.
- There may be advantages related to interaction of production and consumption-side effects => cities exhibit returns to economic activity via “matching”, “sharing” and “learning” economies to firms and workers. Clusters of high-value activity may improve flow of ideas, help entrepreneurship.
- BUT there may be also diseconomies of cities – constraints on urban space, crowding and congestion due to immigration can affect housing (Ottaviano and Peri, 2006; Saiz, 2007):
- Economic theory -> if the number of customers of a good increases => a rightwards shift in the demand=> the price of that good increases too. The same holds for housing.
- The effect depends on elasticity of housing supply. If it is relatively inelastic (which is certainly true for e.g. London, Bay area San Francisco, New York, Vinohrady in Prague?) then the effect on price big. If the housing supply relatively elastic (Ostrava? Usti n L?) then the effect of higher demand for housing will have less effect on prices.

IMPACT OF IMMIGRATION on housing

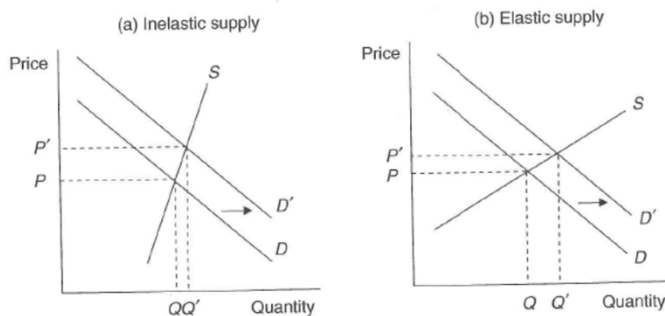


Figure 9.1 Effects of immigration on the housing market.

In (a), the supply of housing is inelastic. An increase in the demand for housing causes the price of housing to increase sizably, from P to P' . In (b), the supply of housing is elastic. An increase in the demand for housing causes a smaller increase in prices.

Bansak et al., pg 196

IMPACT OF IMMIGRATION on housing

- The effect of higher prices:
 - **Positive** - as it increases the value of natives wealth
 - **Negative** – if the natives would like to buy a house or pay a higher rent => it may crowd out natives from the housing market.
- Effects on housing market through another mechanism (indirect immigration effect): Immigration could lead to higher out-migration of natives -> ethnic enclaves => natives may prefer to not live near the enclaves/or areas with an increased competition for jobs
- => the effect on housing can be dampened or it can even drive the prices to go down.

IMPACT OF IMMIGRATION on housing

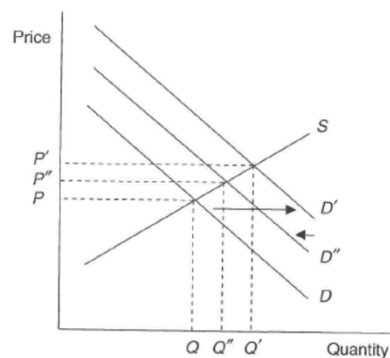


Figure 9.2 Housing market in the destination when natives respond to immigration by moving out of the area.

Immigration increases the demand for housing from D to D' . However, if some natives leave the area, the demand for housing may shift back part of the way (to D''). The resulting house prices (P'') are higher than without migration (P), but lower if there was no out-migration of natives (P').

Bansak et al., pg 197

IMPACT OF IMMIGRATION on housing

- EMPIRICS:
- Saiz (2007) test the hypothesis using U.S. data. Finds that an immigration of 1% of population to large US "gateway" city (such as LA, NYC) leads to a 1% increase in rental and house prices in that city.
- Gonzales and Ortega (2013) analyse housing market boom in Spain over 1998-2008 (immigration has risen from 0,5 mil to 5mil foreigners in the period, and house prices increased by 175%). Find: the immigrants are at least a part of the story – 1,5% increase in population lead to 2% increase in house prices (the effect is even higher than the one by Saiz for the US!). Rosa Sanchis-Guarner (wp2017) decomposes the total immigration effect for Spain, and find even more sizable effects.
- Sá (EJ2014) for UK, finds that immigration has a negative effect on house prices and presents evidence that this negative effect is due to the mobility response of the native population. Natives respond to immigration by moving to different areas and those who leave are at the top of the wage distribution. The effect is driven by local areas where immigrants have lower education.

IMPACT OF IMMIGRATION on prices of goods and services

- Immigrants contribute to supply of goods and services
- Immigration may put downward pressure on wages – lower labor costs may translate into lower prices of goods and services, in particular in sectors, in which immigrants are concentrated (e.g. landscaping industry, housekeeping, baby-sitting, ...). This can be particularly true for non-tradable services)
- Cortes (2008) analyzed US price data between 1980-2000 and finds that a 10% increase in the share of low-skilled immigrants in landscaping causes a 2% decrease in prices of immigrant-intensive services. Her estimates suggest that US immigrant flow in that period reduced price of immigrant-intensive services by at least 9-11% in average US city.
- Cortes (2008) points that high-skilled US natives are those benefiting most from the price drop because they consume more of those services.
- Immigrants-> lower daycare costs /> encourage more high skilled female workers to work (Furtado and Hock, 2008 for the US). A study by Cortes and Tessada, (2011) finds by exploiting cross-city variation in immigrant concentration, that low-skilled immigration increases average hours of market work and the probability of working long hours of women at the top quartile of the wage distribution. Similar findings for Spain (Farre, Gonzalez and Ortega, 2011): female immigration increases the local availability of household services and reduces their price. It also increases the labor supply of skilled native women, by allowing them to return to work earlier after childbirth, and to continue working while caring for elderly dependents

IMPACT OF IMMIGRATION on prices of goods and services

- In addition, immigrants increase demand for certain goods and services (food, cell phones..) – it may put upward pressure on prices.
- => immigration may have important distributional impacts on natives purchasing power => low-skilled immigration may favor high-skilled natives by reducing prices of services (such as daycare, elderly work, agriculture etc.) they purchase BUT hurt low-skilled natives by reducing their purchasing power via higher prices and possibly lower wages.

IMPACT OF IMMIGRATION on product diversity

- Immigrants add to variety of products and services,
- add to diversity and quality of food. Large immigrant cities have e.g. one of the best restaurants..
- (1) Immigrants form a consumer base and maybe increase demand for ethnic goods => encourages producers to supply the goods => then available to native consumers as well.
- (2) Immigrants are suppliers of the ethnic goods too
- => more ethnic goods => variety in goods,
- Ottaviano and Peri (2006) study consumption variety due to immigration: if natives prefer more variety and diversity in their consumption, then immigration improves overall welfare.
- Mazzolari and Neumark (2012) focus on Californian restaurants and retail industries. They find that increase in immigrant share increases a share of ethnic restaurants, and that the supply effect is larger than the demand effect. They find less diversity in the retail industry due to immigration, as retail industries are much less immigrant-intensive, and immigrants with their lower incomes tend to increase demand for large big-box retailers.

IMPACT OF IMMIGRATION on financial markets, capital investment

- Immigration may facilitate financial flows across countries,
- Financial investors exhibit “home bias” preferring to invest in their home country – because of information barriers for investing abroad, even though the returns are potentially higher abroad.
- Kugler, Levintal and Rapoport (2013) find immigration having large positive effect of immigration on financial flows between large set of countries between 1990-2000 with the largest effects for countries in which information problems are the most acute.
- Effects on FDI – *from the next slide...*
- Immigration may affect the demand and the supply of physical capital: if immigrants bring the capital with them, the supply of the capital may increase with immigration. The demand for capital may change in response to an immigrant induced increase in labor supply \Leftrightarrow the direction of the effect depends on the relationship between capital and labor in the production process. If labor and capital are complements in production, an increase in labor supply will encourage firms to acquire more capital. If substitutes, then an increase in workers via immigration may reduce the demand for physical capital

IMPACT OF IMMIGRATION on FDI

- Example of empirical evidence using panel country data

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DIASPORAS AND FOREIGN DIRECT INVESTMENTS

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Still preliminary...

Research question and motivation

- We study whether outward migration can help countries attract FDI, using a unique dataset on international migration into the OECD.
- Background: Large increase of migration into the OECD
 - Not much research on consequences of migration for origin countries, focus has been on brain drain
 - Are there positive effects of outward migration for the origin countries, which might mitigate brain drain?
- Do different forms of globalization feed on each other?

Contribution

- We examine how migration can spur FDI on a much larger scale than previous studies
 - We have a very large panel of countries and a long time period
 - Most of the previous studies focus on one country, there are two studies with a cross-section of countries
- This large data set allows a much more precise identification strategy
 - We can deal with unobserved factors that might drive both migration and FDI
 - We have good, time-variant instruments for migration (and FDI), allowing us to sort out the causality.
 - Result: There is large two-way causality, but only small correlation

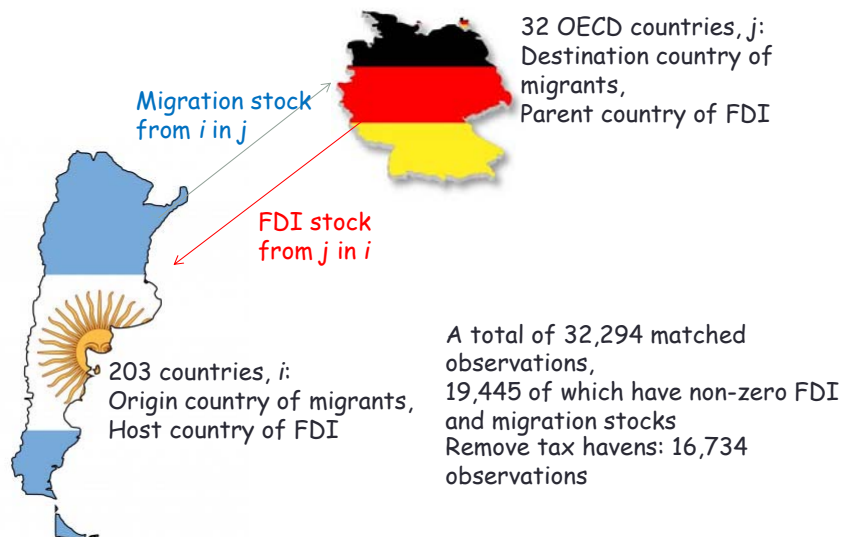
Identification strategy

- Migrants might help attract FDI to their origin countries by making investors aware of business opportunities or by helping with contract enforcement
- Major identification issue: Unobserved pair-specific variables (cultural similarities, historical ties, ...)
 - There is a lot of Swedish immigrants in Denmark, and a lot of Danish investment in Sweden.
 - That might be because
 - Migration causes FDI
 - Denmark and Sweden are right next to each other, speak similar languages
 - ... and have cultural and historical ties. These ties are hard to measure.
- Our study is the first to deal with this identification problem
 - We do as much as we can to measure cultural ties directly
 - Our data also allow us to include country-pair fixed effects

Data on migration and FDI

- Our database of international migration has been collected by Mariola Pytlikova
 - Flows and stocks of foreigners in 34 destination countries from 223 origin countries, yearly data from 1980 to 2010
 - For Korea, Mexico and Turkey: the data come from the OECD International Migration Database.
 - For Estonia, Latvia, Lithuania and Slovenia: the data is collected from Eurostat
 - For the remaining 27 OECD countries: National statistical offices in each country
 - Coverage, migration stocks: 91,311 observations (out of 226,440 possible), coverage is better in later years
- FDI data from the OECD database: 34 parent countries, 203 destination countries, yearly data from 1985 to 2010.

Illustration of matched sample



Measuring cultural similarities directly

- The Levenstein Linguistic Distance
 - A continuous measure: Analyzes 40 “meanings” in every language and the phonetic dissimilarities between the words expressing these meanings.
- Genetic distances, from Spolaore and Wacziarg (2009QJE)
 - Measures differences between populations in the *allele* frequencies in their genes. Based on 42 historic population groups.
 - In practice: How long time has passed since the two populations separated.
 - Spolaore and Wacziarg show that a country’s genetic distance to the United States can predict that country’s level of development.
 - If two populations interact, they might also interbreed, giving us a proxy for historical ties.

Estimation equation

- We estimate a gravity equation of FDI stocks, augmented with migration stocks
 - Javorcik, Özden, Spatareanu and Neagu (2011JDE) worry that FDI might cause migration. To deal with this concern,
 - we lag the migration stock, treating it as predetermined.
 - Use IV
- Our estimation equations:

$$\begin{aligned} \log(\text{FDI}_{ijt}) = & \gamma \log(\text{mig.stock}_{ij,t-1}) + \beta_1 \log(\text{distance}_{ij}) + \beta_2 \text{border}_{ij} + \beta_3 \text{language}_{ij} + \beta_4 \text{genetic}_{ij} \\ & + \beta_5 \text{cur.colony}_{ij} + \beta_6 \text{past.colony}_{ij} + \beta_7 \text{same.country}_{ij} + \beta_8 \text{RTA}_{ijt} + \beta_9 \text{EU}_{ijt} \\ & + \beta_{10} \text{BIT}_{ijt} + \beta_{11} \log(\text{gdp.pc})_{it-1} + \beta_{12} \log(\text{gdp.pc})_{jt-1} + \beta_{13} \log(\text{pop})_{it-1} \\ & + \beta_{14} \log(\text{pop})_{jt-1} + c_i + c_j + c_t + \varepsilon_{ijt} \end{aligned}$$

$$\begin{aligned} \log(\text{FDI}_{ijt}) = & \gamma \log(\text{mig.stock}_{ij,t-1}) + \beta_8 \text{RTA}_{ijt} + \beta_9 \text{EU}_{ijt} + \beta_{10} \text{BIT}_{ijt} + \beta_{11} \log(\text{gdp.pc})_{it-1} \\ & + \beta_{12} \log(\text{gdp.pc})_{jt-1} + \beta_{13} \log(\text{pop})_{it-1} + \beta_{14} \log(\text{pop})_{jt-1} + c_{ij} + c_t + \varepsilon_{ijt} \end{aligned}$$

Table 1. The correlation between outward migration and inward FDI

Dependant variable: $\log(\text{outward FDI stock}_{ijt})$, the stock of FDI that country j owns in country i at time t .

Specification	(1, no FE)	(2, country FE)	(3, country FE)	(4, pair FE)
$\log(\text{inward migration stock}_{ij,t-1})$, lagged	0.301 ^a (0.010)	0.290 ^a (0.012)	0.251^a (0.012)	0.093^b (0.039)
$\log(\text{distance}_{ij})$	-0.406 ^a (0.023)	-0.827 ^a (0.030)	-0.869 ^a (0.033)	
Common border _{ij}	0.277 ^a (0.060)	0.087 (0.061)	0.104 ^c (0.059)	
Common language dummy _{ij}	0.614 ^a (0.053)	0.465 ^a (0.051)		
Linguistic distance index _{ij}			-1.550 ^a (0.076)	
Genetic distance index _{ij}			1.129 ^a (0.186)	
[remaining controls]
Observations	16,734	16,734	15,867	16,514
R ²	0.654	0.773	0.781	0.464 (within)

OLS regressions. Robust standard errors in parentheses.

Lags are one-year. ^a significant at 1%. ^b Significant at 5%. ^c Significant at 10%.

Results vs. previous studies

Table 1. The correlation between outward migration and inward FDI

Dependant variable: $\log(\text{outward FDI stock}_{ji})$, the stock of FDI that country j owns in country i at time t .

Specification	(1, no FE)	(2, country FE)	(3, country FE)	(4, pair FE)
$\log(\text{inward migration stock}_{j,t-1})$, lagged	0.301 ^a (0.010)	0.290 ^a (0.012)	0.251 ^a (0.012)	0.093 ^b (0.039)

Without lagging: 0.114^a
(0.042)

Javorcik, Özden, Spatareanu and Neagu (2011JDE) for the US: 0.39-0.67
Lighthart and Singer (2011wp) for the Netherlands: 0.64

Kugler and Rapoport (2011wp): 0.14-0.20
Leblang (2010AmPolScRev): 0.15-0.17
on cross-sections

Correlation or causality? Instrumenting migration

- Reverse causality is possible: Affiliates operating abroad may be channels for jobs, for example at parent companies
- To check, we need an instrument for migration which is
 - Time variant
 - Not related to FDI
- Candidate: "The share of population in emigrants' origin countries which is between 15 and 29 years old." Peri and Ortega (2011wp)
 - A strong instrument. First stage regression, with pair fixed effects:
coefficient: 0.99 t-stat: 13.24 F-stat 175.22

Table 2: The effect of outward migration on inward FDI,
instrumenting migration with the share of young people in origin.

Dependant variable: $\log(\text{outward FDI stock}_{jit})$, the stock of FDI that country j owns in country i at time t .

Specification	(5, IV pair FE)
$\log(\text{inward migration stock}_{jit-1})$, lagged	1.375 ^a
<i>Instrument</i> : Share of population in origin aged 15 to 29 _{it}	(0.195)
<i>[controls: Bilateral investment treaties, regional trade agreements, EU, gdp per capita, populations]</i>	...
Observations	16,514
R ²	0.196 (within)

IV regressions, country-pair fixed effects. Standard errors in parentheses. ^a significant at 1%.

Conclusion

- migration has a large causal effect on inward FDI
 - Elasticity: 1.38, treated group: countries with large changes in the number of young people
- This study of the link between migration and FDI is...
 - on a much larger scale than previous studies
 - the first to deal convincingly with unobserved pair-specific variables (such as cultural ties), which might drive both FDI and migration.
 - the first to use instruments that are invariant to this problem

IMPACT OF IMMIGRATION on trade

- Effects on net exports (exports-imports), and trade surpluses/deficits
- Immigrants – as consumers and producers - can affect both imports and exports
- Egger, Nelson and von Ehrlich (2012) analyze effect of immigration on imports from their country of origin – they find a positive effect until there are about 4.000 immigrants from a specific country of origin, after that point, there is no effect.
- Link between immigration and exports, e.g. Peri and Requena, (2010) find a positive effect of immigrants in Spain on exports. For US, an increase in the immigrant population in the US leads to an increase in that state's exports to the country of origin (Herander and Saavedra, 2005).
- The effect on net exports depends on which effect prevails. Head and Ries (1998) find that immigration has a larger effect on imports in Canada.
- Effects of ethnic diversity on trade – Parrotta, Pozzoli (Pytlikova) and Sala, wp 2014, *see the last lecture...*

IMPACT OF IMMIGRATION on entrepreneurship

- Looking at the 2003 US National College Survey, Hunt (2011, 2013) finds that skilled immigrants are more likely to start companies than similar native. Analysis of the 2009 and 2010 American Community Surveys suggests that immigrants from the highest income countries are the best and brightest workers (Hunt, 2013),
- Kahn et al. (2013) use survey data on US scientists, finding that immigrants are more likely to become science entrepreneurs even after controlling for preferences, education, study field, demographics and time effects.
- For Denmark, Marino, Parrotta and Pozzoli et al (2012) find that workforce ethnic diversity leads to entrepreneurship in financial and business services.
- A positive link using data from London - Nathan and Lee (2013)

Impact of immigration on destinations' labor markets
- effect on national income

The Economic Impact of East-West Migration on the EU

Martin Kahanec and Mariola Pytliková

Empirica 2017

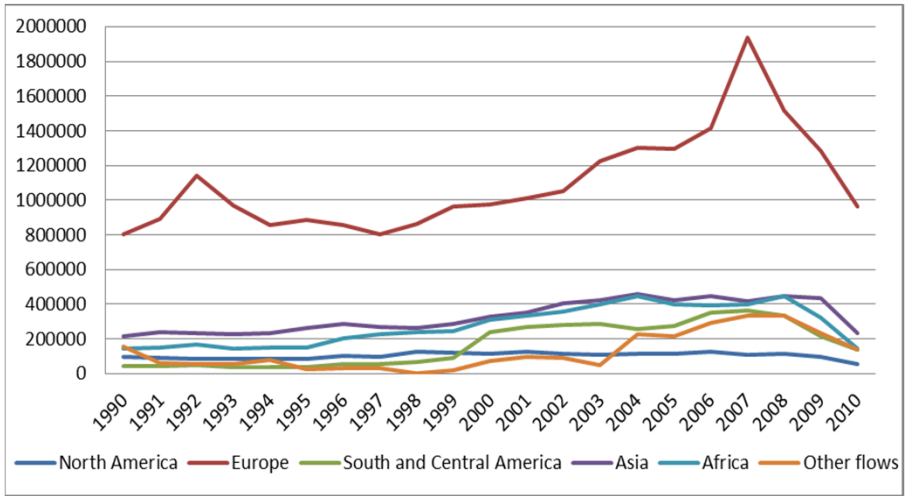
Aims

- costs and benefits of recent migration from the EaP, EU8 and EU2
- Focus on key economic variables in the EU: GDP per capita, total GDP, employment rate, capital stock, total factor productivity, capital to labour ratio, and output per worker
- Use of new international migration dataset compiled for this purpose and advanced econometric methods to evaluate the effects of immigration from the new EU members and from the EaP Countries on the receiving EU economy.

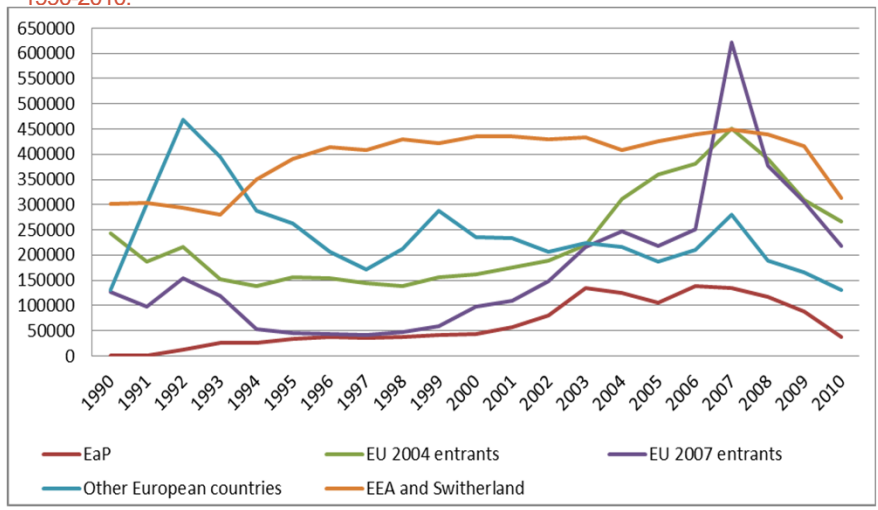
Data & models – Flows and stocks of migrants

- New dataset on immigration flows and foreign population stock into **42 OECD countries from all world countries**.
- Collected by writing to national statistical offices.
- **Period: 1980 to 2010.**
- Unbalanced panel.
- Improvement w.r.t. to other sets:
 - Both flows and stocks
 - Comprehensive in origins and time
- Besides other variables collected from OECD, Eurostat or WDI

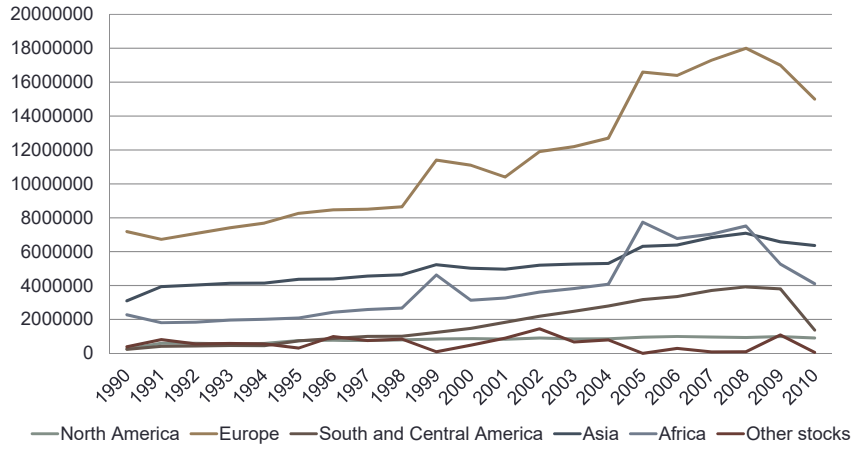
Migration flows to EU27 destination countries by regions of origin, 1990-2010



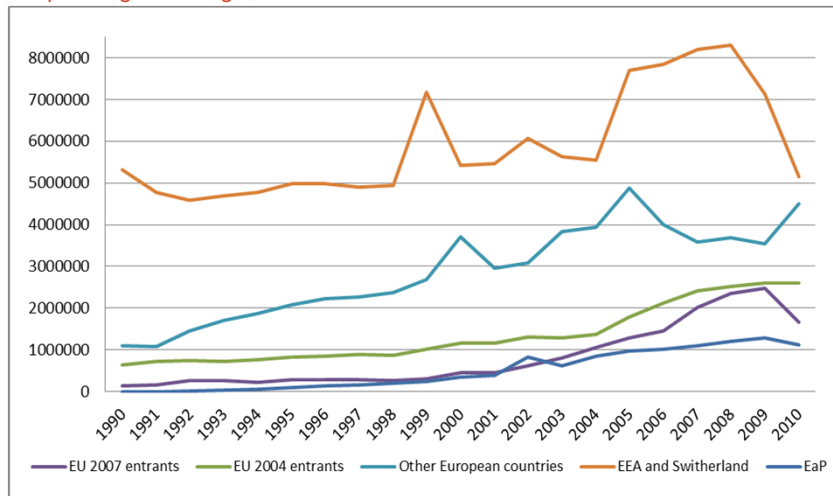
Migration flows to EU27 destination countries from Europe, by European regions of origin, 1990-2010.



Foreign population stocks living in EU27 destination countries by regions of origin, 1990-2010



Foreign population stocks living in the EU27 destination countries from Europe, by European regions of origin, 1990-2010.



Methodology

- we follow an aggregate production function framework, similarly as in Ortega and Peri (2009) and Docquier et al (2010). The starting point of our analyses is the Cobb-Douglas production function:

$$Y_{jt} = A_{jt} \cdot K_{jt}^{\alpha} \cdot L_{jt}^{1-\alpha}$$

Where Y represents the total output, K physical capital input, L labor input and A the total factor productivity. Parameter α represents the capital income share. Subscripts j and t indicate destination country and year, respectively. We use a logarithmic transformation of derivatives over time, and the linear form of equation (1) can be then written as:

$$\ln Y_{jt} = \ln A_{jt} + \alpha \ln K_{jt} + (1-\alpha)L_{jt}$$

- Using equation (1) the average wage in country c , at time t can be calculated as the marginal product of labor:

$$w_{jt} = \frac{dY_{jt}}{dL_{jt}} = A_{jt} \cdot \left(\frac{K_{jt}}{L_{jt}} \right)^{\alpha} \cdot (L_{jt})^{\alpha}$$

Using the same transformation as in the case of equation (2), it follows that the percentage change in average wages depends on total factor productivity, but also on the capital-labor ratio and the labor growth rates:

$$\ln w_{jt} = \ln y_{jt} = \ln A_{jt} + \alpha(\ln k_{jt} - \ln L_{jt}) \quad \text{Where } k \text{ is capital to labor ratio, and } y \text{ GDP per worker}$$

Methodology

- This implies estimating the following set of models:

$$\ln X_{jt} = D_t + \gamma \ln s_{jt} + v_j + \theta_t + \delta_r * \theta_t + \varepsilon_{jt}$$

- where X represents one of the following:
 - employment rate and labour force participation* (to account for the labor input),
 - capital services and capital to labor ratio* (to account for the capital input),
 - total factor productivity* (calculated as a Solow residual),
 - output per worker* (to account for the average wage) and
 - output per capita*.
- we account for country-specific FE and time fixed effects interacted separately with region dummies in our main specifications, in order to capture other factors determining the economic outcomes of our interest that cannot be attributed to the changes in stock of foreigners per population. The robust error term is clustered by country.
- The explanatory variable of our interest is foreign population stock from particular regions of origin relative to the total population in destination country j .

Identification

- To deal with the potential endogeneity problems mentioned above, we apply instrumental variable (IV) technique.
- For our IV we use a model of determinants of bilateral migration in the first step in order to obtain predicted stock of migrants.

$$\ln s_{ijt} = \gamma_0 + \delta_{ij} + \lambda_i * \theta_t + \varepsilon_{ijt}$$

- Such predicted stock of migrants serves as an instrument for the possibly endogenous stock of migrants in the second step regression.

Table 5: Consequences of foreign population on production factors, productivity and factors per worker in the EU15 economies

To EU15	Effects of immigration from 2004 EU entrants		Effects of immigration from 2007 EU entrants		Effects of immigration from EaP group			
	OLS	FE	2SLS	FE	OLS	FE	2SLS	FE
Dependent variable								
Log (GDP per Capita)	-0.001 (0.002)		0.03** (0.01)		-0.0021 (0.001)	0.055* (0.03)	-0.00486*** (0.00135)	-0.0130*** (0.00501)
Log (Total GDP)	-0.00073 (0.00343)		0.0529*** (0.01657)		-0.00108 (0.00181)	0.092** (0.04367)	-0.00589*** (0.00173)	-0.0144** (0.0062)
Log (Labour force participation)	0.0005* (0.0003)		0.0005 (0.002)		0.0005* (0.0003)	0.0009 (0.003)	0.00049* (0.00027)	-0.00134 (0.00154)
Log (Employment rate)	-0.0004 (0.00105)		0.02*** (0.003)		-0.0002 (0.0006)	0.03*** (0.01)	-0.00061 (0.00056)	-0.00993*** (0.00348)
Log (Capital stock)	-0.00006 (0.0002)		-0.0001 (0.0006)		-0.00007 (0.00009)	-0.0003 (0.001)	-0.00002 (0.00009)	-0.00196*** (0.00063)
Log (Total factor productivity)	0.00004 (0.0004)		-0.004 (0.002)		0.00007 (0.0005)	-0.007 (0.006)	-0.00015 (0.00031)	-0.00247* (0.00143)
Log (Capital to labour ratio)	0.001 (0.003)		-0.017 (0.01)		0.001 (0.0016)	-0.018 (0.02)	-0.00389** (0.00153)	0.033*** (0.01038)
Log (Output per worker)	-0.001 (0.002)		-0.03** (0.01)		-0.0022* (0.0012)	-0.06*** (0.02)	-0.00452*** (0.00113)	0.00544 (0.00574)
No of Observations	225		183		225		161	
F-test			7.88				11.39	

Results

- positive and significant effects of post-enlargement migration flows from the new EU member states on GDP, GDP per capita, and employment rate, rate and negative effect on output per worker in the EU15
- negative effects of migration from the Eastern Partnership countries on GDP, GDP per capita, employment rate, and capital stock in the EU15, but a positive significant effect on capital to labour ratio.
- the coefficients to income imply that 10 per cent increase in the number of immigrants coming from the 2004 and 2007 EU member countries per destinations population increases the destinations income per capita by 0.3 and 0.55 per cent, respectively. In contrast, 10 per cent increase in share of immigrants coming from the EaP lowers income per capita in the EU15 countries by 0.13 per cent.

Conclusions

- With due respect to data limitations, we interpret the results of this comparative analysis based on the past immigration to EU15 between 1995 and 2010 as indicating a generally positive effect of migration on receiving countries' economies, which is conditioned by economic integration and free labour mobility (and the prospect thereof).

Effects on Income Inequality

- Immigration can affect distribution of income
- Remember measurements: Gini coefficient, income shares (percentiles, deciles, e.g. P90/10, P90/50,..) relative earnings..
- As discussed during our lecture on income inequality, the inequality has risen since the late 1970 in majority of countries. Immigration may be one of reasons (refresher – other e.g. SBTCH, falling union membership, minimum wage, greater globalization = trade, offshoring, immigration?..)
- Intuition - Inflow of low-skilled immigrants that reduce low-skilled wages would increase income inequality; inflow of high-skilled immigrants that drives down high-skilled wages would reduce income inequality.
- Empirical evidence
 - Kahanec and Zimmermann (2011) find that immigration tend to decrease income inequality in Western European countries. They show that the college-educated population share in OECD countries is positively related to the immigrant population share, and the college-educated population share, in turn, is negatively related to GINI index.
 - Research on US by Card (2009) shows that immigration has had a very little effect on wage inequality in the US cities.

OUR NEXT LECTURE – Tuesday 19.2.2019, 11.30-13.00

- Other effects of immigration– happiness, education, health, crime, human trafficking
- *Emigration and source countries; Brain drain and brain gain; Remittances*
- **Final thoughts and a summary of economics of immigration**