



## Impacts of immigration on destinations.

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## Study Materials and Reading List

- Slides of the lectures
- All materials provided on: <http://home.cerge-ei.cz/pytlikova/LaborSpring18/>

### Compulsory Readings:

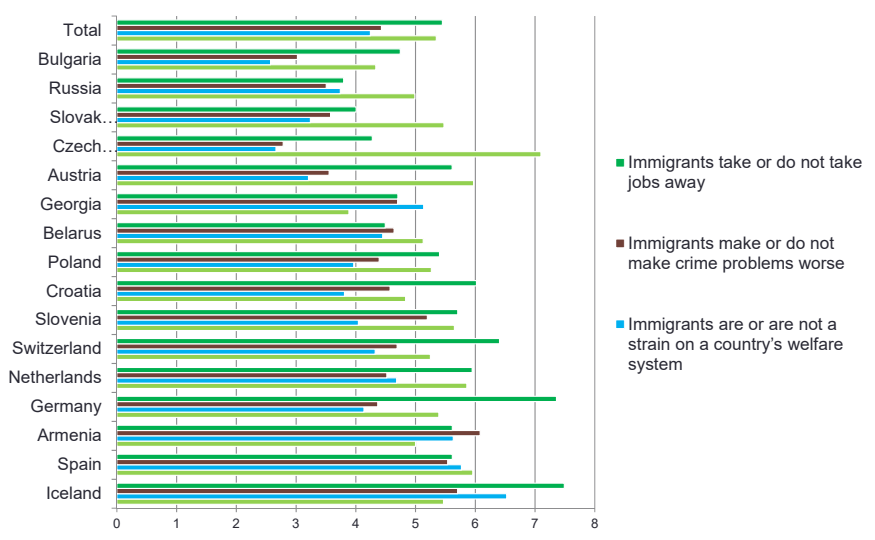
- Borjas 6e, Chapter 8 labor mobility; and Chapter 4 (policy application 4-5).
- CARD, D. (1990): „[The Impact of the Mariel Boatlift on the Miami Labor Market](#)” *Industrial and Labor Relation Review*, Vol. 43, No. 2., pp. 245-257
- Part III on "Labor Market Effects of Immigration" In Bansak, Simpson and Zavodny (2015): "The Economics of Immigration", Chapters 7 and 8.

### Other Relevant Literature:

- BORJAS George J.(2006): Native internal migration and the labor market impact of immigration. *JHR*, 41:2, 221
- Borjas G. J. (2003): The labor demand curve is downward sloping: re-examining the impact of immigration on the labor market, *QJE*, vol. 118, pp. 1135–74
- Borjas, G. and K. Doran (2012): "The Collapse of the Soviet Union and the Productivity of American Mathematicians," *QJE*,
- Card, D. E. (2001). Immigrant inflows, native outflows and the local labor market impacts of higher immigration, *Journal of Labor Economics*, vol. 19, pp. 22–64.
- Card, D. (2005): Is the new immigration really so bad? *EJ*, 115:507, 300-323.
- PERI, G. (2014): [Do immigrant workers depress the wages of native workers?](#)" IZA WoL42.

## Impact of migration on destinations - Employment and wages

## Impact of migration on destinations - Public opinion, EVS 2017



### **IMPACT OF IMMIGRATION - on employment and wages of natives and on general welfare**

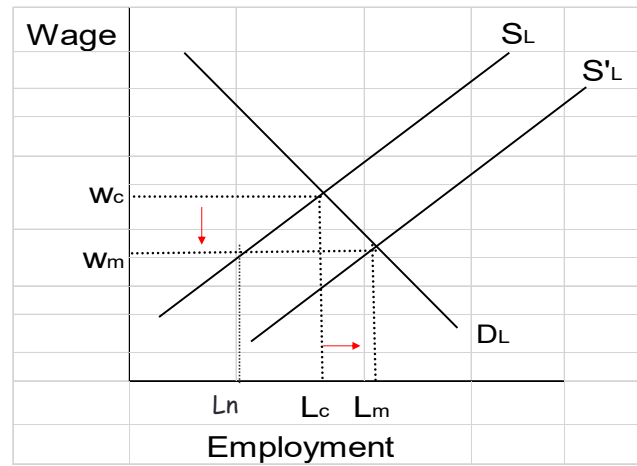
- laws of supply and demand -> a significant increase in the supply of any commodity, including labor, should directly reduce its price => the effect of immigration on the wages of native-born workers should be negative.

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### **What effect do immigrants have on natives?**

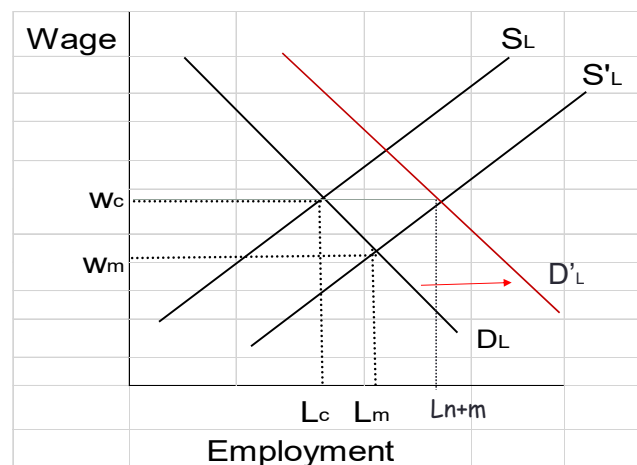
- Effect of immigration on native wages and employment
- Start with homogenous labor: natives and immigrants do not differ in skills or education
- $L = N$  (natives) +  $M$  (migrants)
- Short term effect of demand ( $K$  fixed)
- Entry of  $M$  migrants shifts the supply curve and lowers the market wage
- Higher employment => higher output
- Immigrants increase the national income that accumulates to the native population
- Part of the increase in national income redistributed to immigrants via wages

The Short-Run Effect of Immigration – Homogenous Workers



As immigrants and natives are substitutes, the two groups are competing on the same labor market. Immigration shifts out the labor supply curve. As a result, the wage falls to  $w_m$ , and the total employment increases to  $L_m$ . At the lower wage the number of natives who work declines from  $L_c$  to  $L_n$ .

The Long-Run Effect of Immigration – Homogenous Workers



In the LR, capital expands as firms take advantage of cheap labor, shifting out the labor demand curve and restoring the original wage and level of native employment.

### The Long-Run Effect of Immigration – Homogenous Workers

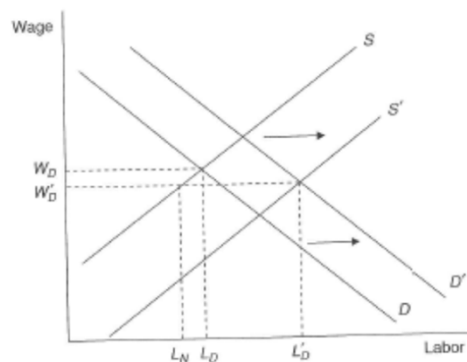


Figure 7.5 Effects of immigration that increases labor demand and labor supply.

Immigration increases both labor supply and labor demand, but the increase in labor demand is assumed to be smaller than the increase in labor supply. The wage falls from  $W_D$  to  $W'_D$ . The number of employed natives falls from  $L_D$  to  $L_N$ .

Source: Bansak et al, textbook, pg. 160

### What effect do immigrants have on natives?

- So far the assumption of homogenous workers - *natives and immigrants acting as SUBSTITUTES*
- Theory implies that gains from immigration will be bigger for natives the greater the differences in productive endowments between immigrants and natives
- Bigger difference between immigrants and natives => less substitutability
- Gainers from immigration: native workers whose labor is complementary in production with immigrants, i.e. DIFFERENCE when IMMIGRANTS AND NATIVES ARE COMPLEMENTS

### Effect of Immigration when Immigrants and Natives are COMPLEMENTS

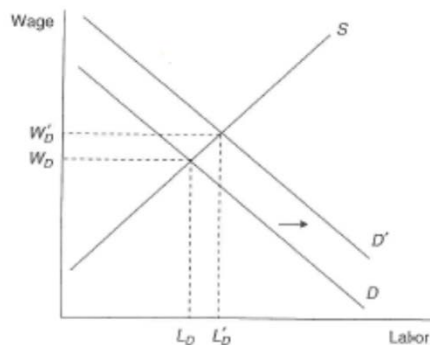


Figure 7.6 Effects of immigration when immigrants and natives are complements.

Immigration increases demand for workers who are complements to immigrants in production. The increase in labor demand causes the wage to rise from  $W_D$  to  $W'_D$  and the number of employed natives to rise from  $L_D$  to  $L'_D$ .

Source: Bansak et al, textbook, pg. 161

### What effect do immigrants have on natives? Unskilled VS skilled workers

#### UNSKILLED VS. SKILLED LABOR:

- More-skilled workers are more productive and earn higher wages than less-skilled
- In equilibrium: wage =MP<sub>L</sub>
- Thus, an increase on the supply of less-skilled workers will reduce less-skilled workers' wage and raise the relative wages of more-skilled workers
- Important implications – given that immigrants often arrive and compete with less-skilled natives & more-skilled natives will benefit if more- and less-skilled workers are complements in production

**What effect do immigrants have on natives? Unskilled VS skilled workers**

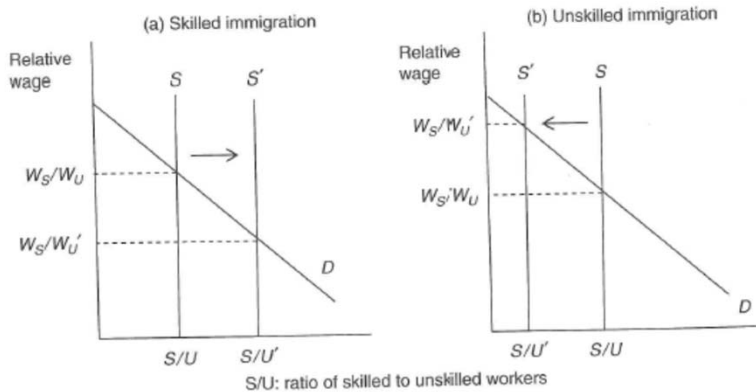


Figure 7.7 Effects of immigration with skilled and unskilled workers. In (a), an increase in the ratio of skilled to unskilled workers due to skilled immigration reduces the relative wage of skilled to unskilled workers. In (b), a decrease in the ratio of skilled to unskilled workers due to unskilled immigration raises the relative wage of skilled to unskilled workers.

Source: Bansak et al, textbook, pg. 162

**What effect do immigrants have on natives? Manual VS communication tasks**

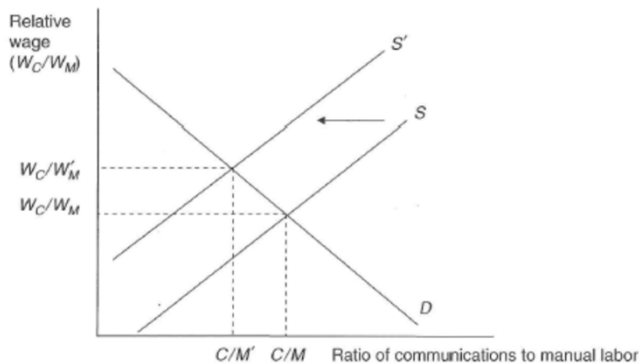


Figure 7.8 Effect of immigration on relative supply and demand for communication versus manual skills.

If natives are concentrated in jobs requiring communication skills and immigrants are concentrated in jobs requiring manual skills, immigration causes the relative supply of communications to manual labor to shift to the left. The wage of communications workers increases relative to the wage of manual laborers.

Source: Bansak et al, textbook, pg. 163 based on Peri and Sparber, AEJ:AE 2009: Task Specialization, Immigration, and Wages

### Effect of immigrants on natives will depend on:

- Size of immigration flows
- Differences between immigrants and natives:
  - Substitutability between natives and immigrants
  - Relative abundance of natives in different skills, education, occupation and or experience groups
- Integration of the host labor market with other markets.
- In the extreme case, perfect integration with other labor or product markets can mean that there are no local effects of local immigration since these effects are entirely mediated through general equilibrium impact of the larger market (law of one “world” price)
- Effects from theory depends on assumptions / to resolve the debate the economists have turned to DATA to estimate how immigration affects natives in the labor market, using theory as their guide.

### LABOR MARKET EFFECTS OF IMMIGRATION - EVIDENCE; Evaluate the Effect of immigrants

- Not a standard program evaluation problem
- Correlation btw immigration and wages of natives will not tell you much about the causality
- PROBLEMS WITH ENDOGENETITY AS Location decisions depend also on labor market opportunities
- Immigrants may move to cities where growth in demand for labor - jobs are plentiful and wages are rising. It may then appear that immigration does not have a negative effect on natives' wages and employment since natives have good economic opportunities in those places as well – BUT natives' wages and employment might have been even higher in the absence of immigration.
- Even if new immigrants cluster in a few cities (U.S.), inter-city migration of natives (out-migration) may offset negative effects of immigration
- Problem to correctly categorize which immigrants and natives are substitutes, and which complements.
- Lastly, firms may adjust in response to immigration in terms of their location choice, product mix, use of capital and scale of operations..
- Different empirical approaches to tackle these problems
- Card VS Borjas debate



### IMPACT OF IMMIGRATION – empirics: Spatial correlation approach

- Examines the correlation/relationship between the number of immigrants in an area and the labor market outcomes of natives in that area (cross-area approach)
- The majority studies in economics until now utilize this approach; e.g. whether areas with more immigrants have lower wages than areas with fewer immigrants as measured by “immigrant share”.
- Evidence mixed, but most studies find evidence of only a small negative relationship between immigrant share and natives’ wages or no relationship at all (Friedberg and Hunt, 1995; Smith and Edmonston, 1997).
- Earlier studies rely on cross-section. Later use of multiple years and study relationships between the change in immigrant share and the change in wages within areas, e.g. Altonji and Card (1991) examine the effect of immigration on less-skilled natives using data for 120 US metropolitan areas in 1970 and 1980 (no negative changes). Studies for European countries, eg.. Bruecker et al, 2002.

### IMPACT OF IMMIGRATION – empirics: Spatial correlation approach

- Strength: Straightforward
- Weakness:
  - assumptions that shares are exogenous, or that immigration is a supply “shock”, i.e. That immigrant’s location choices not endogenous/immigrants do not choose their location based on changes in wages and employment. A STRONG ASSUMPTION!
- Here Economists try to find IV, e.g.:
  - Historical immigration patterns to predict contemporaneous patterns AKA “shift-share approach” (Card, 2001) - exploit the tendency of immigrants to locate based on network of migrants/in the ethnic enclaves..
  - Politics/conflicts; weather (e.g.rainfalls in Indonesia), access to paved roads and highways in Mexico (Bansak and Cezum, 2009; Kleemans and Magruder, 2011; Basu and Pearlman, 2013).
- Weakness: assumptions that natives do not respond to immigration by moving out of area, HERE DISAGREEMENT: Borjas (2006) Finds for the US that the respions by natives can offset wage effects by 40-60%, whereas Card and DiNardo (2000) do not find an evidence of a large response (similar findings for some European countries: Hunt 1992; Pischke and Velling, 1997)

### IMPACT OF IMMIGRATION – empirics: Natural experiments

- A variant of spatial correlation approach – examine differences in immigrant shares and wages between an area that experienced an immigration shock -an exogenous inflow of immigrants - and an area that did not,
- Optimal:
  - a random assignment of immigrants,
  - close the borders for control areas
  - Wait and see what happens => **not so feasible!**
- Natural experiments typically caused by law, policy or an unusual event

### Card 1990 Natural experiment: The Mariel Boatlift



Economic downturn in Cuba resulted in tensions and demonstration - then Cuban government announced (April, 20th 1980) that everyone who wants to leave can to do -125,000 Cubans fled to Florida in about 1,700 packed boats in 1980

Plus Castro's cleaning of the island, including all his prisons, mental institutions, and what Castro considered "undesirables" (i.e. dissidents, homosexuals, etc).



## **IMPACT OF MIGRATION - on employment and wages of natives**

### **Natural experiment- Card (ILRR1990)**

- Very influential paper
- Natural experiment: impact of arrival of 125,000 Cubans to Miami btw May and September 1980 on the labor market (Mariel boatlift-*Marielitos*)
- Size of Miami labor force increased by 7%
- Idea of the paper: compare wages and unemployment rates of ethnic groups btw Miami and 4 other cities with high % immigration (Atlanta, Houston, LA and Tampa)
- Whether the Mariel immigration reduced the earnings of less-skilled natives in Miami
- Based on education and occupation, Cubans are more likely to compete with Hispanics and Blacks than whites
- Finds no negative effect on American workers
- Real wage of Miami Cubans falls by 9 log points btw 1979 and 1985. But 6 log points due to composition of workforce, only a 3 log points effect due to Mariel = small effect

### **Card (1990) - Interpretations**

- Striking and unexpected results- wrt effect of Cubans on labor market competition (Miami black residents rioted in 1980 for that reason)
- Why no effect of immigration in the Mariel experiment?
- One possibility is the reduction in native inflows to Miami: natives and older immigrants were deterred from migrating to Miami (national impact but undetectable)
- Another explanation: Miami was set up to absorb Cuban immigrants (growth of industries that utilize low skilled, social networks, high demand for their skills)
- Complements VS substitutes

### Critique of Card (1990)

- The Mariel experiment is not the ideal test- difficult to understand the yearly variations, what about shocks in the comparison cities we do not know about?
- It may not be realistic to treat Miami as an autarkic labor market (i.e. that Mariel only affected Miami and not the other cities)
- Lead to criticisms about how to evaluate the effects of immigration
- Since then, other studies have taken a broader approach (general equilibrium approach – we can not look at the effects of immigration in isolation)

### Critique of Card (1990)

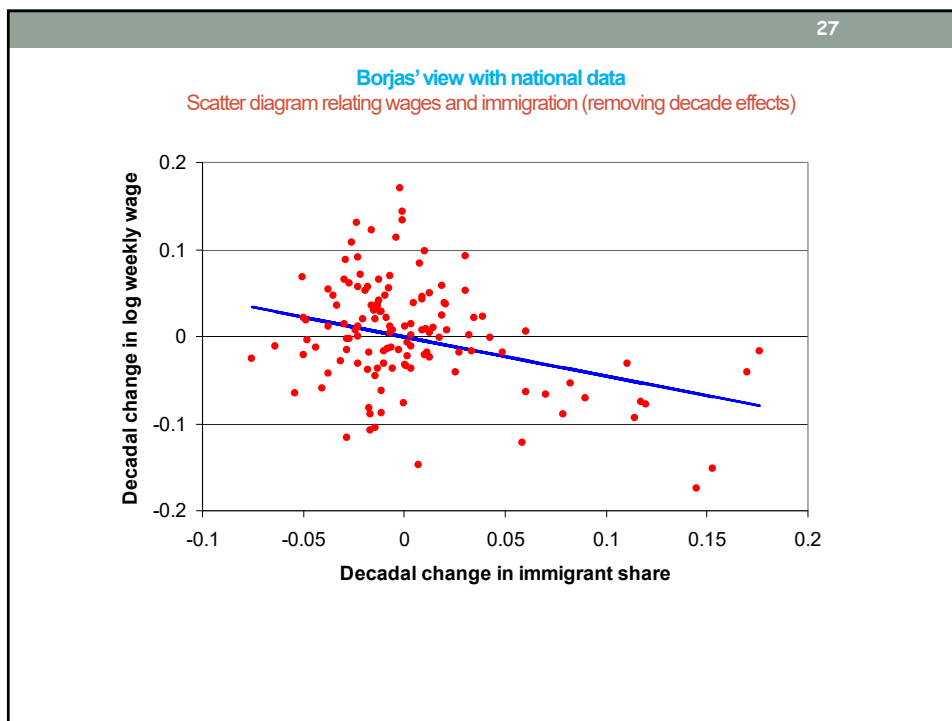
- Immigrants may not be randomly distributed across labor markets. If immigrants cluster in cities with thriving economies, there would be a spurious positive correlation between immigration and local employment conditions (Borjas, 2001).
- Local labor markets are not closed. Natives may respond to the immigrant supply shock by moving their labor or moving firms to other cities, thereby re-equilibrating the national economy. Card argues those internal natives&firm flows are negligible.
  - There is an unresolved debate over whether these equilibrating flows exist.
- Measurement error
- Control cities not fully comparable?..
- Pre-trends and fluctuation in outcome measures, a lack of placebo (see later work by Angrist and Krueger, 1999: “The Mariel boatlift that did not happen”)

### IMPACT OF IMMIGRATION – empirics: Skill cell approach

- **An alternative approach (Borjas, QJE, 2003 The labor Demand Curve is Downward Sloping)**
- Borjas' focus on the national economy as a whole, studying changes in wages and employment over time
- Borjas pays more attention to the definition of a skill group and argues that occupation may not be the right measure to look at.
- Both schooling *and* work experience determine a person's stock of acquired skills.
  - Immigration is not balanced evenly across all experience cells in a particular schooling group. The immigrant influx will tend to affect some native workers more than others. And the nature of the supply "imbalance" changes over time.
- Impact of immigration on natives earnings in cells defined by decade (1960-2000), education (4 groups) and 5-years experience groups for the U.S.
- These criteria create a total of  $4 \times 4 \times 8 = 128$  cells
- Over 1980-2000, immigrants became an increasingly share of U.S. labor supply

### Skill cell approach (Borjas, QJE, 2003)

- Focus on effects of immigration on high school dropouts (low educ.)
- Borjas argues that local labor market may not be the right unit of observation -Look at national labor market instead
- Results reconfirms that the labor demand curve is indeed downward sloping: there is a negative association of immigration in an education-experience cell with real wage growth in that cell =>An influx of immigrants into a particular skill group lowers the wage of that skill group,
- The wage effects of immigration found by Borjas (2003) are substantial: 10% increase in labor supply due to immigration during 80s and 90s may have reduced weekly wages of natives by an average of 3,2%, while the effect is almost 0% for high school dropouts).
- Additional results in the paper show that a 10% increase in immigrant labor supply may have reduced natives' weeks worked by about 2,4%.



### Occupation cell approach (Friedberg, QJE, 2001)

#### The Impact of Mass Migration from Soviet Union after the Fall of Iron Curtain in 1989 on the Israeli Labor Market

##### Identification strategy:

- define labor markets by occupation
- Use occupation in former Soviet Union as IV for occupation in Israel

##### Key Identifying assumptions:

- Occupational composition of Soviet immigrants is independent of time-variant shocks affecting wages/employment at occupational level in Israel = so people chose to migrate because of conditions in former Soviet Union and Israel was their only immediate option

##### Findings

- no adverse impact of immigration on native outcomes
- The results suggests that immigrant and natives are complements even within the occupation - further work trying to explain why: Chad Sparber and Giovanni Peri, AEJ:AE 2009 (immigrants replace tasks / manual vs communication skills)

### IMPACT OF MIGRATION - on employment and wages of natives

- summary:
- Migrant workers often complement rather than substitute domestic ones. Immigrants then do not decrease but increase the wages of complementary domestic workers. It appears that migrants are substitutes for low-skilled natives or other immigrants in certain low-skilled sectors (Roy 1997).
- It has been empirically documented that, on aggregate, migrants do not take natives' jobs nor decrease their wages (Card 1990; Roy 1997; Kahanec and Zimmermann 2010; Peri 2014; Constant 2014; also see the meta-analysis by Longhi, Nijkamp, and Poot 2005).
- some studies have found moderate negative effects of immigration (Borjas 2003).

### IMPACT OF IMMIGRATION – empirics: Structural approach

- **The spatial correlation, natural experiments and skill cells approaches are called “reduced form” => economists decide on a linear relationship to estimate and then turn to the data.**
- Recently renewed interest in using structural methods to estimate the labor market impact of immigration – estimations of a series of equations that build on key theoretical relationships. The set of equations specifies the structure of the labor market, or how different groups of workers interact with each other in the production process.
  - even under this approach, studies contradict, e.g.:
  - Negative effect: Borjas, Grogger and Hanson (2012)
  - No effects: Ottaviano and Peri (2012)
- Strength: this approach strongly rooted in economic theory – this is however also their biggest limitation..

## IMPACT OF IMMIGRATION - on employment and wages of natives and on general welfare – evidence from Denmark

- Gerdes, Schultz-Nielsen and Wadensjö (2011) find:
  - A net transfers from Western first- and second-generation immigrants to state funds are **positive**, while those from non-Western first- and second-generation immigrants are **negative**.
  - The net transfers from non-Western first- and second-generation immigrants **fell** from DKK -12.8 billion in 2004 to DKK -9.1 billion in 2008, largely due to the improved employment situation in Denmark.
  - The **composition** chosen of the group of non-Western immigrants has a significant effect on the calculation of net transfers, in that these **transfers are reduced** to DKK -2.2 billion if **refugees are excluded** from this group. The negative outcome of -2.2 billion is mostly due to demographic composition of the second generation of immigrants (children at schools/daycare = expensive).
- Rose-Skaksen (2011):
  - **high-skilled specialists contribute positively** to the state budget.
  - **On average 1 high-skilled immigrant with his/her family brings over 8 years of living in Denmark about 1,9 mil DKK.**

## OUR NEXT LECTURE – Tuesday 12.2.2019

- *Wider effects of immigration, International migration and globalization. Immigration policy.*

### THE NEXT LECTURES on economics of migration

- *Diversity - Impacts of workforce diversity on firms and economies*
- *Emigration and source countries; Brain drain and brain gain; Remittances*