



Migration and Labor Market Introduction into the Seminar

Bamberg, April, 29, 2019

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- **Main trends in global, European and German migration**
- **A primer on theories of the labour market impact of immigration**
- **A sketch of the empirical literature on the labour market effects of immigration**
- **Outline of seminar program and workplan**
- **Time schedule**
- **Preparation for our next meeting**



Main trends in global, European and German migration



- Increasing incentives for migration (Freeman, 2006)
 - High and persistent income differences
 - Falling costs for transport and communication
 - Time inconsistency of demographic change
 - Increasing political, ethnic and religious conflicts
- Increasing migration from countries with
 - high income
 - middle and lower per capita income
- Financial crisis and Great Recession reduced migration
- Violent conflicts and failing states triggered refugee migration surge: 65 million refugees globally, one-third in other countries
- At present, the share of migrants numbers
 - 4 per cent of world population
 - 10 per cent of developed country population (World Bank, 2015)



- Fall of Iron Curtain
 - Removal of migration barriers in a region with 400 million persons and a PPP-GDP per capita of 20 per cent of EU-15
 - Collapse of many countries (former USSR, Yugoslavia) and emergence of new nations
 - Several severe national conflicts, e.g. civil wars in former Yugoslavia and Ukraine
- EU's Eastern enlargement
 - Integration of 13 countries with a population of 108 million people and a PPP-GDP of 40 per cent of that of the EU-15 into the Common Market
- Financial crisis and Great Recession reduced migration and involved migration diversion
- Substantial influx of asylum seekers from 2013-2016

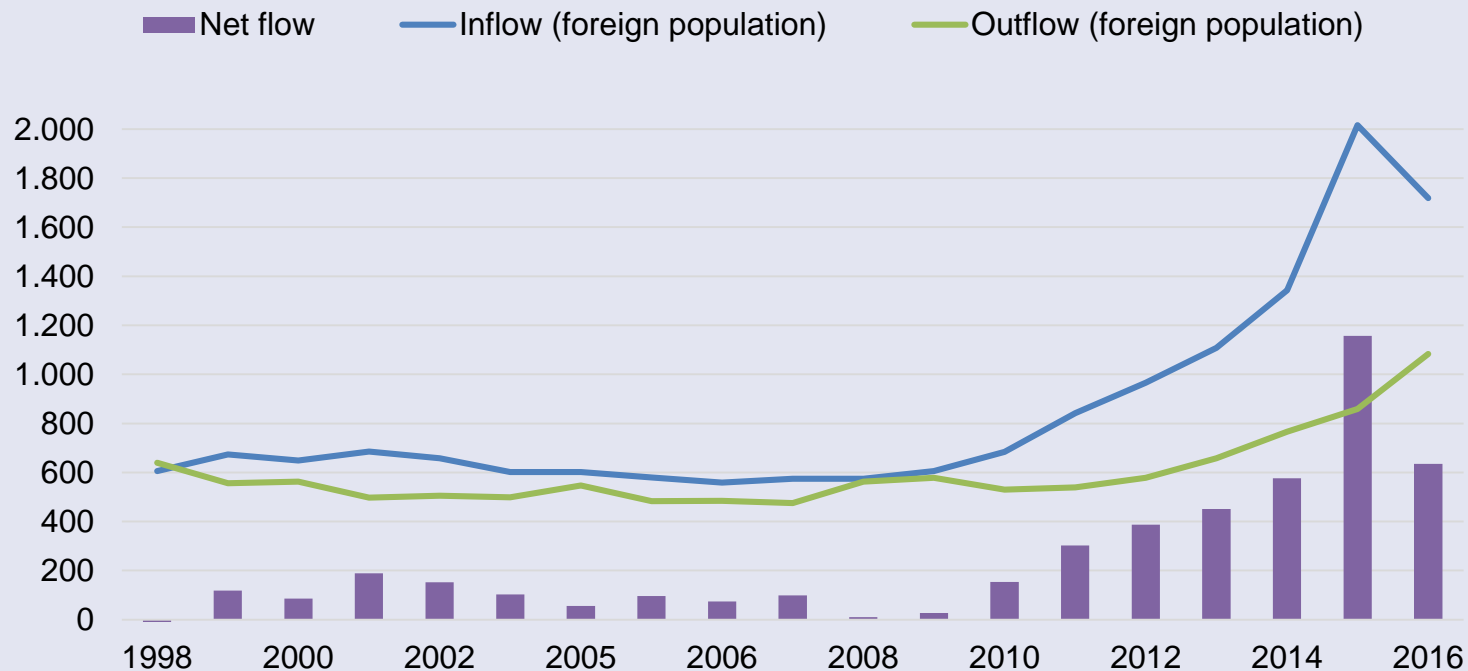
Germany as a more and more important destination



- Germany is after the US the most important destination of migrants in the world, and after the US and Russia the third one in the world
 - 8 per cent of the population are foreign citizens
 - 12 per cent are foreign born
 - 19 per cent have a “migration background” (Census 2011)
- The up and downs of migration net flows
 - 5 per 1,000 after the fall of the Berlin wall in the early 1990s
 - 1 per 1,000 during the economic stagnation in 2000 to 2009
 - More than 5 per 1,000 in 2013 and 2014, 15 per 1,000 in 2015 (438,000 in 2013 and 555,000 in 2014; 1.2 millions in 2015)
- Two factors have increased inflows: financial crisis and subsequent migration diversion and refugee migration surge

Migration flows to and out of Germany

In 1000 persons



Source: Migration flow statistics, Destatis. ©IAB.

A brief history of German immigration policies I



- Absorption of 20 per cent of displaced Germans (“Vertriebene”) and emigrants from the GDR in Western Germany after WW II (~ 12 million people) in the late 1940s
- Start of the “guest worker” recruitment program in the mid 1950s and increasing migration from Southern and South-Eastern Europe in the 1960s and early 1970s
- Stop of labour recruitment after the first oil price shock 1973
- Family reunification, humanitarian migration (asylum seekers) and immigration of ethnic Germany became main entry channels for third-country nationals since then
- Free movement of workers became effective in 1968
- 7 year transitional periods in case of the EU’s Southern enlargement (Greece, Portugal, Spain), free movement granted end of 1980s / begin of 1990s

A brief history of German immigration policies II



- 7 year transitional periods (“2+3+2”-formula) were fully utilized in case of first and second round of the EU’s Eastern Enlargement in 2004 and 2007
 - free movement for EU-8 in 2011, for BU & RO in 2014
- New immigration law became effective in 2005 with several amendments in 2009 and 2013
 - Entry channels for highly qualified, today “EU Blue Card”
 - Entry channels for qualified workers after labour market test
 - Other regulations e.g. for students, self-employed etc.
 - These measure are however not effective: EU Bluecard is only used by 1% of third-country arrivals, employment-related visas by 10%

A brief history of German immigration policies III



- Asylum compromise in 1992
 - Exclusion of applicants from save third countries
 - Asylum seekers have to apply in first save third country (usually EU countries)
 - Dublin Convention regulates the replacement of asylum seekers and refugees
- EU qualification directive (2011/95/EU) was implemented in September 2013
 - Guidelines for acknowledgement as refugees
 - Employment allowed after 3 month
- Stepwise tighter restrictions in the course of 2015
 - Benefits and family reunification restricted
- More save third-countries, EU-Turkey agreement, de facto declaration of Turkey as save third-country

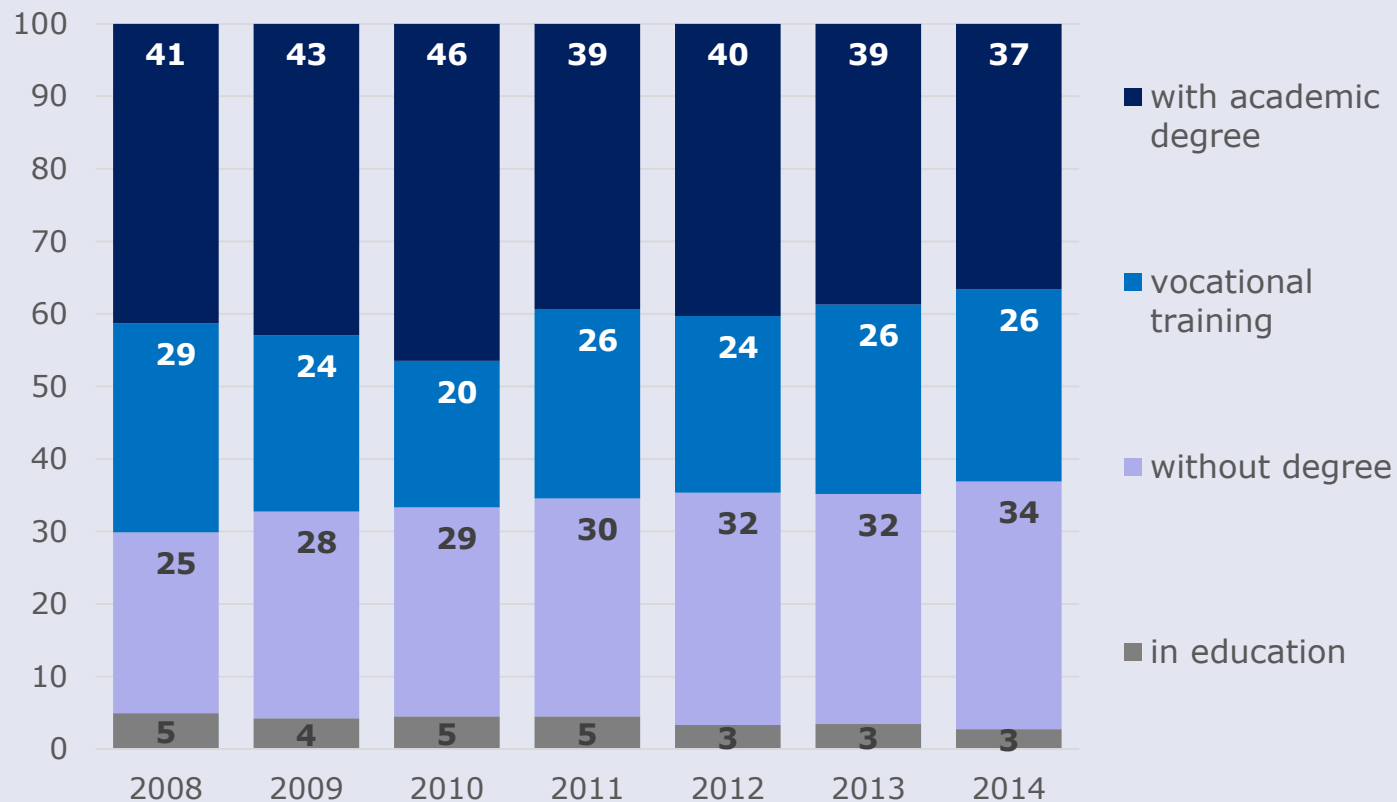
- “Guest worker” recruitment targeted less-skilled manual workers which have been largely employed in industries severely affected by structural change in subsequent years
- Between 1973 and the mid 2000s German immigration policies pursued the objective of labour market protection
- This resulted into a further skill-downgrading of immigrants by family reunification and asylum seekers
- The increasing migration from Eastern Europe and the EU since the mid 2000s increased the skill level of recently arrived immigrants substantially
- The newly created channels for high-skilled and skilled workers from third countries are however not utilized
 - 1% of third-country immigrants receive a EU Bluecard
 - 9% a work-related residence permit

Consequences of German immigration policies II



- The skill-level of the foreign born immigrant population stock is well below the OECD average
- The skill level of new arrivals has started to increase in 2000 and achieved its peak with a 46% share of individuals with a university degree in 2010
- The labour market integration of immigrants is relatively poor
 - The unemployment rate is twice as high as that of natives
 - The mean-tested benefits (“Hartz-IV”) take-up rate exceeds that of natives by a factor of 2.5
- Step-by-step improvement of skill-level and labour market performance of immigrant population
 - Foreign employment increased by 1.6 million persons since 2010
 - Foreign employment rate increased by 6.5 percentage points, the native employment rate by 4.5 percentage points since 2010

Skill structure of new arrivals in Germany, 2008 - 2014



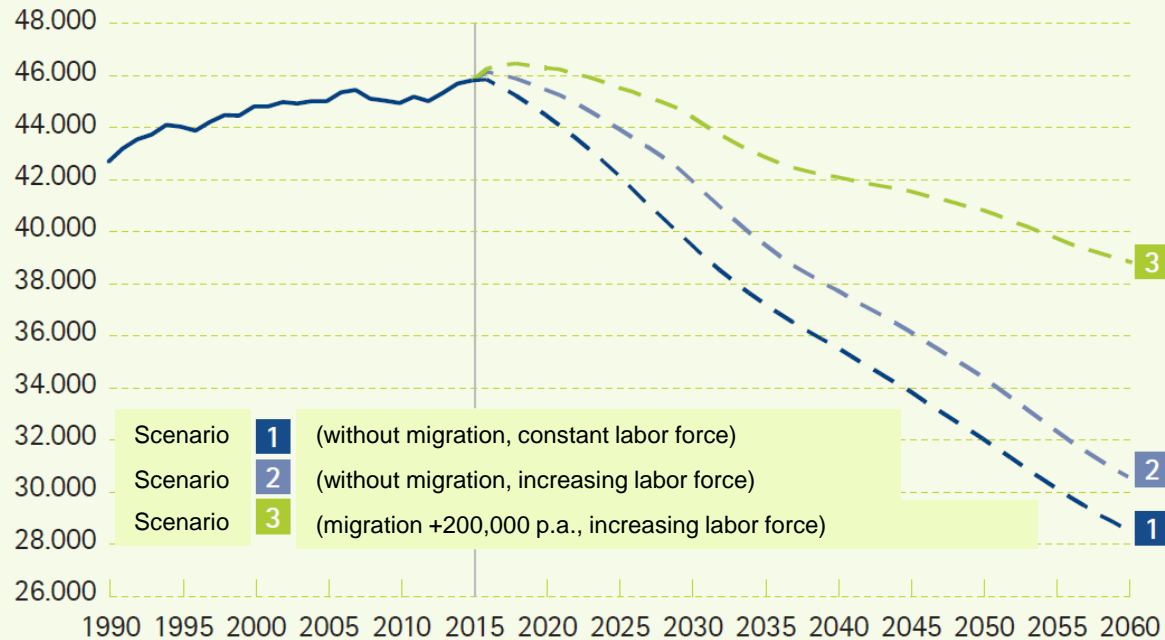


- Germany is within the OECD one of the countries most affected by demographic change
 - Fertility rate varies between 1.3 and 1.4 since decades
 - Life expectancy increases linearly since industrialisation
- The mobilisation of “internal” potentials cannot compensate the demographic decline of the working-age population
- The main unknown in all scenarios is migration
- With a zero net migration rate the employment potential will decrease by one-third until 2050
- At a net migration rate of 200,000 p.a. it will decrease by about 20 per cent
- At a net migration rate of 500,000 p.a. it will remain constant, but the age-dependency rate will nevertheless increase

Potential labour force in Germany, 1990 - 2060

Labor force potential until 2060

Scenarios under different assumptions, average annual values, in 1000 persons (base year 2015)



Source: Fuchs and Weber, 2016. In scenario 3, refugee migration is estimated for the years 2016 and 2017.



- The economic and social structure of the German population will depend heavily on migration on the future
- In particular, the future of the welfare state depend on the scale of migration, its skill structure and their labour market integration
- But what will a large influx of immigrants do to our labour markets?



Humanitarian migration: an overview

Humanitarian migration: the global picture



- UHNCR counts 65.3 million refugees in 2015, another 4-5 millions expected in 2016-17
- One-third reside in non-origin countries
- 85 per cent of refugees reside in neighbouring countries (Turkey, Jordan, Lebanon, Iran, Ethiopia, etc.)
- Conditions in neighbouring countries have substantially deteriorated in 2015 (less 2 US-\$ per day)
- 1.4 first-time asylum applications in the EU in 2015, another 1.4-1.5 millions in 2016, humanitarian migration to other OECD countries (e.g. US, AUS, CA, NZ, JAP) is negligible
- Econometric evidence suggests that humanitarian migration is highly correlated with violent conflicts and persecution (Hatton, 2005; 2015; 2016)



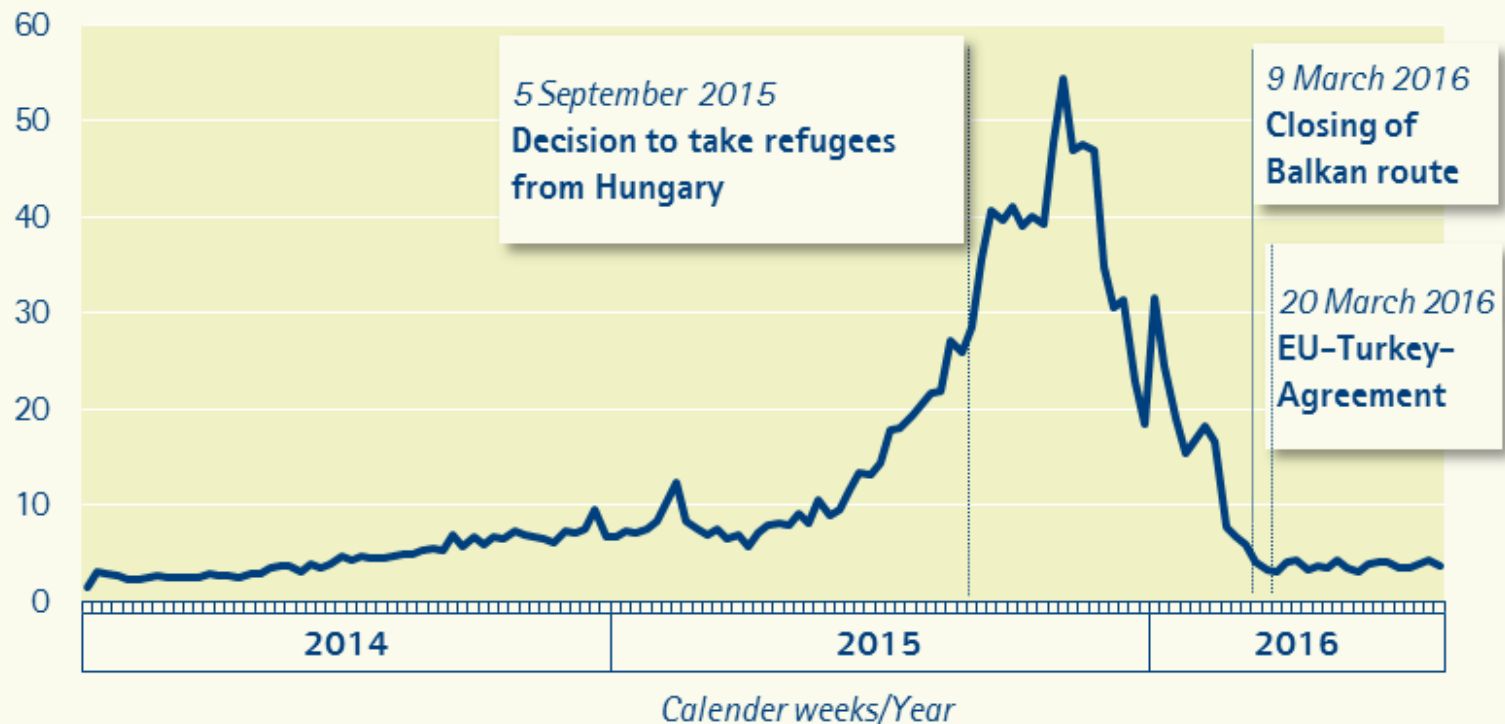
- Institutions: EU and its Member States have signed Geneva convention and all protocols
 - Implemented into European law by “qualification directive”
- Dublin agreements state that asylum cases have to be settled in country of first entry
- Schengen agreement outline conditions for joint border controls, e.g. by Frontex
- Missing element: no entry rules for humanitarian migrants
- Dublin agreements created adverse incentives for enforcement of humanitarian principles in border countries and failed de facto
- European border largely closed for humanitarian immigration by Turkey agreement and closure of Balkan route in 2016
- Economic theory tells that policy coordination and cost sharing is needed to avoid “race to the bottom”



- The German constitution guarantees asylum as one of the fundamental individual rights (“*Grundrecht*”)
- After the refugee immigration surge in the early 1990s, Germany changed the constitution and included the save-third-country rule
- In conjunction with Dublin-agreements this curbed asylum applications to negligible numbers until 2013-2014
- Before 2015, Germany received a disproportionately low number of asylum seekers compared to other EU Member States
- This changed dramatically in the course of 2015, as (i) the countries at the outer EU borders stopped registration and created incentives to further movements, (ii) other EU Member States started to close their borders for refugees
- Consequently, 890,000 refugees arrived in 2015 and another 280,000 in 2016 (BMI)

Weekly refugee arrivals in Germany, 2013 – 2016

Registered refugees per calendar week, in 1000



Source: BAMF, own calculation.

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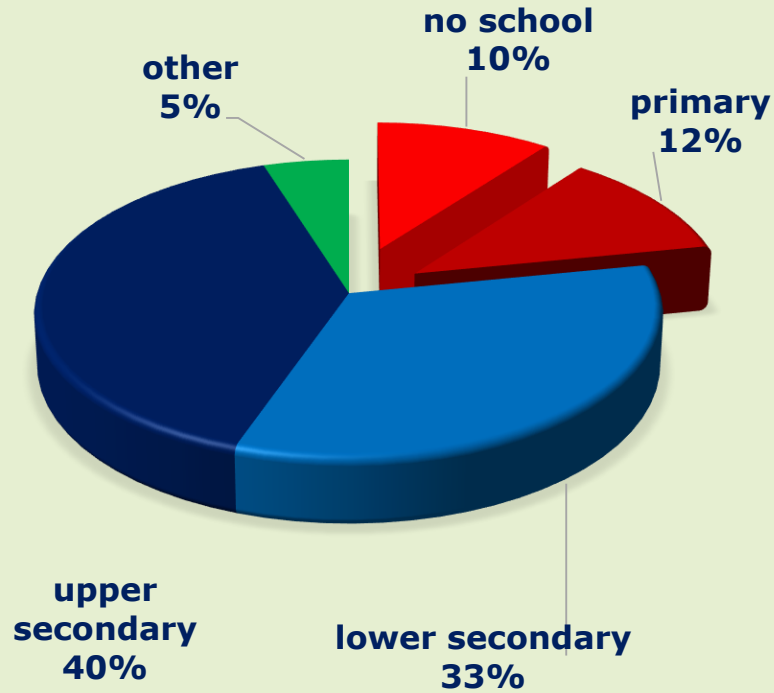
Skill levels of refugees in Germany, 2015



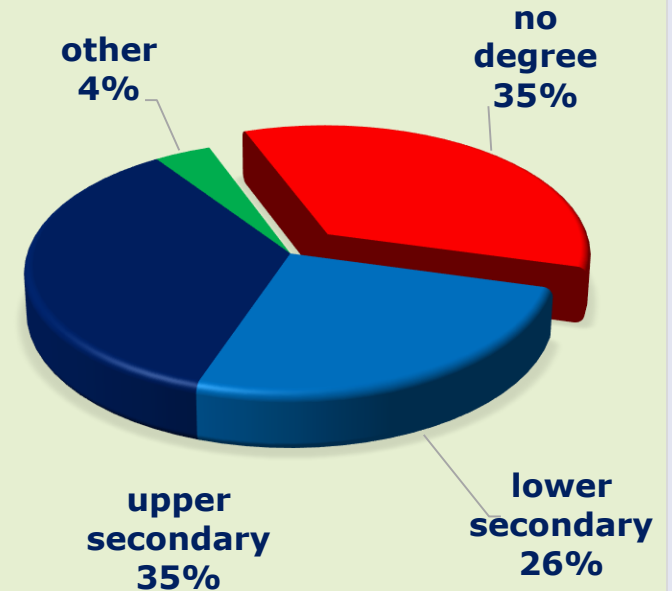
- Migrants and refugees do not represent origin-country-population, but are highly self-selected
- The IAB-BAMF-SOEP-Refugee survey provides representative data
- Polarisation of schooling
 - 40 % have visited and 35 % completed upper secondary schools
 - But 12 % have visited only primary schools and 10 % no schools
- Low level of vocational training
 - 14 % have attended and 9 % completed vocational training
 - 18 % have visited and 13 % completed university and college education

Refugee education: school attendance and -degrees

school attendance

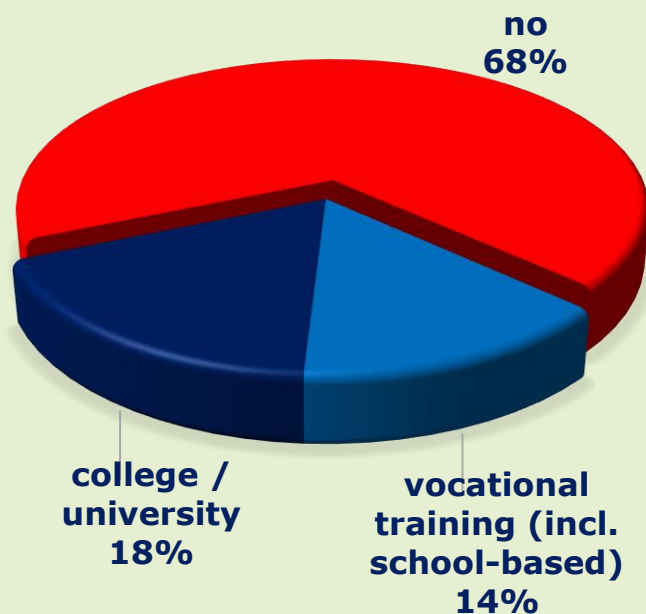


schooling degrees



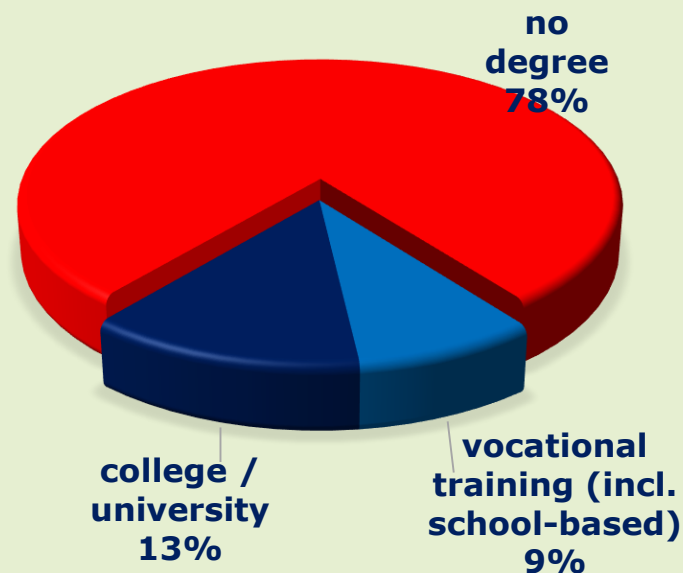
Vocational training and university education of refugees

attended*



* Incl. present attendance.

completed with degree

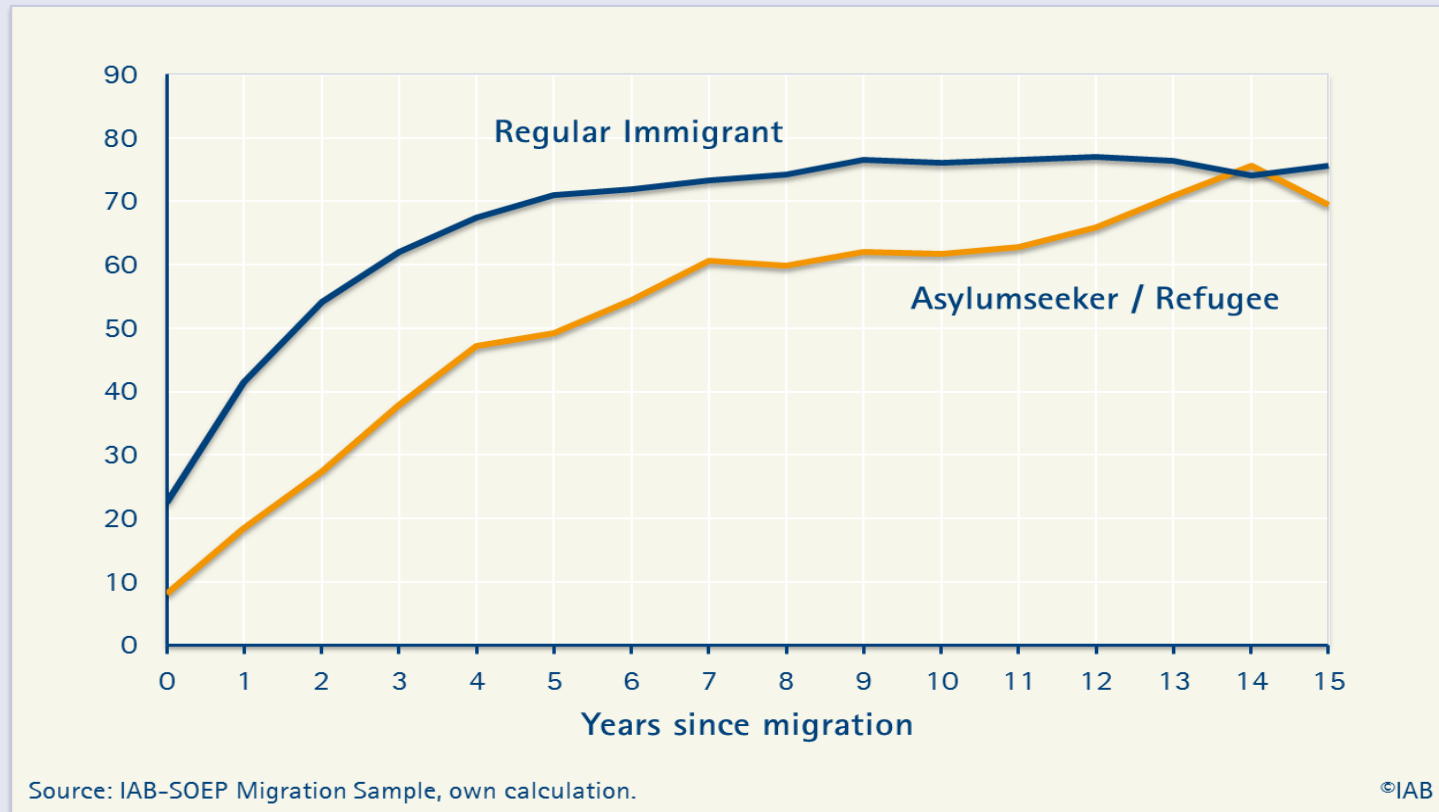


Labour supply and labour market integration of refugees

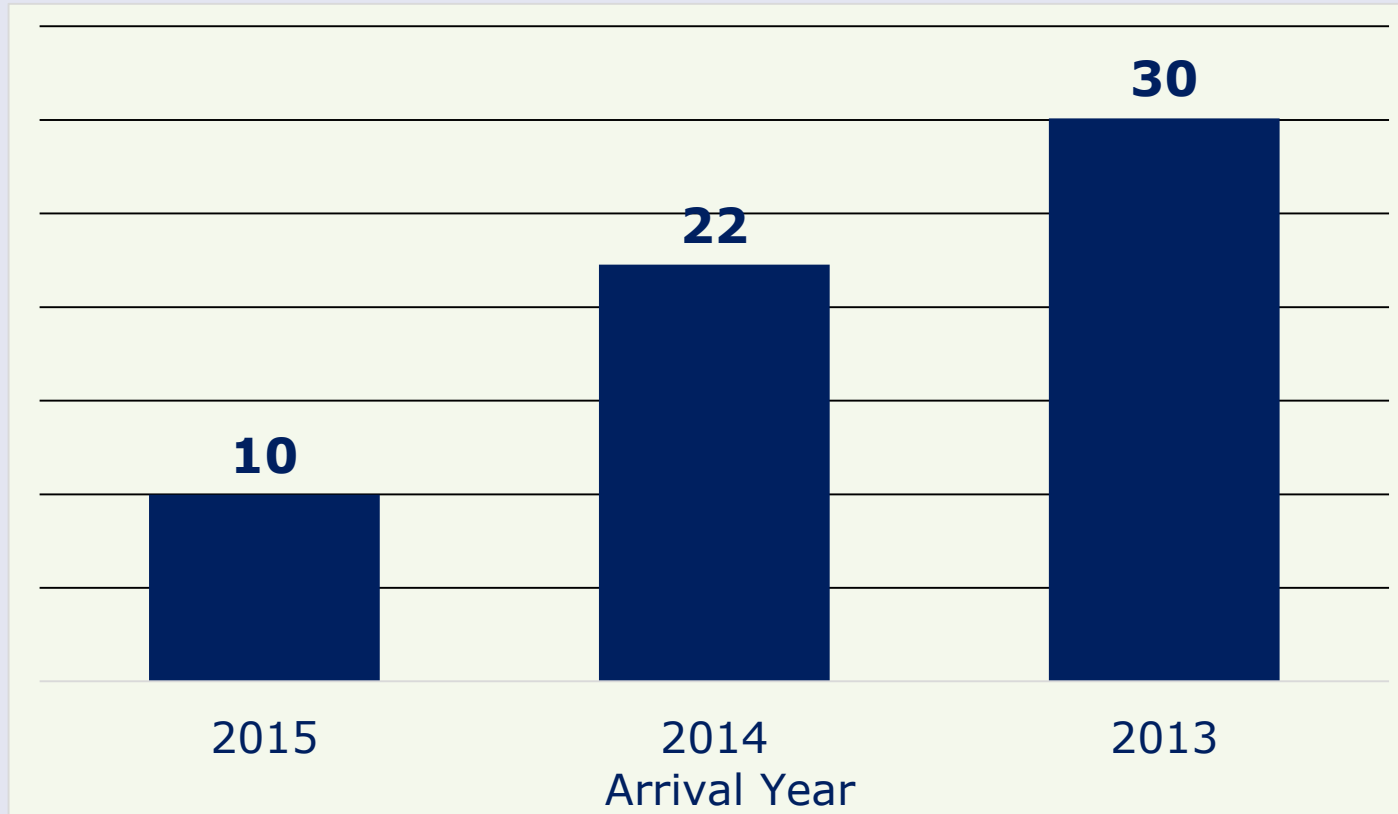


- Refugees are less skilled than other immigrant groups on average
- They integrate later into the labour market than other immigrants
- This can be traced back to institutional hurdles (e.g. the asylum process) and their human capital characteristics inc. language skills
- In the long-term, their employment rate converges to that of other immigrants and natives
- In the past, after 5 years the employment rate of refugees stood at 50% in Germany. A similar trend evolves with the present wave of refugee immigration
- The 2015 and 2016 refugee influx will increase the German labour supply by ~ 460,000 persons (1% of labour force)

Past evidence: evolution of employment rates



Evolution of employment rates of 2013 – 2015 arrivals





A primer on economic theories of the labour market impact of migration

Should we open the labour market for immigration?



- **German immigration policies** followed for decades the main objective for **protecting the labour market** against the inflow of immigrants, but is now modestly shifting in the direction of an opening
- But what was the rationale for protecting the labour market against an additional labour supply through immigration?



- *“The state has the duty to protect his male and female citizen, he has the duty to prevent that family fathers and female workers get unemployed since alien workers (“Fremdarbeiter”) take jobs away from them through lower wages.”*

Oskar Lafontaine, Chemnitz July 4, 2004

You may find similar quotes by leading politicians in all parties



- *“(...) after World War I, laws were passed severely limiting immigration. Only a trickle of immigrants has been admitted since then. (...) By keeping labor supply down, immigration policies tends to keep wages high.”*

Paul A. Samuelson, Economics, 6th edition, New York, McGraw-Hill 1964.



- An additional **labor supply** through **immigration reduces wages of natives.**
- An additional **labor supply** through **immigration increases unemployment.**

Are these concerns theoretically and empirically justified?

What does economic theory say?

The textbook case

Textbook case I:

- Assumptions: fixed capital stock, output is produced by labour and capital, perfect labour markets
- Immigration reduces wages in receiving country, increases capital income, total sum of natives income is increasing (assuming that capital is owned by natives). Converse is true for sending countries.
- Textbook case II:
 - Assumptions: fixed capital stock, output is produced by capital and different types of labour, perfect labour markets
 - Immigration reduces wages of workers who are net substitutes, increases wages of those who are net complements, raises capital income. Total income of native population increases



- Assumptions: fixed capital stock, output is produced by different types of labour and capital, wages are partially rigid
- Immigration reduces wages and increases unemployment of workers who are net substitutes, increases wages and reduces unemployment of those who are net complements
- Net effects on unemployment depends on whether immigrants enter more flexible or more rigid segments of labour market
- Immigration raises capital income
- Impact on total income of native population ambiguous



- Assumptions: capital stock adjusts to labour supply change, output is produced by different types of labour and capital, imperfect labour markets
- Theory predicts that domestic of international investment adjusts to labour supply changes. Eventually, capital-labour ratio remains constant
- If capital-labour-ratio remains constant, no aggregate impact on interest rate and aggregate wage levels
- But workers who are net substitutes still lose from competition from foreign workers, while those who are net complements win
- Total impact on unemployment still depends on whether immigrants enter flexible or rigid labour market segments
- Total income of natives is likely to increase further



- Assumptions: fixed capital stock, goods prices are determined by international supply and demand, output is produced by labour and capital, perfect labour markets
- Inflow of labour increases labour-intensive production and reduces capital intensive production (Rybczynski-Theorem)
- Economy exports less capital-intensive and imports less labour-intensive goods
- Goods prices remain constant
- Wages and interest rates remains constant
- Total income of natives remains constant



- If the other markets adjust, it is likely that immigration is largely neutral for aggregate wages at least in the long-term
- Impact on unemployment is also relatively small in this case
- But there might be larger effects in the short-term before capital and goods markets adjust
- In any case, there might be different effects on different groups in the labour market
- The bottom line: whether and to which extent immigration affects labour markets in receiving countries depends on many assumptions and is essentially an **empirical question**



A sketch of the state of the empirical research



- “(...) *the effect of immigration on labour market outcomes of natives is relatively small.*”
Rahel Friedberg and Jennifer Hunt, *Journal of Economic Perspectives*, Vol. 9, 1995
- A large econometric literature uses the regional (or: spatial) variance of the foreigner share for identification of wage and employment effects
- Meta-studies of this literature suggest that an immigration of 1% of the labour force
 - reduces wages by less than 0,1% (Longhi et al., 2005)
 - increases the unemployment rate by less than 0,1%-point (Longhi et al., 2006)



- **Reduced-form approach:** Simple regression models, which explain wages or employment rates by the foreigner share controlling for regional covariates (output shocks etc.)
- **Theory-based approach:** Estimation of parameters of structural economic models, which are derived from aggregate production functions. Using these parameters the effects of immigration can be simulated (production function- or factor proportion approach)
 - CES- and Translog-production functions form theoretical framework



- “(...) *this framework has been troublesome because it ignores the strong currents that tend to equalize economic conditions across regions and cities.*”

George J. Borjas, Quarterly Journal of Economics, Vol. 118, 2003

- **Endogeneity problem:** Immigrants move disproportionately to regions and cities where labour markets prosper
- **Solution I:** Natural Experiments (e.g. Mariel Boatlift, Card 1990)
- **Solution II:** Estimation with instrumental variables which correlated with migration, but not wages or employment in a region



- Using the variance of the foreigner share across education and experience groups of the labour market at the national level for identifying wage and employment effects (Borjas, QJE 2003, Aydemir/Borjas, JEEA, 2006)
 - They find much larger effects: increasing the foreigner share by 1 per cent of the labour force
 - reduces wages by 0.3 to 0.4 per cent
 - increases unemployment by 0.3 and 0.4 percentage points
 - similar results for the US, Canada, Mexico



- two modifications of the model
 - the consideration that natives and foreigners might be imperfect substitutes in the labor market even with the same education and work experience and
 - of the adjustment of the capital stock
- delivered completely different findings:
 - wages of natives increased by 0.06 percent, while those of foreigners fell by 0.6 percent at an immigration of 1 percent of the labour force (Ottaviano/Peri, NBER DP 2006, JEEA 2012)
- The exact measurement is subject of a large and controversial literature since then
 - E.g. Borjas/Grogger/Hanson, JEEA 2012; Ottaviano/Peri JEEA 2012, Manning et al., JEEA 2012; Dustmann JEEA 2012



- There are several studies based on data from Germany, UK, DK and some other countries
- They all find that immigrants and natives are imperfect substitutes and that the overall effects are relatively small
 - **Germany:** D'Amuri/Ottaviano/Peri, EEA, 2010; Brücker/Jahn, ScJE 2012; Brücker/Hauptmann/Jahn/Upward, EEA, 2014; Felbermayr et al., WA 2013
 - **UK:** Manning et al., JEEA, 2012; Brücker/Hauptmann/Jahn/Upward, EEA, 2014
 - **Denmark:** Brücker/Hauptmann/Jahn/Upward, EEA, 2014



- The methods to measure the migration impact on labour markets are not uncontroversial
- Addressing endogeneity is a key issue
- In structural models it matters (i) whether natives and immigrants are perfect or imperfect substitutes in the labour market, and (ii) whether capital stock adjustment is considered
- The majority of the evidence suggests that (i) the overall impact is rather small and (ii) that natives and immigrants are imperfect substitutes. Nevertheless, the evidence is quite heterogeneous.



Outline of the seminar program



The general question: how does immigration affect labour markets?

More specifically:

- Does immigration reduce wages?
- Does immigration increase unemployment?
- Are different groups in the labour market affected in different ways?
- Do the labour market effects of migration differ across countries?
- Others?



1. Review of literature
2. Get familiar with STATA and basic econometrics
3. Data management
4. Descriptive data analysis: graphs, tables and descriptive statistics
5. Regression analysis: simple OLS models
6. Perhaps: more advanced IV models
7. Presentation of findings in class
8. Seminar paper



1. Selection of literature
2. Data provision for DE, DK and UK
3. Introduction into STATA and elementary econometrics
4. Advice in class on data handling, descriptive data analysis and regression analysis



1. Introduction	April 29
2. State of the Literature	May 13
3. Introduction into STATA I	May 27
4. Introduction into STATA II	June 3
5. Descriptive Data Analysis	June 24
6. Regression Analysis	July 1
7. Presentation in class	July 15

All meetings are compulsory.

**Attendance in the last meeting is obligatory for all participants
-- this holds also true for ERASMUS students.**

Next Meeting: May 3



- Begin: 11:00 hours
- Topic: Literature Review

THANKS FOR YOUR ATTENTION!



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