Free Movement of Workers within the EU

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Paris, 2/9/2016

The demographic background

- **Demographic change presents nearly all EU states with formidable challenges:**
  - Ageing populations
  - Scarcity of skilled labor
  - Dynamic loss in the economy (innovation deficits)
  - Financial risks in social security systems
- **Financial and economic crisis added to the difficulties:**
  - Rising risk aversion
  - Economic decline
  - Negative attitudes toward immigration and new Fortress Europe
- **And the recent migration crisis has added xenophobic/nationalistic/racist fuel to the debates**

EU mobility

Mobility generally low by international standards

- Annual interstate mobility: EU 1% --- US 3%, CAN 2%, RF 1.7%

Eastern enlargements and free movement increased EU's migration potential

**Enlargement immediately removed many barriers**

- No visa
- Travel with IDs
- Free movement of services – ie entrepreneurs freely moving
- Harmonization of legislation – social security, health insurance etc.

Transitional arrangements removed only gradually, however

- 2+3+2 rule
- EU8: UK, IE, SE opened up in 2004, the rest gradually followed by 2011 (DE and AT)
- EU2: Much more reluctant liberalization, but all open by 2014

Other barriers: partition into different jurisdiction, regulatory frameworks and institutions, welfare systems, linguistic barriers, recognition of qualification, transfer of skills, social rights, health insurance etc
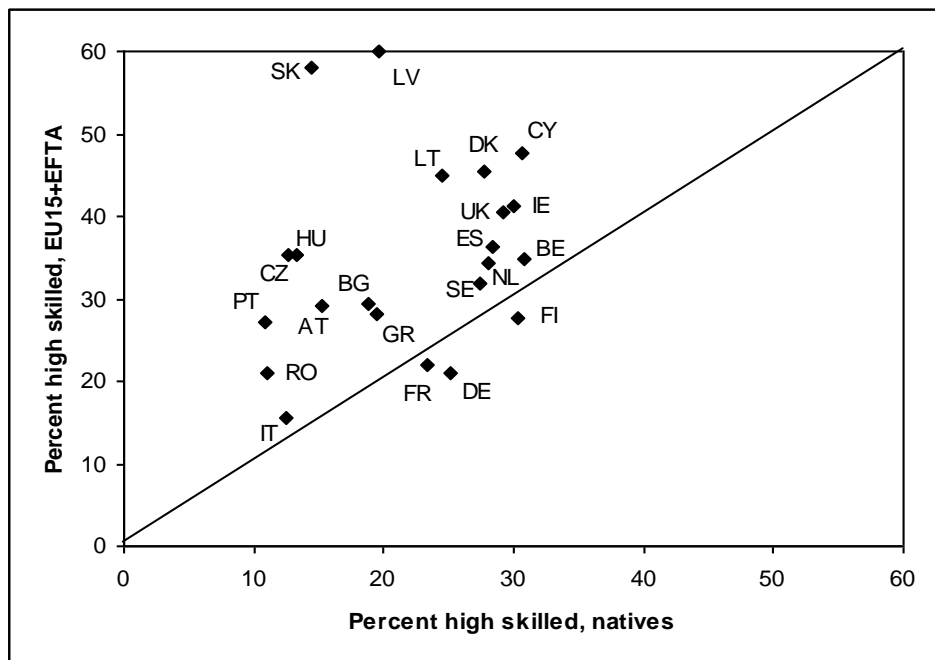
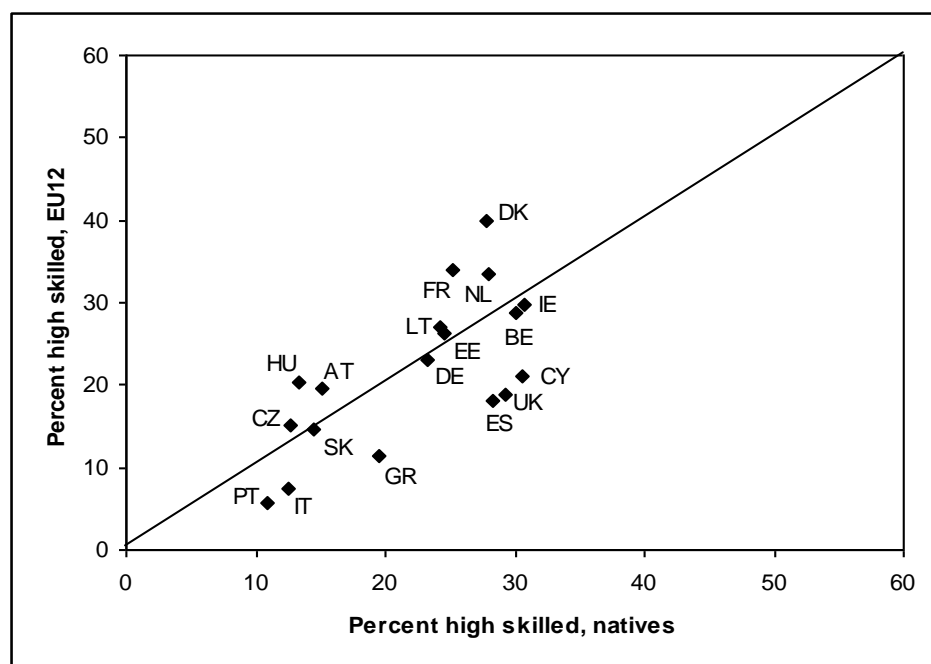# Migration flows to the EU15 from Europe, by European regions of origin, 1989–2010
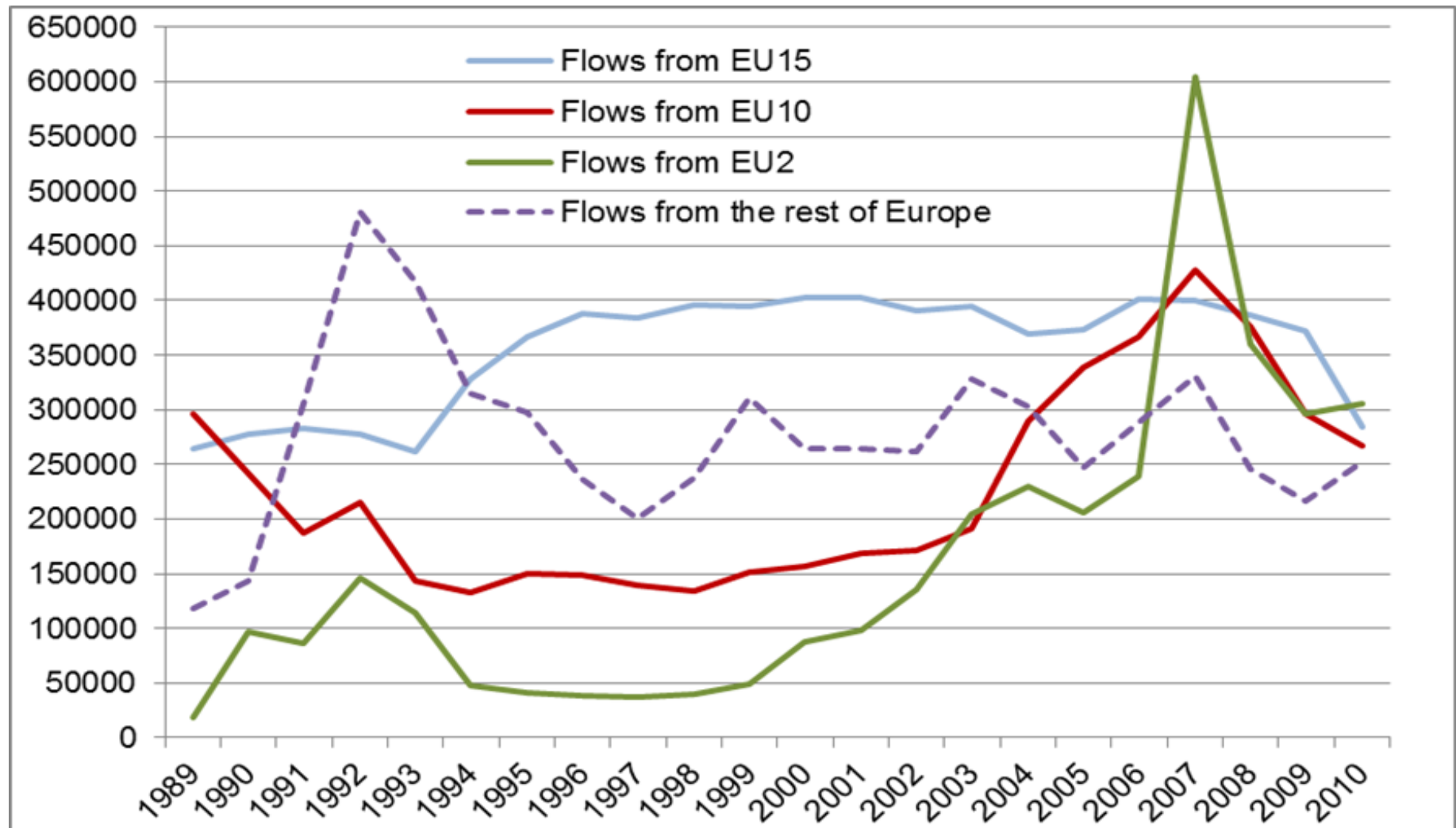
Mobility and immigration in the EU

- Relatively well educated:

EU15
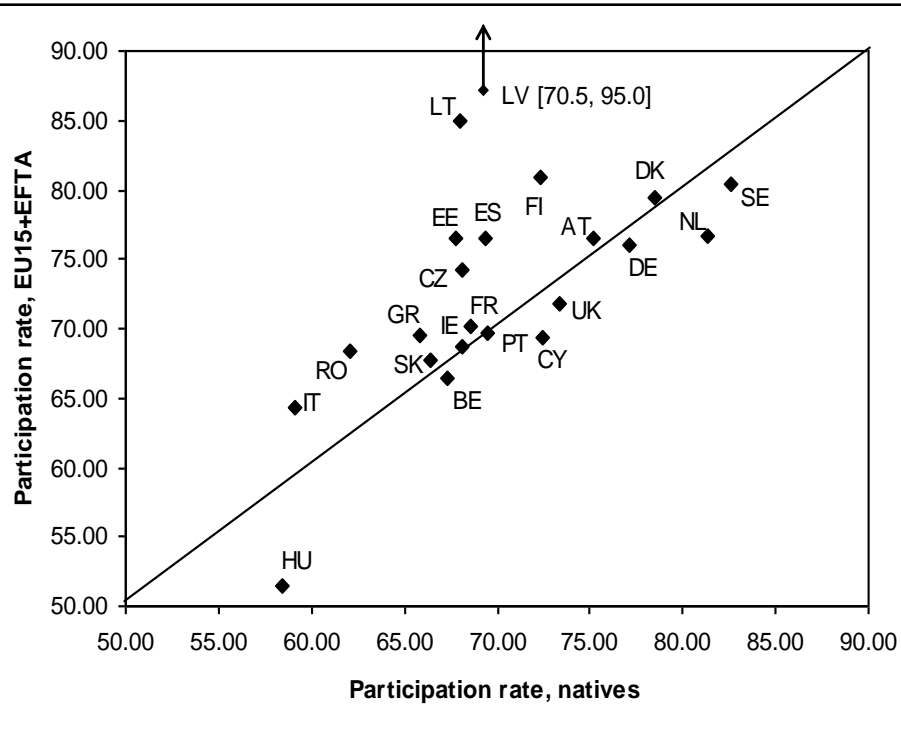
EU12

EU12 migrants relatively well educated, EU15 migrants more educated than natives (EU LFS, 2010).

…and want to work!

EU15

EU12
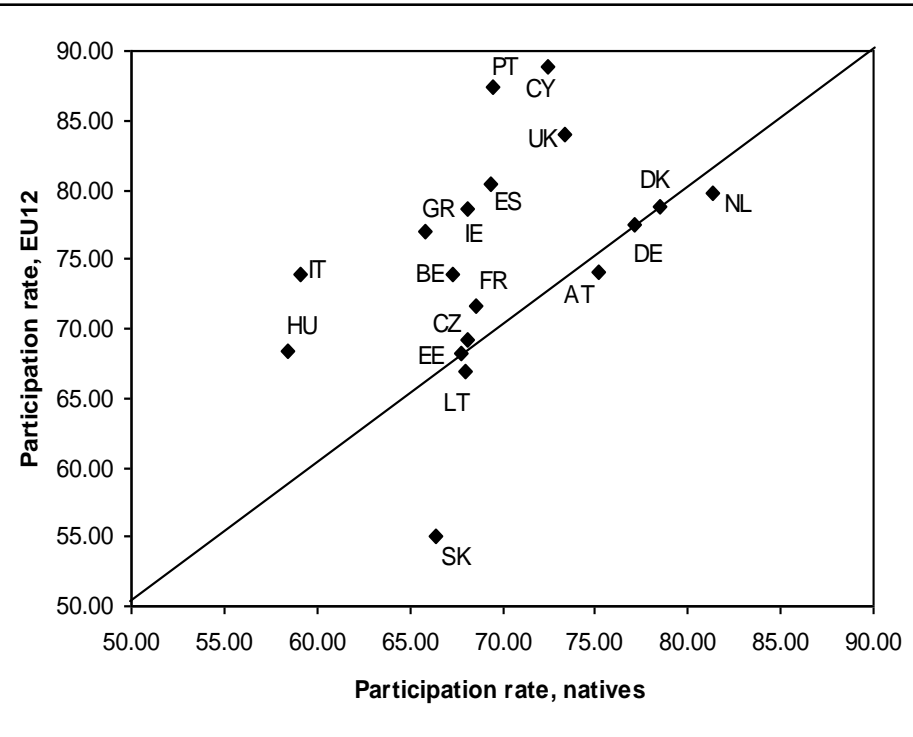
EU15 and EU12 migrants exhibit rather high activity rates, significantly higher than the natives

…but not always successful – poverty and unemployment

- Migrants in general have a significantly higher probability of being poor (even controlling for characteristics)
- Also due to problems with labor market integration

EU15
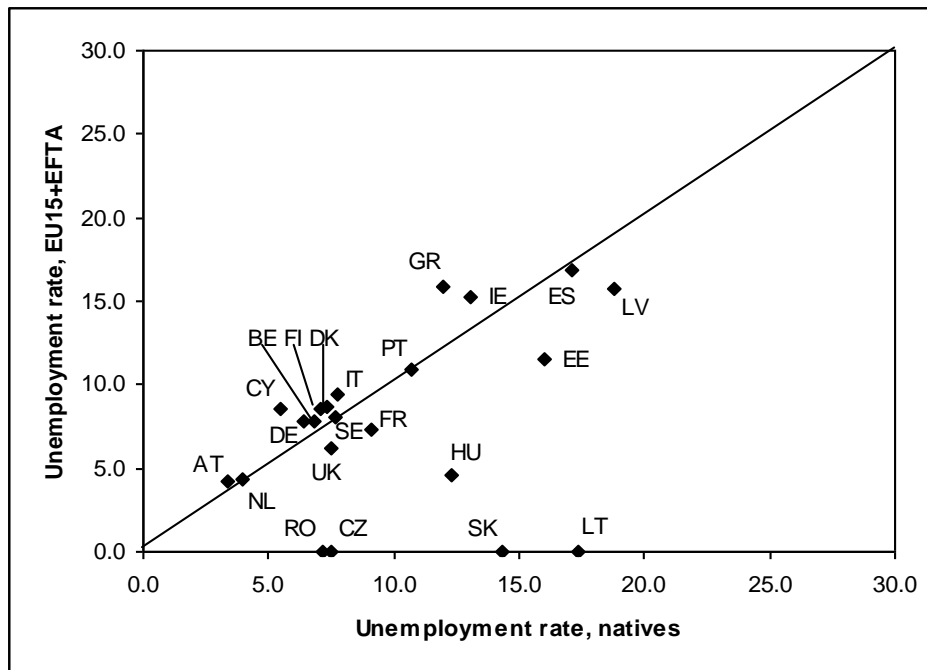
EU12
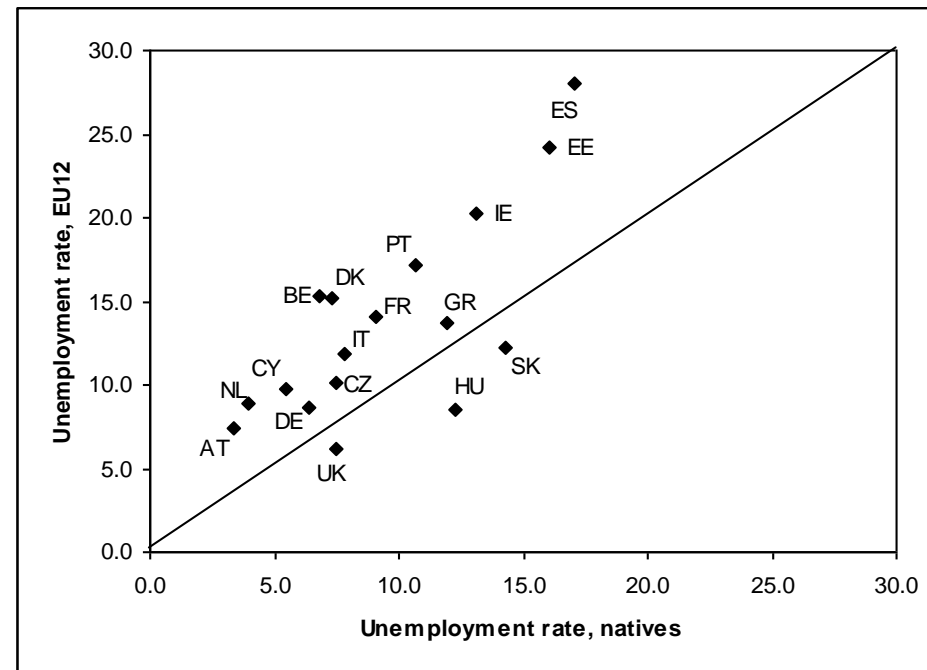
EU12 immigrants have a higher probability of unemployment than the natives, EU15 doing well

…and even if in a job, skill mismatch - downskilling

EU15
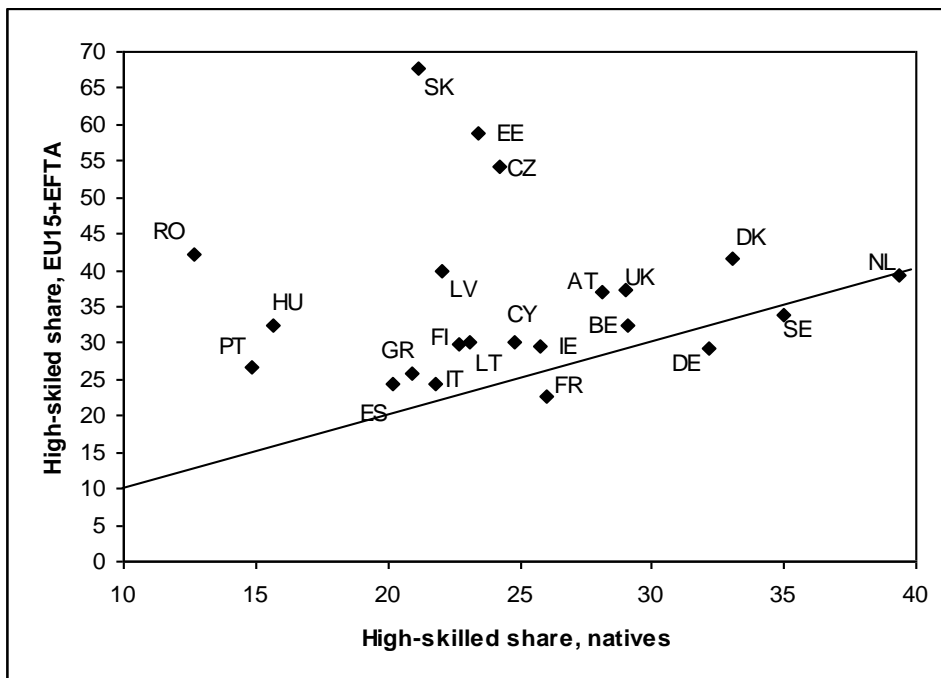
EU12
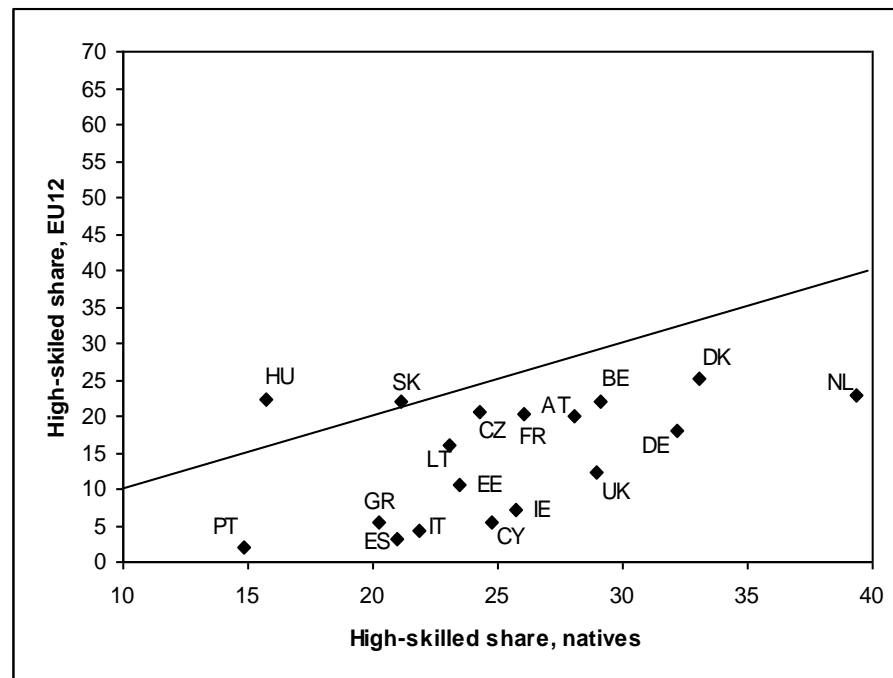
EU15 migrants doing well, but EU12 migrants downskilling

Some intriguing questions

Has free mobility helped the enlarged EU to cope with asymmetric shocks during the Great Recession?

How did institutional factors – EU enlargement and labor market access – affect the mobility of workers and hence EU's capacity to absorb asymmetric economic shocks?

Did post-enlargement migration flows respond to economic shocks?

Did it respond to labor shortages? And to welfare?

Martin Kahanec · Klaus F. Zimmermann *Editors*

Labor Migration, EU Enlargement, and the Great Recession

This volume extends and deepens our knowledge about cross-border mobility and its role in an enlarged EU. More specifically, its main purpose is to enlighten the growing and yet rather uninformed debate about the role of postenlargement migration for economic adjustment in the crisis-stricken labor markets of the Eurozone and the EU as a whole. The book addresses the political economy aspects of post-enlargement migration, including its broader political contexts, redistributive impacts, but also nationalization of the enlargement agenda. It also covers the experience of receiving and sending countries with post-enlargement migration and its role during the current crisis. Renowned experts in the field study, whether and how post-enlargement mobility has enabled the EU to absorb asymmetric economic shocks, how it has affected the European welfare systems, and whether it has contributed to the sustainability of the Eurozone. The authors also evaluate brain circulation as a sought-after vehicle of improved allocative efficiency of EU labor markets and propose a policy agenda for mobility in an enlarged EU.

Business / Economics

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Martin Kahanec
Klaus F. Zimmermann

Editors

Kahanec · Zimmermann *Eds.*

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IZA

Springer

Data

The Pytlikova Dataset

- Immigration flows and foreigner stocks
- All source countries worldwide for 42 destination countries; 1980–2010
- 27 collected by Pytlikova from national stat offices, 15 from OECD and Eurostat
- For this paper subsample of destinations and CEE sources for 1995-2010

OECD and WB data

- Explanatory variables (GDP, unemployment, etc)

EU Labor Force Survey

- Some trends

Institutional factors: EU accession and free movement

EEA/EFTA countries	Lifting restrictions on the free movement of workers	
	2004 EU enlargement: EU8	2007 EU enlargement: EU2
Austria	May 2011	January 2014
Belgium	May 2009	January 2014
Denmark	May 2009	May 2009
Finland	May 2006	January 2007
France	July 2008	January 2014
Germany	May 2011	January 2014
Greece	May 2006	January 2009
Iceland	May 2006	January 2012
Ireland	May 2004	January 2014
Italy	July 2006	January 2012
Luxembourg	November 2007	January 2014
Netherlands	May 2007	January 2014
Norway	May 2009	January 2014
Portugal	May 2006	January 2009
Spain	May 2006	January 2009 (restrictions for Romania August 2011)
Sweden	May 2004	January 2007
Switzerland	May 2011	January 2014
UK	May 2004	January 2014

The Empirical Model

Difference-in-differences

– 1) LM opening

$$\ln m_{ijt} = \gamma_0 + \delta_j + \delta_i + \theta_t + \gamma_2 OPEN_{ij} + \gamma_3 \ln(GDP_j)_{t-1} + \gamma_4 \ln(GDP_i)_{t-1} + \gamma_5 \ln(GDP_i)^2_{t-1} +$$

$$+\gamma_6 \ln s_{ijt-1} + \gamma_7 lingprox_{ij} + \gamma_8 \ln dist_{ij} + \gamma_9 neighbour + \varepsilon_{ijt}$$

– 2) LM opening with pair FEs

$$\ln m_{ijt} = \gamma_0 + \boxed{\delta_{ij}} + \theta_t + \gamma_2 OPEN_{ij} + \gamma_3 \ln(GDP_j)_{t-1} + \gamma_4 \ln(GDP_i)_{t-1} + \gamma_5 \ln(GDP_i)^2_{t-1} +$$

$$+\gamma_6 \ln s_{ijt-1} + \gamma_7 lingprox_{ij} + \gamma_8 \ln dist_{ij} + \gamma_9 neighbour + \varepsilon_{ijt}$$

Sample

– 22 destination countries: EU15, Norway and Iceland, and five non-EU countries (Australia, Canada, New Zealand, Switzerland and the United States).

Source Countries:	EU8+EU2				EU8		EU2	
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Labor Market Opening	**0.680***	0.827***	0.387***	0.363***	0.317***	0.366***	0.528***	0.516***
	(0.132)	(0.119)	(0.100)	(0.099)	(0.102)	(0.101)	(0.181)	(0.296)
Ln Stock of Migrants_t-1	-		0.572***	0.524***	0.525***	0.427***	0.748***	0.797***
			(0.036)	(0.052)	(0.038)	(0.048)	(0.049)	(0.074)
Ln Dest. GDPperCapPPPj_t-1	-	1.326	1.258*	1.113	1.613**	1.470*	0.173	0.212
		(0.805)	(0.714)	(0.702)	(0.788)	(0.758)	(1.068)	(1.483)
Ln Origin GDPperCapPPPi_t-1	-	22.896***	18.739***	19.630***	22.225***	25.659***	6.385	-4.019
		(5.651)	(4.358)	(4.623)	(6.185)	(6.599)	(78.366)	(120.607)
Ln Origin GDPperCapPPPit-1 ^2	-	-1.271***	-1.084***	-1.136***	-1.274***	-1.461***	-0.397	0.183
		(0.315)	(0.241)	(0.256)	(0.345)	(0.367)	(4.405)	(6.795)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Destination & Origin FE	YES	YES	YES	-	YES	-	YES	-
Pair of country FE	-	-	-	YES	-	YES	-	YES
Constant	-5.133***	-109.688***	-93.309***	-98.861***	-113.524***	-130.479***	-21.308	16.412
	(0.214)	(26.137)	(20.412)	(21.749)	(28.884)	(31.242)	(348.942)	(534.195)
Observations	3,078	3,078	2,444	2,444	1,930	1,930	514	514
Adjusted R-squared	0.688	0.782	0.860	0.597	0.867	0.593	0.896	0.639

Baseline results

Labor market opening has a rather significant positive effect

- – Larger for EU2 – possibly because of the post-accession upsurge, and concentration into a small number of countries that opened up.

Diasporas attract further migrants

GDP in destination is a magnet, and GDP in sending countries has the usual inverse U-shaped effect

EU Enlargement

Difference-in-differences

– 3) LM opening and EU enlargement

$$\ln m_{ijt} = \gamma_0 + \delta_j + \delta_i + \theta_t + \gamma_1 EUenl_{ij} + \gamma_2 OPEN_{ij} + \gamma_3 \ln(GDP_j)_{t-1} + \gamma_4 \ln(GDP_i)_{t-1} + \gamma_5 \ln(GDP_i)^2_{t-1} +$$

$$+ \gamma_6 \ln s_{ijt-1} + \gamma_7 lingprox_{ij} + \gamma_8 \ln dist_{ij} + \gamma_9 neighbour + \varepsilon_{ijt}$$

– Sample as above

	22 Destinations (17 EEA+5 Non-EU Destinations)					
Source Countries:	EU8+EU2		EU8		EU2	
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	OLS	FE	OLS	FE	OLS	FE
Labor Market Opening Effect	0.299***	0.277***	0.268***	0.300***	0.356*	0.345
	(0.098)	(0.095)	(0.098)	(0.099)	(0.183)	(0.296)
EU Enlargement Effect	0.304***	0.332***	0.166	0.246**	0.792***	0.809***
	(0.091)	(0.089)	(0.119)	(0.115)	(0.196)	(0.185)
Constant	-95.255***	-102.159***	-114.320***	-132.546***	-62.931	-23.015
	(20.648)	(21.959)	(28.818)	(31.185)	(343.523)	(514.216)
Destination & Origin FE	YES	-	YES	-	YES	-
Pair of country FE	-	YES	-	YES	-	YES
Observations	2,444	2,444	1,930	1,930	514	514
Adjusted R-squared	0.861	0.603	0.867	0.595	0.899	0.651

EU Enlargement

Controlling for EU accession

- LM opening has about the same effect in EU8 and EU2 (and smaller than in the previous specification)

- EU enlargement effect weaker than LM effect in EU8, but much stronger in EU2 -- this may be because few relevant countries opened up and only in 2009

The Empirical Model cont'd

Responsiveness to economic factors

	22 Destinations (17 EEA+5 Non-EU Destinations)					
Source Countries:	**EU8+EU2**		**EU8+EU2**		**EU8+EU2**	
	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	OLS	FE	OLS	FE	OLS	FE
Log (Unemployment rate destination) t-1	-0.404***	-0.406***			-0.327***	-0.282**
	(0.123)	(0.120)			(0.124)	(0.121)
Log (Unemployment rate origin) t-1	0.033	0.043			0.018	0.073
	(0.102)	(0.104)			(0.124)	(0.126)
Log(GDP growth destination) t-1			0.112***	0.093***	0.114***	0.095***
			(0.026)	(0.025)	(0.026)	(0.025)
Log(GDP growth source) t-1			-0.047*	-0.046*	-0.043	-0.039
			(0.025)	(0.024)	(0.026)	(0.025)
Constant	-90.909***	-96.769***	-93.190***	-95.861***	-89.287***	-92.936***
	(22.109)	(23.321)	(22.308)	(23.140)	(22.997)	(23.808)
Destination & Origin FE	YES	-	YES	-	YES	-
Pair of country FE	-	YES	-	YES	-	YES
Observations	2,424	2,424	2,007	2,007	1,998	1,998
Adjusted R-squared	0.862	0.9065	0.861	0.590	0.861	0.590

Economic factors

Receiving countries

– Higher GDP growth or lower unemployment in destinations attract workers from NMSs

Sending countries

– Expected signs but no significant effects of GDP or unemployment

Results: Institutional/policy factors

We explore two 'natural experiments'

- – EU enlargement
- – Lifting of transitional arrangements

The effect of opening home labor markets to NMS migrants is significantly positive

This result holds even if we control for the overall effect of "EU entry" on migration

In fact, the "EU entry" effect is positive and significant and at least as important as the "labor market opening" effect (EU2!)

Hence granting immigrants the same employment and residential rights that natives have boosted EU mobility

Results: business cycle

Destination country's business cycle matters and migration responds to it—stronger GDP growth and lower unemployment lead to additional immigration from NMSs.

The economic shocks at origin seem not to have a significant effect on migration from the new EU member states.

However, it does not imply that the conditions in the domestic labor market did not matter. Persistent economic difficulties in sending countries are probably the key reasons behind this emergent group of east-west migrants

They sought employment opportunities abroad, and by doing so helped Europe to adjust to east-west asymmetries, as well as short-run shocks across EU member states.

OK, but do they really go where we need them?
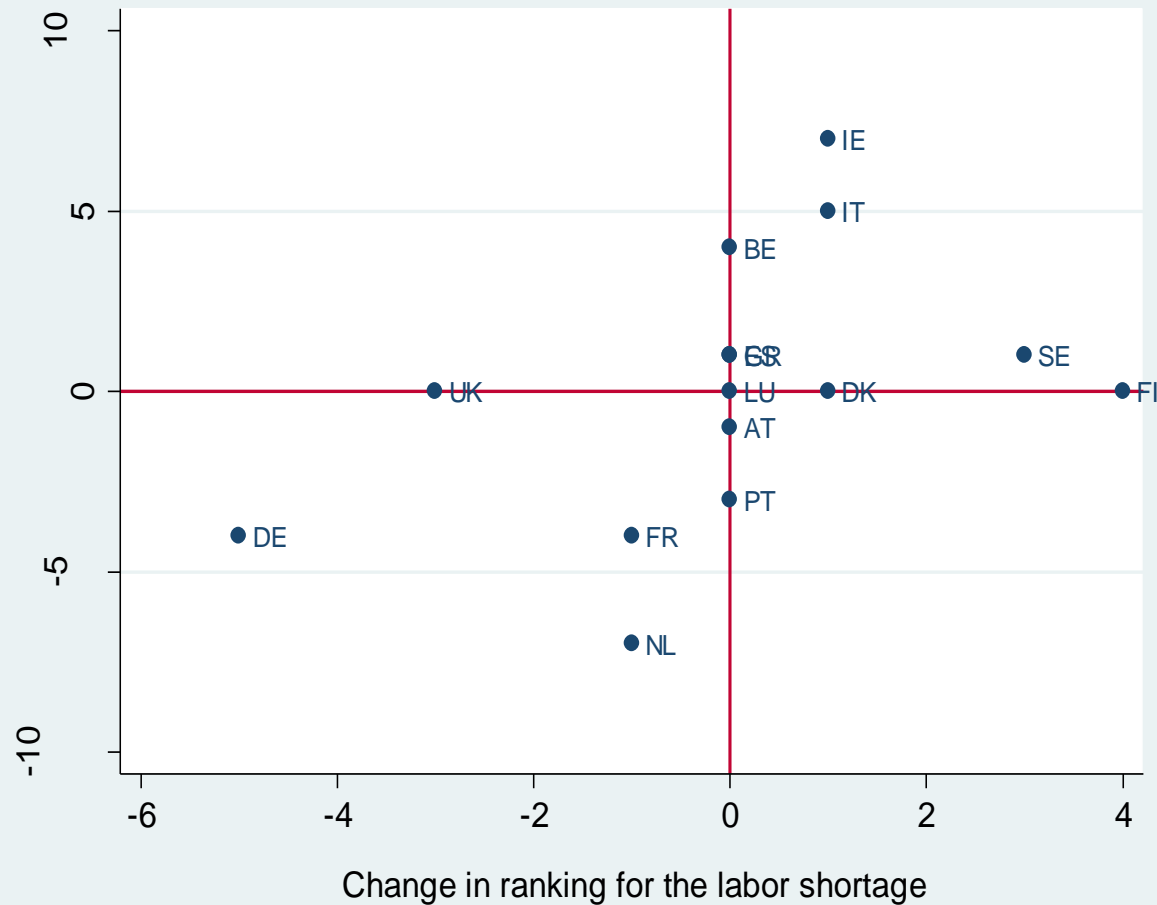
High-skilled non-EU15 immigrants fill up labor shortages similarly to the natives

However: Their low-skilled counterparts are significantly more fluid!

Migration model

$$I = \max_{c \in C, k \in K} (W_{kc}) - W_{K_F C_F} - (D + B_c)$$

- Denote W_{kc} the wage that a worker belonging to industry-skill group k-c earns in country .

- W_{KFCF} is the current wage in their origin

- D measures the moving costs

- Bc denotes migration costs due to institutional and legal barriers specific to country c

Natives vs. Immigrants

Fundamental difference:

- For immigrants D is sunk

- For immigrants B_c matters and depends on institutions

Research questions

- First, are migrants more, or less, responsive to labor shortages in the EU labor market than the natives?

- Second, are there any institutional or policy contexts under which migrants respond to labor market shortages better than under other contexts?

Guzi, Kahanec and Mytna-Kurekova, 2015

Empirical framework

- Motivated by Borjas (2001)
- We measure the responsiveness of immigrants relative to natives across skill-industry-country cells (381 cells)
- Focus on EU-15 using EU-SILC & EU-LFS
- Period 2004-2012
- Two types of immigrants, those from the EU15 and those from outside the EU15.

We define four skill and nine industry groups

Occupation category (ISCO-1)	Skill group
1 Legislators, senior officials and managers	high
2 Professionals	high
3 Technicians and associate professionals	high
4 Clerks	intermediate general
5 Service workers and shop and market sales workers	intermediate general
6 Skilled agricultural and fishery workers	intermediate specific
7 Craft and related workers	intermediate specific
8 Plant and machine operators and assemblers	intermediate specific
9 Elementary occupations	low

Economic activity	NACE coding	Industry group
Manufacturing, mining and quarrying and other industry	C,D, E	1
Construction	F	2
Wholesale and retail trade	G	3
Transportation and storage, accommodation and food service	H,I	4
Information and communication, financial and insurance activities	J,K	5
Education	M	6
Human health	N	7
Public administration, defence, and social work activities	O, P, Q	8
Agriculture, forestry and fishing	A, B	9

Dependent variable:
the relative supply of migrants

- We define the index of relative supply of migrants (M) and natives (N) for skill-industry-country cells

$$Z_{kct} = \frac{M_{kct}/M_t}{N_{kct}/N_t}$$

- The index equals 1 when immigrants and native workers have the same distribution across cells
- EU-LFS 2004-2012

The measure of labor shortages

- Labor shortages in skill-industry-country cells are measured as cell-specific residual wage premia over the mean EU wage after controlling for workers characteristics

$$W_{ikct} = X_{ikct}\beta + \gamma_{kct} + \varepsilon_{ikct}$$

- Vector X includes gender, education and experience (linear and squared)
- All variables normalized with zero mean

First-difference regression model

$$\Delta Z_{kct} = \beta_1 \Delta \gamma_{kct-1} + \delta_k + \delta_c + \delta_t + \mu_{kct}$$

- We measure the relative responsiveness of immigrants to skill shortages across skill-industry-country cells (kct)
- All explanatory variables are lagged.
- Unemployment rate and GDP growth control for conditions in the countries' labor markets.
- Observations are weighted by the total number of workers in the cell.

Immigrant responsiveness to labor shortages (baseline model)

Immigrants	EU15		non-EU15		non-EU15	
Natives	MS		MS		MS+EU15	
	(1)		(2)		(3)	
Labour shortage	0.198		0.209	**	0.197	**
	(0.129)		(0.088)		(0.087)	
GDP growth						
Unemployment rate						
R2	0.017		0.048		0.049	
N	2452		2452		2452	

Source: Based on EU-SILC, EU-LFS, and WDI data.

Note: Dependent variable is the supply of migrants relative to natives in the particular skill-industry-country group expressed in first difference. The labor shortage for the same group is also expressed in first difference. The relative supply of immigrant of EU-15 and non-EU15 origin is tested separately. Because the observations represent averages the estimation employs weights that are the number of elements over which the average was calculated. All variables are lagged by one year and models include time and country fixed effects.

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

Findings

- The positive estimates for labor shortage indicate that the relative supply of immigrants in a particular skill-industry group rose in those countries where the wage offered to that skill group also rose.

- Particularly non-EU15 immigrants are very responsive to wage changes relative to natives

- The elasticity of supply of non-EU15 immigrants is 0.16 relative to natives.

Welfare shoppers?

- Theory
  - Welfare reduces the volatility and increases the level of expected income of migrants, this in theory leading to the welfare magnet hypothesis (e.g. Heitmueller 2005)
  - As the costs associated with choosing among countries within Europe are negligible compared to those incurred when moving to Europe, even not so big differences in welfare may matter (Borjas, 1999)

- Empirics
  - Borjas (1999): welfare magnet marginally significant among the US states
  - De Giorgi and Pellizzari (2009): not too large but significant welfare magnet in EU15
  - Pedersen, Pytlikova and Smith (2008): Social expenditures/GDP significant positive effect only if FE and network effects not controlled for.

Own study -- What did we do?

- We distinguish welfare components
  - Aggregated measures may mask the true effects

- We take *unemployment benefits spending (UBS) in GDP* a measure of welfare (for now)
  - Sensitive wrt labor market competition, also given the disproportional crude rate of take up by immigrants

- We explicitly account for the possible **endogeneity** of welfare spending

- We concentrate on Europe as a cluster of welfare-heterogeneous countries among which migration is relatively easy (Borjas studied US states)

- We have panel data with a good number of observations

Giulietti, Guzi, Kahanec and Zimmermann, 2013

Results (OLS, non-EU)

a - wihout UBS; b - with UBS; c - with other welfare components (health, family, pension); d – no weights

	(a)	(b)	(c)	(d)
		Non-EU immigrants		
UBS		0.058 *	0.061 *	0.066 ***
		(0.028)	(0.031)	(0.021)
Stock of non-EU immigrants	0.141 ***	0.129 ***	0.123 ***	0.079 *
	(0.028)	(0.026)	(0.028)	(0.039)
Per-capita GDP	0.017 ***	0.019 ***	0.018 ***	0.007
	(0.007)	(0.007)	(0.007)	(0.004)
Unemployment rate	-0.007	-0.015	-0.005	-0.026
	(0.018)	(0.017)	(0.016)	(0.015)
Constant	-0.056 ***	-0.063 ***	-0.053 ***	-0.02
	(0.023)	(0.024)	(0.021)	(0.014)
$\overline{R}^2$	0.64	0.65	0.68	0.52

Results (OLS, EU)

a - wihout UBS; b - with UBS; c - with other welfare components (health, family, pension); d – no weights

		EU immigrants		
UBS		-0.009	-0.003	-0.012
		(0.012)	(0.013)	(0.013)
Stock of EU immigrants	0.072 ***	0.075 ***	0.068 ***	0.094 ***
	(0.021)	(0.025)	(0.027)	(0.021)
Per-capita GDP	0.000	0.000	0.000	-0.003
	(0.002)	(0.003)	(0.003)	(0.003)
Unemployment rate	0.001	0.002	0.004	0.006
	(0.005)	(0.006)	(0.006)	(0.005)
Constant	0.000	0.001	0.002	0.008
	(0.006)	(0.007)	(0.007)	(0.010)
$\bar{R}^2$	0.28	0.29	0.29	0.37
Weights	Y	Y	Y	N
Other welfare components	N	N	Y	N
N	248	248	248	248

Notes: robust standard errors in parentheses. */**/*** indicate significance at the 10/5/1% level. All models are estimated by fixed effects and contain year dummies. Weights are population counts of each country in the year 2000. Other welfare components are expenditure on health, family and pensions.

Endogeneity of UBS

- OLS results point at a welfare magnet for non-EU immigrants
- But we have an endogeneity problem: UBS may be a function of immigration
  A) Immigrants themselves directly increase UBS take up or decrease average GDP
 B) Policy reaction to immigration may cut/expand UBS

So we need to take care of reverse causality – 2SLS

- We need an instrument that is correlated with UBS, but not with immigration

- Milesi-Ferretti, Perotti and Rostagno (2002) and Lipsmeyer and Zhu (2011) show the existence of a correlation between the characteristics of the electoral system/governing coalition and social expenditure.

- But each of these can be related to immigration policies

- We need something more neutral wrt left-right or electoral tradition (and that varies across as well as within countries)

A more formal analysis – IV, cont'd

- We propose "the number of parties in the ruling coalition"

- Argument: with a relatively large number of parties in coalition, it is difficult to impose austerity on spending. Or, there are more parties with interest to spend (and win voters)

- Simultaneously, this instrument is unlikely to be directly correlated with immigration. While it is possible that election results are affected by immigration rates or that new parties arise as a consequence of high immigration, it is unlikely to alter the composition of the winning coalition in terms of number of constituent parties

- In principle, any policy reform may be affected by our IV, but we argue that migration policy is a lot more adamant in this respect

- Is this instrument relevant?

First stage: UBS on # of coalition parties
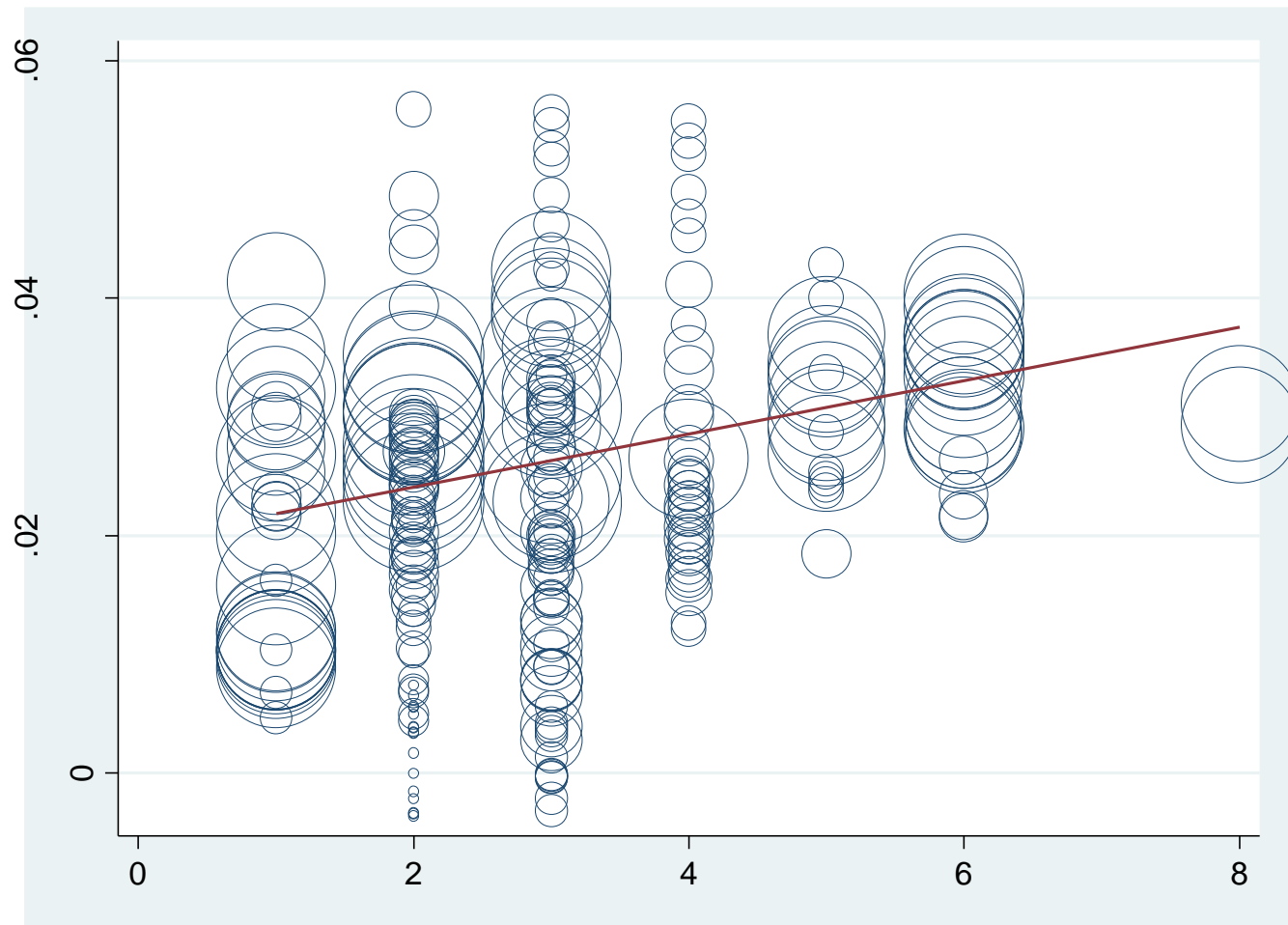
Results

	EU immigrants		Non-EU immigrants	
	IV	GMM	IV	GMM
UBS	0.040	-0.013	-0.003	-0.004
	(0.065)	(0.029)	(0.007)	(0.022)
Stock of immigrants	0.133 ***	0.115 ***	0.075 ***	0.073 ***
	(0.018)	(0.011)	(0.009)	(0.014)
Per-capita GDP	0.019 ***	0.015 ***	0.000	0.000
	(0.003)	(0.002)	(0.001)	(0.001)
Unemployment rate	-0.012	-0.013 ***	0.000	0.002
	(0.011)	(0.006)	(0.001)	(0.003)
Constant	-0.068 ***	-0.054 ***	0.001	0.002
	(0.012)	(0.007)	(0.002)	(0.005)
N	248	248	248	248

Notes: robust standard errors in parentheses. */**/*** indicate significance at the 10/5/1% level. All models are estimated by fixed effects and contain year dummies. All regressions are weighted by the counts of individuals in each country in the year 2000. Instrument is the number of parties in the winning parliamentary coalition. IV estimates are computed using the Stata command *xtivreg2* developed by M.E. Schaffer. GMM estimates are obtained using the Stata command *xtabond2* developed by D. Roodman.

No welfare shoppers…and they even contribute

- UBS and immigration positively correlated
- But this is <u>not</u> due to immigrants' welfare shopping (IV, AB)
- Rather, we find some indication that
  - Immigration may relax welfare provision rules
  - Immigration may increase welfare spending or decrease GDP, or both. From other studies, it is rather the former than the latter. Event that is rather due to compositional than residual effects.

Rather:

- Contribute to public finances (Dustmann and Frattini, 2013)

Any macro impacts of migration?

- For post-enlargement migration we find positive effects on (Kahanec and Pytlikova, 2016)

  - GDP

  - GDP per capita

  - Employment rate

- And negative effects on

  - output per worker

Conclusions

- Europe needs qualified immigrants
- We have some, but we are also losing the best
- Our migration and integration policies are problematic
- In spite of this, immigrants in the EU contribute to GDP, taxes, labor market efficiency, no negative effects on wages or employment
- Migrants respond to labor market skill gaps more fluidly than the natives
- No welfare shopping
- So we need more, and not less mobility; we need more and not less integration

Bottom line

The current migration crisis in Europe offers a potential for a triple win:

- Provide humanitarian help to refugees - a moral victory
- Revamp our migration, asylum, and integration policies
- Benefit from the new hands and brains that can boost our labor markets

Otherwise a triple loss looms

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