The Labor Market Impact of Immigration in Western Germany in the 1990's

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t's in this paper

ethods

mperfect substitutability between natives and migrants

ocus on both wage and employment effects

he analysis is carried out not only between home and migrant workers
but also between old and new migrants

ain Results

grants are not competing with home workers, but between them.

ubstantial effect on employment levels, negligible on wages.

olicy implications

Vith EU enlargement, active migration policies are not an option:

policy experiment shows that an increase in labor market flexibility

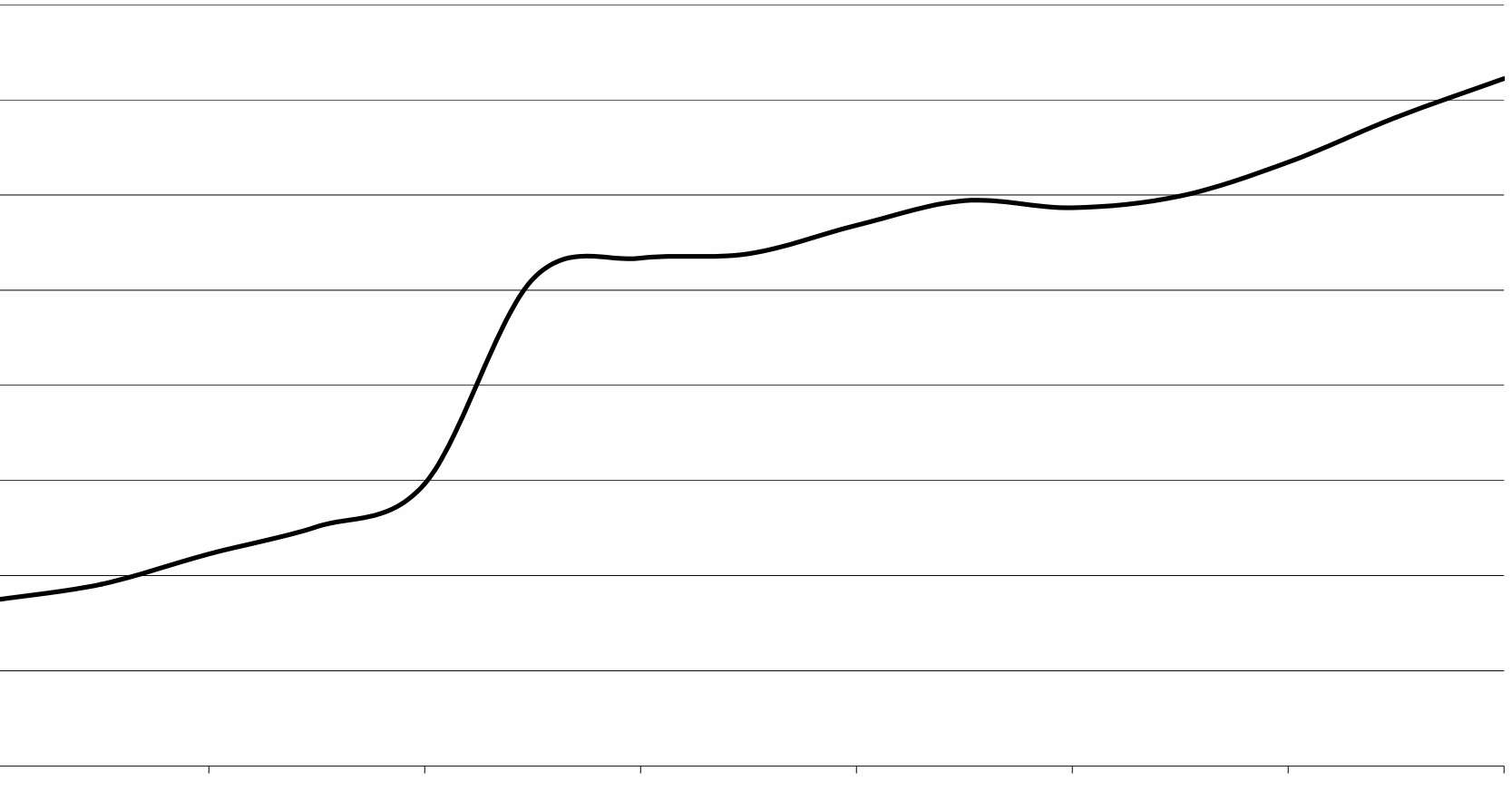
ministrative Dataset (IAB): 2% simple random sample of
ll workers liable of social security contributions
roughly 80% of the employed workforce), period 1987-
001. Daily spells. Marginal workers are not included.

liminary tobit regression to impute wages above
social contribution ceiling
orted wages are right censored)

ther refinements to take into account ethnic Germans
naturalizations

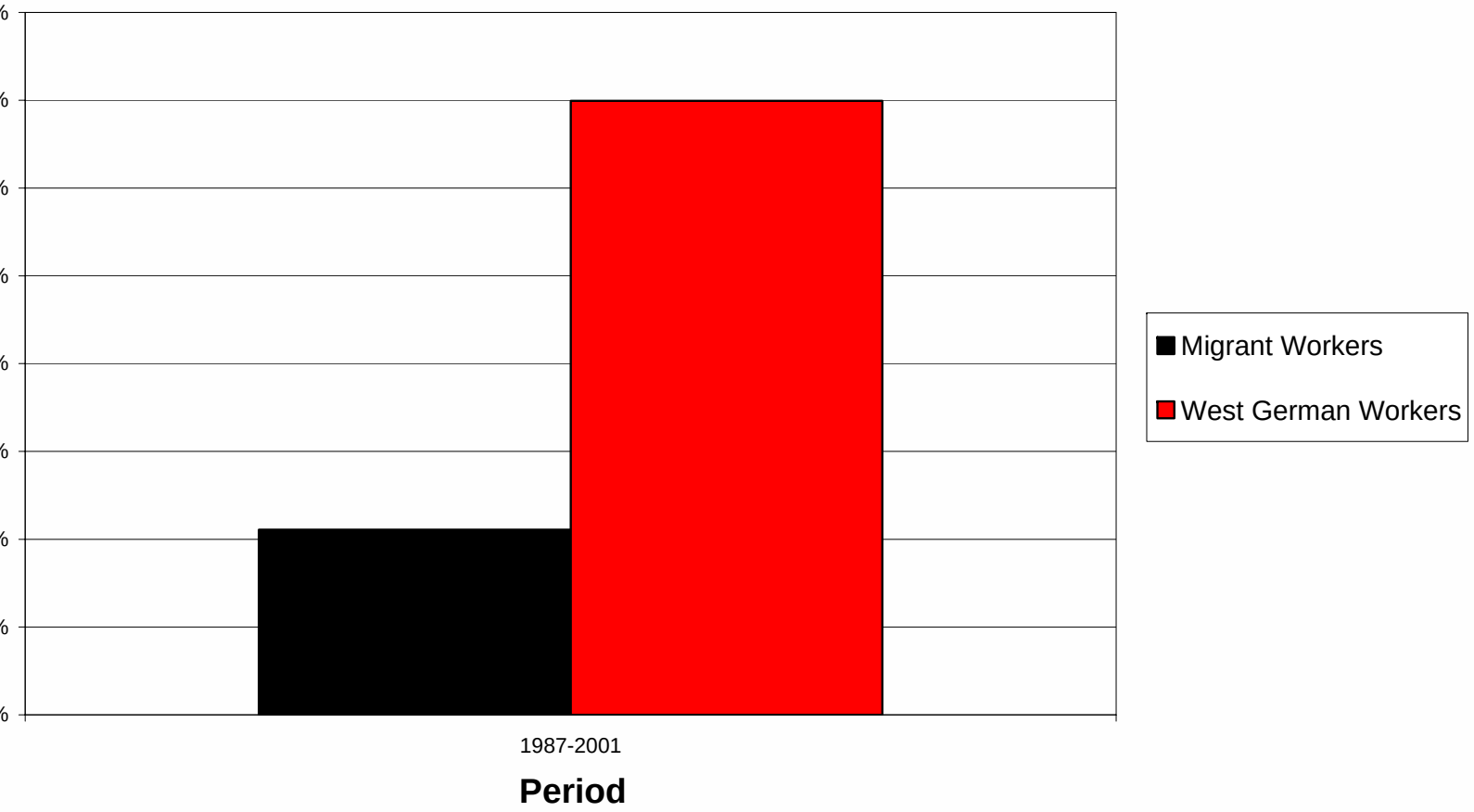
riptive statistics

Share of migrants on total workers



riptive statistics: wages

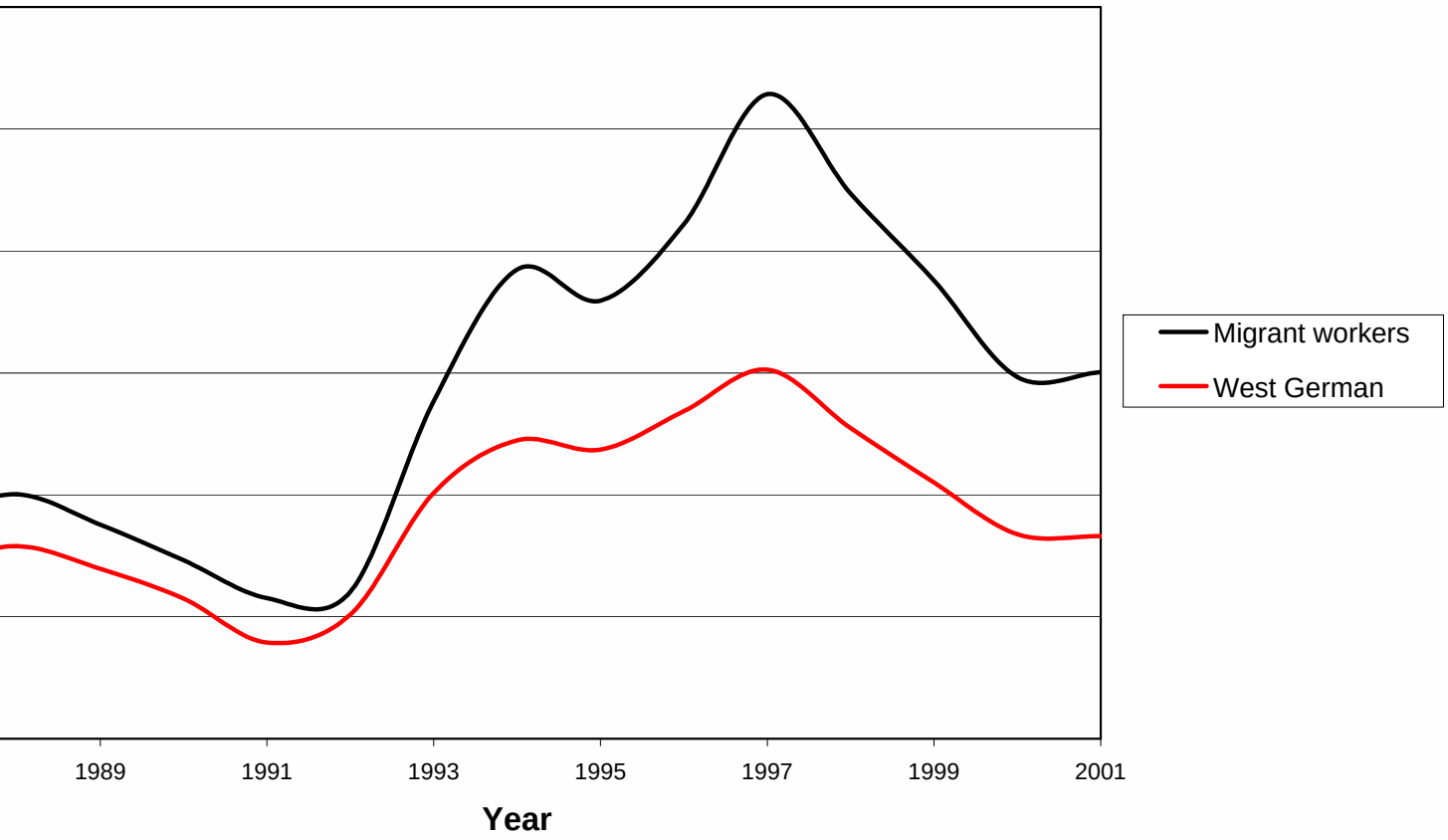
Percentage growth of real daily wages



explanations for this result:

criptive statistics: employment

Evolution of the Unemployment Insurance recipient rate



oretical framework

approach

eneral equilibrium approach in order to analyse the full
pact of immigration on the labour market
rjas QJE 2003, Card Lemieux QJE 2001)

ployment effects: rigidities could cause employment
her than wage effects of immigration
schke and Velling, RES 1997; Razin Sadka AER 1995;
midt e al. JPubEc 1994)

e standard assumption of perfect substitutability between
ive and Foreign workers within education and experience
els is removed

g-run capital adjustment: the level of capital

oretical framework

ally, we consider a CRS production function: $Y_t = A_t L_t^{\alpha} K_t^{1-\alpha}$

h $\alpha \in (0,1)$

s a CES aggregate of different types of labor

s different levels of education: $L_t = \left[\sum_{k=1}^{3} \theta_{kt} L_{kt}^{\frac{\delta-1}{\delta}} \right]^{\frac{\delta}{\delta-1}}$

L_{kt} aggregates across different experience

els: $L_{kt} = \left[\sum_{j=1}^{8} \theta_{kj} L_{kjt}^{\frac{\eta-1}{\eta}} \right]^{\frac{\eta}{\eta-1}}$

oretical framework

urther decompositions: between Native and Migrant Workers

$$L_{kjt} = \left[\theta_{Hkjt} H_{kjt}^{\frac{\sigma-1}{\sigma}} + \theta_{Mkjt} M_{kjt}^{\frac{\sigma-1}{\sigma}} \right]^{\frac{\sigma}{\sigma-1}}$$

d, within Migrants, between those who migrated
the last 5 years *(New)* or before *(Old)*

$$M_{kjt} = \left[\theta_{M_{kjOLDt}} M_{kjOLDt}^{\frac{\lambda-1}{\lambda}} + \theta_{MkjNEWt} M_{kjNEWt}^{\frac{\lambda-1}{\lambda}} \right]^{\frac{\lambda}{\lambda-1}}$$

oretical framework

ompetitive equilibrium:

$$= \ln\left(\alpha A_t \frac{K_t^{1-\alpha}}{L_t^{1-\alpha}}\right) + \frac{1}{\delta}\ln(L_t) + \ln\theta_{kt} - \left(\frac{1}{\delta} - \frac{1}{\eta}\right)\ln(L_{kt}) + \ln(\theta_{kjt}) - \left(\frac{1}{\eta} - \frac{1}{\sigma}\right)\ln(L_{kjt}) + \ln\theta_{Hkjt} - \frac{1}{\sigma}\ln(H_{kjt})$$

e total percentage effect of immigration on native wages is (in the long run):

$$\left.\right)^{Total} = \frac{1}{\delta}\sum_m \sum_i \left(s_{Mmit} \frac{\Delta M_{mit}}{M_{mit}} + s_{Hmit} \left(\frac{\Delta H_{mit}}{H_{mit}}\right)_{response} \right)$$

$$\left(\frac{1}{s_{kt}}\right)\sum_i \left(s_{Mkit} \frac{\Delta M_{kit}}{M_{kit}} + s_{Hkit} \left(\frac{\Delta H_{kit}}{H_{kit}}\right)_{response} \right)$$

$$\left(\frac{1}{s_{kjt}}\right)\left(s_{Mkjt} \frac{\Delta M_{kjt}}{M_{kjt}} + s_{Hkjt} \left(\frac{\Delta H_{kjt}}{H_{kjt}}\right)_{response} \right)$$

$$\Delta H_{kjt}$$

meter estimates

ployment regressions:

$$\frac{rkforce_{kjt} - Workforce_{kjt-1}}{Workforce_{t-1}} = D_k + D_j + D_t + \gamma \frac{M_{kjt} - M_{kjt-1}}{Workforce_{t-1}} + u_{kjt}$$

e same applies between “Old” and “New” migrants

1 *no employment effects*

1 *positive employment effects*

1 *negative employment effects*

s: positive if migrants clustered in booming education-experience cells,
ative otherwise

logeneity is addressed with an IV strategy: East-West Migration

lts: employment effects (gamma)

	New vs. Old migrants			Migrants vs. Natives		
	Main	***Rob. Checks***		***Main***	***Rob. Checks***	
n	I	II	III	I	II	III
tion method	OLS	OLS	IV	OLS	OLS	IV
Period	1987-2001	1987-2001	1992-2001	1987-2001	1987-2001	1992-2001
ent	0,686	0,727	0,58	1,272	1,358	2,683
rd error	0,097	0,077	0,11	0,384	0,431	1,015
tic	7,050	9,440	5,37	3,310	3,151	2,640
Gamma==1	0,004	0,002	0,00	0,487	0,415	0,097
age						
est migrants			1,01			1,29
Standard error			0,04			0,17
T statistic			25,42			7,58
f exclusion			163,40			57,38
' imputation	Yes	Yes	Yes	Yes	Yes	Yes
ent education	No	Yes	No	No	Yes	No
of FY work. only	No	Yes	No	No	Yes	No
on Dummies	Yes	Yes	Yes	Yes	Yes	Yes
nce Dummies	Yes	Yes	Yes	Yes	Yes	Yes
ummies	Yes	Yes	Yes	Yes	Yes	Yes

meter estimates: elasticity

stimates of the elasticities of substitution (sigma)

$$\ln\left(\frac{w_{Hkjt}}{w_{Mkjt}}\right) = -\frac{1}{\sigma}\ln\left(H_{kjt}/M_{kjt}\right) + \ln\left(\theta_{Hkjt}/\theta_{Mkjt}\right)$$

$$\ln\left(w_{Hkjt}/w_{Mkjt}\right) = D_k + D_k + D_t - \frac{1}{\sigma}\ln\left(\frac{H_{kjt}}{M_{kjt}}\right) + u_{kjt}$$

nd similarly for λ

ogeneity is addressed with an IV strategy: East-West Migration

lts: elasticities

	New vs. Old migrants			Migrants vs. Natives		
	Main	***Rob. Checks***		***Main***	***Rob. Checks***	
	I	II	III	I	II	III
on method	OLS	OLS	IV	OLS	OLS	IV
Period	1987-2001	1987-2001	1992-2001	1987-2001	1987-2001	1992-2001
nt	0,017	0,004	0,02	0,046	0,037	0,030
d error	0,011	0,010	0,01	0,011	0,021	0,016
c	1,579	0,406	1,52	4,048	1,784	1,870
ge						
st migrants			0,66			0,80
Standard error			0,05			0,05
T statistic			12,10			16,24
exclusion			146,74			263,67
imputation	Yes	Yes	Yes	Yes	Yes	Yes
nt education	No	Yes	No	No	Yes	No
f FY work. only	No	Yes	No	No	Yes	No
n Dummies	Yes	Yes	Yes	Yes	Yes	Yes
ce Dummies	Yes	Yes	Yes	Yes	Yes	Yes
mmies	Yes	Yes	Yes	Yes	Yes	Yes

ometric results

o negative employment effects between home and
migrant workers

egative employment effects between migrants

$= \infty$ migrants are perfect substitutes in production

$\in 22$ home and migrant workers are imperfect substitutes,
ult in line with
aviano and Peri (2006) and Manacorda et al. (2006)
pectively for US and UK

es

mpact of migration

Education	*"Old" Migrants*				*Natives*
	Wages			Wage Bill	Wages
	I	II	III	IV	I
	True immigration effect (A)	Response effect (B)	Total effect (A+B)	Total effect	Total effect
ocational Education	-1.46%	0.76%	-0.70%	-11.0%	1.68%
tional Education	-0.88%	0.69%	-0.19%	-21.6%	-0.14%
r Education	-2.65%	1.54%	-1.11%	-39.5%	-1.01%
ge	-1.29%	0.78%	-0.51%	-17.6%	-0.02%

y experiment

eviously migrated workers born negative
employment effects due to rigidities. We simulate
their market clearing wages in the absence these
rigidities: the overall amount of wages paid to these
workers would decrease by 40 million of euros

e cost of the only Unemployment Insurance for displaced
rkers who would have saved their job if wages were
at the market clearing level is 365 million,
re than enough to compensate the losers

ducing the rigidities in the labor market would
prove efficiency