

# The Integration of Migrants in the German Labor Market: Evidence over 50 Years

Paul Berbee\*  
Jan Stuhler\*\*

\*ZEW Mannheim

\*\*Universidad Carlos III de Madrid

22nd March 2024

## Motivation

Germany has become world's **2nd-most important destination** for international migrants (after the US)

- ▶ 13 million foreign-born
- ▶ pop. share: 17.1%;  
incl. 2nd-generation: 27.2% (< age 20: 38.9%)

However, most immigration episodes took Germany by surprise and were accompanied by controversial debates rather than positive narratives.

# Outlook

Comprehensive overview of labor market integration across all immigrant groups and nearly 50 years

We ask two specific questions:

1. How **predictable** are integration outcomes of different groups?
2. Has integration improved **over time**?

And, consider two **case studies**:

1. The 1990s “employment collapse”
2. Recent refugee cohorts

# Outlook

Comprehensive overview of labor market integration across all immigrant groups and nearly 50 years

We ask two specific questions:

1. How **predictable** are integration outcomes of different groups?
2. Has integration improved **over time**?

And, consider two **case studies**:

1. The 1990s “employment collapse”
2. Recent refugee cohorts

# Outlook

Comprehensive overview of labor market integration across all immigrant groups and nearly 50 years

We ask two specific questions:

1. How **predictable** are integration outcomes of different groups?
2. Has integration improved **over time**?

And, consider two **case studies**:

1. The 1990s “employment collapse”
2. Recent refugee cohorts

## Existing evidence for Germany based on:

- ▶ Survey data, in particular SOEP (e.g., Kogan, 2004; Riphahn, 2004; Constant & Massey, 2003; Basilio, Bauer & Kramer, 2017)
- ▶ Admin. data (Lehmer & Ludsteck, 2015; Gathmann & Monscheuer, 2019)
- ▶ Individual waves from the microcensus (Algan, Dustmann, Glitz & Manning, 2010; Kalter & Granato, 2002; Kogan, 2011)

Exception, and complementary to our study:

- ▶ Gendered dimension of integration (Sprengholz et al., 2021)
- ▶ We instead focus on **working-age men**

## Existing evidence for Germany based on:

- ▶ Survey data, in particular SOEP (e.g., Kogan, 2004; Riphahn, 2004; Constant & Massey, 2003; Basilio, Bauer & Kramer, 2017)
- ▶ Admin. data (Lehmer & Ludsteck, 2015; Gathmann & Monscheuer, 2019)
- ▶ Individual waves from the microcensus (Algan, Dustmann, Glitz & Manning, 2010; Kalter & Granato, 2002; Kogan, 2011)

## Exception, and complementary to our study:

- ▶ Gendered dimension of integration (Sprengholz et al., 2021)
- ▶ We instead focus on **working-age men**

# Literature and Data

## German Microcensus:

- ▶ Representative 1% sample of resident population
- ▶ 34 waves of the weakly anonymized (i.e., on-site) version of the microcensus, 1976-2019
- ▶ No panel → return migration, naturalizations [▶ Naturalizations](#)

## Immigrant sample:

- ▶ 1st generation males with foreign nationality (age 18-58)
- ▶ 38 cohorts based on arrival period and nationality [▶ Overview](#)

## Main outcomes:

- ▶ Employment
- ▶ Real individual post-tax income (including non-labor earnings)



# Literature and Data

## German Microcensus:

- ▶ Representative 1% sample of resident population
- ▶ 34 waves of the weakly anonymized (i.e., on-site) version of the microcensus, 1976-2019
- ▶ No panel → return migration, naturalizations [▶ Naturalizations](#)

## Immigrant sample:

- ▶ 1st generation **males** with foreign nationality (age 18-58)
- ▶ 38 cohorts based on arrival period and nationality [▶ Overview](#)

## Main outcomes:

- ▶ Employment
- ▶ Real individual post-tax income (including non-labor earnings)

# Literature and Data

## German Microcensus:

- ▶ Representative 1% sample of resident population
- ▶ 34 waves of the weakly anonymized (i.e., on-site) version of the microcensus, 1976-2019
- ▶ No panel → return migration, naturalizations [▶ Naturalizations](#)

## Immigrant sample:

- ▶ 1st generation **males** with foreign nationality (age 18-58)
- ▶ 38 cohorts based on arrival period and nationality [▶ Overview](#)

## Main outcomes:

- ▶ Employment
- ▶ Real individual post-tax income (including non-labor earnings)

# Overview: Immigrant cohorts

▶ Inflows over time

<b>1955-1973</b>	<b>1974-1987</b>	<b>1988-1995</b>	<b>1996-2009</b>
<b>Recruitment period</b>	<b>Consolidation period</b>	<b>Fall of the Iron curtain</b>	<b>Period of East-West integration</b>
NW Europe 55-73	NW Europe 74-87	NW Europe 88-95	NW Europe 96-09
Italy 55-67	S Europe 74-78	S Europe 88-95	S Europe 96-09
Italy 68-73	S Europe 79-87	Yugoslavia 88-91	Yugoslavia 96-09
S Europe 55-67	Yugoslavia 74-87	Yugoslavia 92-95	Turkey 96-03
S Europe 68-73	Turkey 74-78	Turkey 88-91	Turkey 04-09
Yugoslavia 68-70	Turkey 79-87	Turkey 92-95	Former USSR 96-03
Yugoslavia 71-73		CE Europe 88-91	Former USSR 04-09
Turkey 55-67		CE Europe 92-95	New EU states 96-03
Turkey 68-70		Other Asia 88-95	New EU states 04-09
Turkey 71-73		MENA 88-95	Cent.-East Asia 96-09
			MENA 96-03
			MENA 04-09

First generation, life-cycle trajectories.

# Estimating employment and income gaps

Unconditional immigrant-native gaps:

$$\hat{y}_i^{gap} = y_i - \hat{y}_i \quad (1)$$

We predict  $\hat{y}_i$  from:

$$y_n = \sum_{a=18}^{58} \delta^N A_{na} + \sum_{t=1976}^{2015} \gamma_t^N \Pi_t + \sum_{t=1976}^{2015} \sum_{a=18}^{58} \zeta_{ta}^N (A_{na} \times \Pi_t) + \varepsilon_n \quad (2)$$

where:

- $y_n$  Labor market outcome for native individual  $n$
- $A_{na}$  Dummies for age  $a$
- $\Pi_t$  Dummies for year  $t$

▸ Empirical approach: Parametric estimates

First generation, **employment**.

Figure: Employment rates, 1955-1973 arrivals

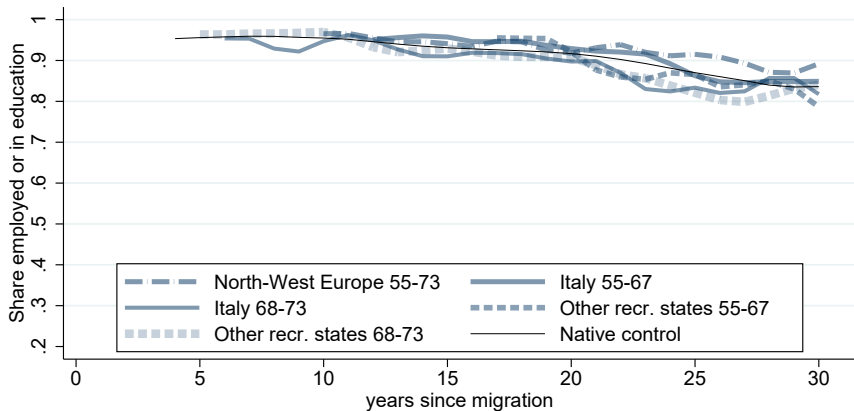


Figure: Employment rates, 1955-1973 arrivals

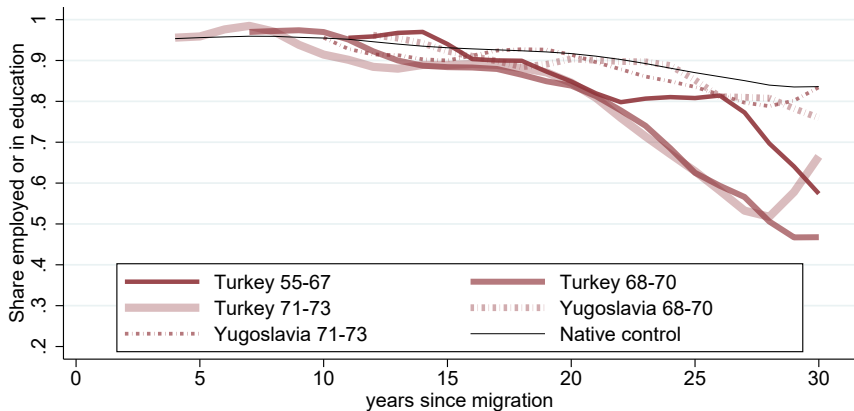




Figure: Employment rates, [1955-1973](#) arrivals

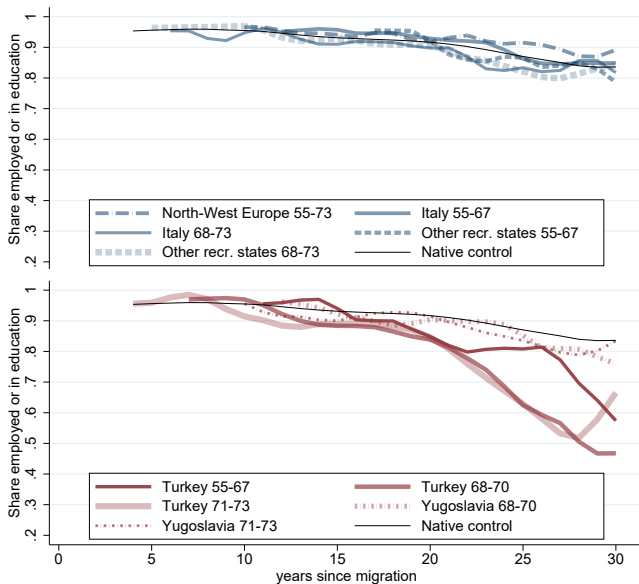


Figure: Employment rates, [1974-1987](#) arrivals

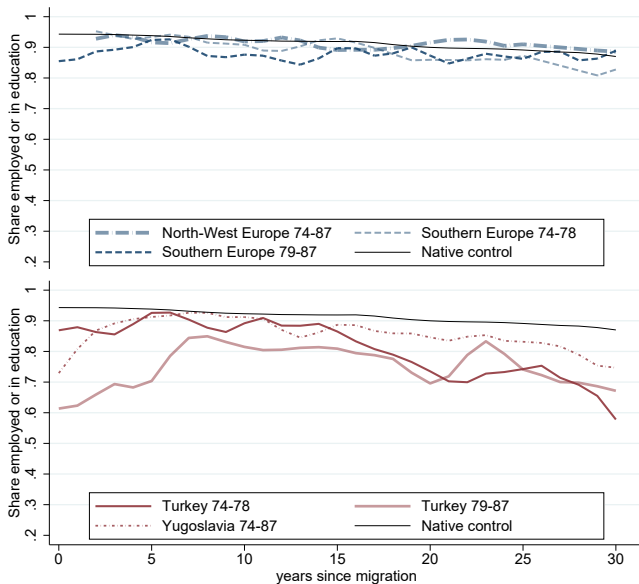


Figure: Employment rates, [1988-1995](#) arrivals

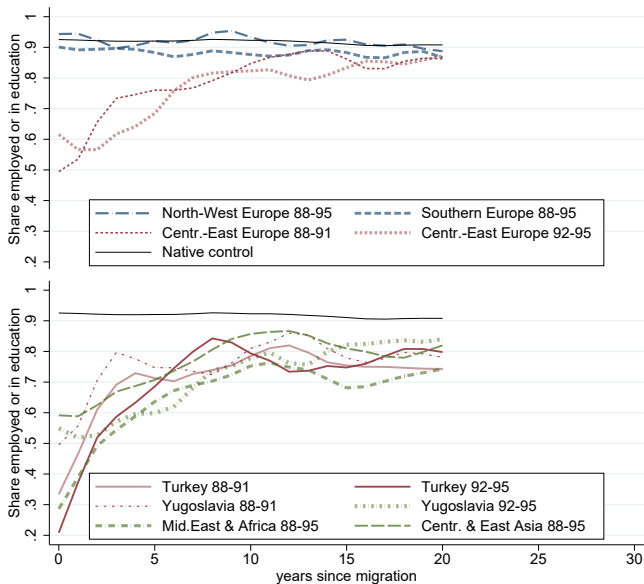
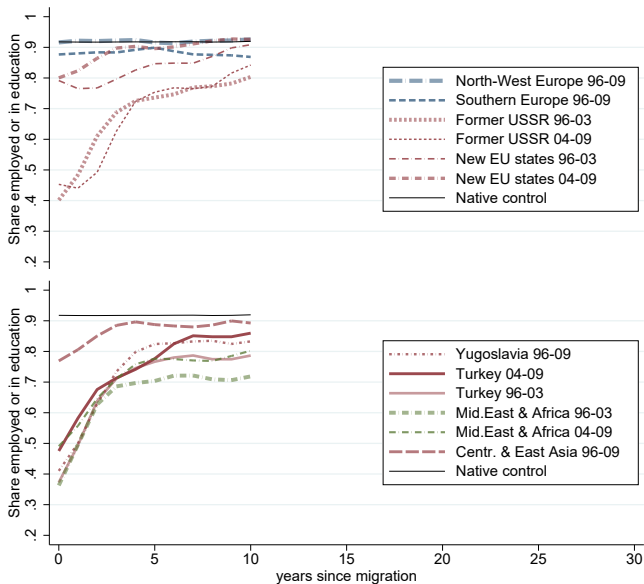


Figure: Employment rates, [1996-2009 arrivals](#)



# Employment gaps

## Employment profiles of immigrant cohorts:

1. Typically *concave*, with low employment rates at arrival but increasing employment over time
2. Most groups have substantially lower employment rates than natives (*average gap after one decade: 10 pp*), but much heterogeneity
3. Cohorts with *high refugee shares* assimilate more slowly, but tend to eventually catch up to other immigrant groups
4. Gaps never close fully for groups with low employment at arrival. For some cohorts, gaps *worsening* again after initial convergence

# Employment gaps

Employment profiles of immigrant cohorts:

1. Typically **concave**, with low employment rates at arrival but increasing employment over time
2. Most groups have substantially lower employment rates than natives (**average gap after one decade: 10 pp**), but much heterogeneity
3. Cohorts with **high refugee shares** assimilate more slowly, but tend to eventually catch up to other immigrant groups
4. Gaps never close fully for groups with low employment at arrival. For some cohorts, gaps *worsening* again after initial convergence

# Employment gaps

Employment profiles of immigrant cohorts:

1. Typically **concave**, with low employment rates at arrival but increasing employment over time
2. Most groups have substantially lower employment rates than natives (**average gap after one decade: 10 pp**), but much heterogeneity
3. Cohorts with **high refugee shares** assimilate more slowly, but tend to eventually catch up to other immigrant groups
4. Gaps never close fully for groups with low employment at arrival. For some cohorts, gaps *worsening* again after initial convergence

# Employment gaps

Employment profiles of immigrant cohorts:

1. Typically **concave**, with low employment rates at arrival but increasing employment over time
2. Most groups have substantially lower employment rates than natives (**average gap after one decade: 10 pp**), but much heterogeneity
3. Cohorts with **high refugee shares** assimilate more slowly, but tend to eventually catch up to other immigrant groups
4. Gaps never close fully for groups with low employment at arrival. For some cohorts, gaps *worsening* again after initial convergence



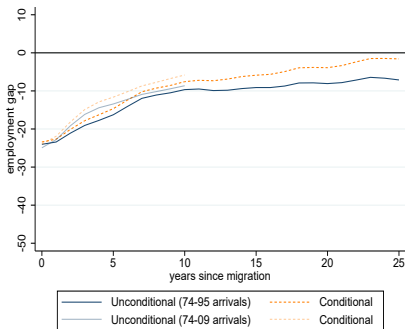
## Employment gaps

Employment profiles of immigrant cohorts:

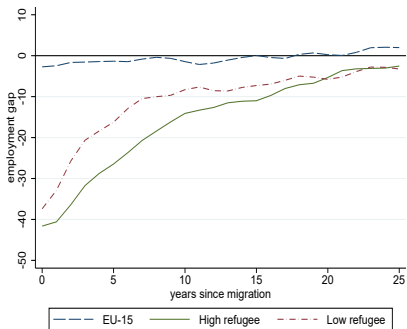
1. Typically **concave**, with low employment rates at arrival but increasing employment over time
2. Most groups have substantially lower employment rates than natives (**average gap after one decade: 10 pp**), but much heterogeneity
3. Cohorts with **high refugee shares** assimilate more slowly, but tend to eventually catch up to other immigrant groups
4. Gaps never close fully for groups with low employment at arrival. For some cohorts, gaps *worsening* again after initial convergence

Figure: Employment gaps

(a) Conditional vs. unconditional gaps



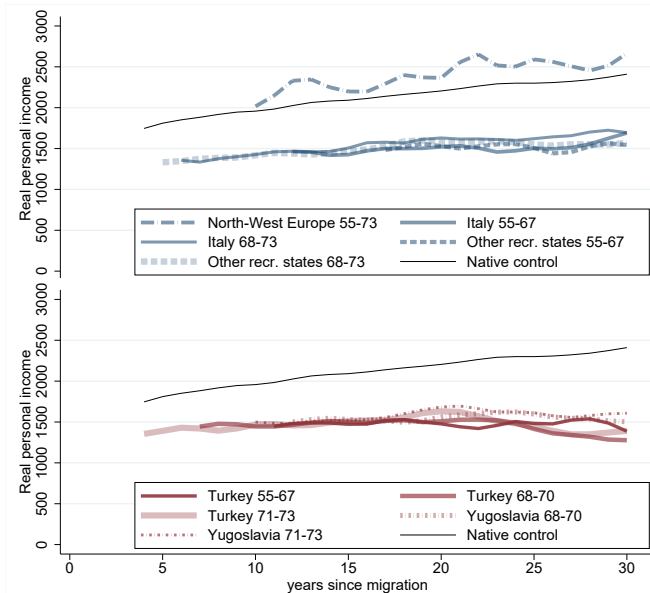
(b) Conditional gaps by cohort type



Notes: Dark long lines include arrival cohorts 1974-95 (observable over 24 years since arrival), light short lines include cohorts 1974-2009 (observable over 10 years). Sub-figure (a): Solid blue line: Unconditional immigrant-native gaps estimated non-parametrically according to eq. (1). Orange dotted line: additionally control for education group  $\times$  year dummies. Sub-figure (b): Conditional gaps for different immigrant groups.

First generation, **income** (real personal monthly post-tax income, including non-labor income).

Figure: Mean income, [1955-1973](#) arrivals



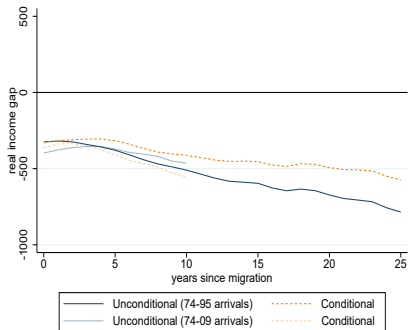
▶ Cohorts 1974-1987

▶ Cohorts 1988-1995

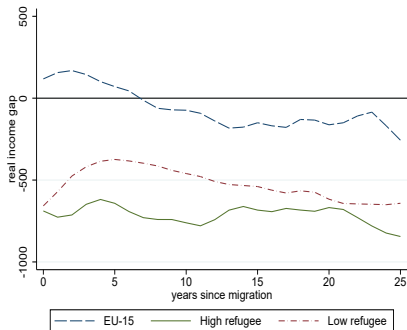
▶ Cohorts 1996-2009

Figure: Income gaps

(a) Conditional vs. unconditional gaps



(b) Conditional gaps by cohort type



Notes: Personal monthly post-tax income (real income, in 2010 Euros). Dark long lines include arrival cohorts 1974-95 (observable over 24 years since arrival), light short lines include cohorts 1974-2009 (observable over 10 years). Sub-figure (a): Blue solid line: Unconditional immigrant-native income gaps, estimated non-parametrically according to eq. (1). Orange dotted line additionally control for education group  $\times$  year dummies. Sub-figures (b) and (c): Conditional gaps by different immigrant groups.

# Income gaps

## Income profiles of immigrant cohorts:

1. **Divergence:** income increases with time spent in Germany, but the income of similarly aged natives increases at a higher pace
2. Gaps in income vary less across origin groups than employment gaps

# Income gaps

Income profiles of immigrant cohorts:

1. **Divergence**: income increases with time spent in Germany, but the income of similarly aged natives increases at a higher pace
2. Gaps in income vary less across origin groups than employment gaps

# Income gaps

Income profiles of immigrant cohorts:

1. **Divergence**: income increases with time spent in Germany, but the income of similarly aged natives increases at a higher pace
2. Gaps in income vary less across origin groups than employment gaps

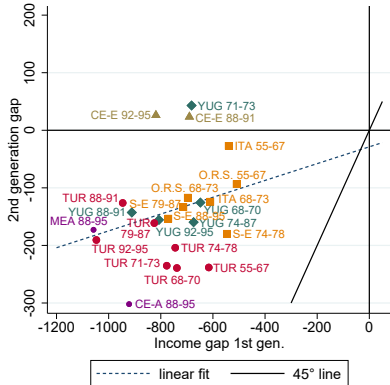
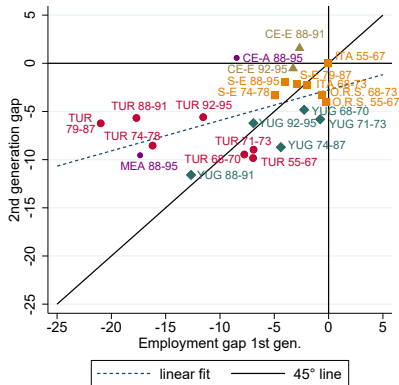


First vs. Second generation.

# Labor market gaps for first and second generations

(c) Employment rates

(d) Income



Notes: Unconditional immigrant-native gaps estimated non-parametrically according to eq. (1). Second generation includes persons who migrated at age 6 or younger ("generation 1.5"). First-generation gaps measured 20 years after migration to Germany. Second-generation gaps measured in 2005, 2009 and 2013. The labels refer to region of origin and arrival year: CE-E: Central and Eastern Europe; ITA: Italy; MEA: Middle East and Africa; O.R.S.: Other recruitment states; CE-A: Central and East Asia; S-E: Southern Europe; TUR: Turkey; YUG: (former) Yugoslavia.

## Second generation

### 1. Gaps shrink, but do not close

- ▶ Between first and second generation, employment gaps shrink by about 25 percent

### 2. Gaps become more uniform across arrival years within origin

- ▶ Turkish, Yugoslav cohorts

### 3. Strong intergenerational correlations

- ▶ Gaps remain large for those groups that struggled most to begin with

## Second generation

### 1. Gaps shrink, but do not close

- ▶ Between first and second generation, employment gaps shrink by about 25 percent

### 2. Gaps become more uniform across arrival years within origin

- ▶ Turkish, Yugoslav cohorts

### 3. Strong intergenerational correlations

- ▶ Gaps remain large for those groups that struggled most to begin with

## Second generation

### 1. Gaps shrink, but do not close

- ▶ Between first and second generation, employment gaps shrink by about 25 percent

### 2. Gaps become more uniform across arrival years within origin

- ▶ Turkish, Yugoslav cohorts

### 3. Strong **intergenerational correlations**

- ▶ Gaps remain large for those groups that struggled most to begin with

Specific questions:

- ▶ How predictable are integration outcomes?
- ▶ Has integration improved over time?

## How predictable are integration profiles?

- ▶ Cohort characteristics more predictive than individual-level predictors [▶ Results](#)
- ▶ Basic cohort characteristics, such as its average education or refugee share, explain 75% of the variation in employment and income gaps across cohorts

Figure: Cohort-level labor market gaps

	Employment gaps (p.p.)				Real income gaps (Euros)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: Initial gaps</b>								
Share w/ school dgr.	11.13*** (1.57)			-0.50 (2.53)	193.4*** (48.3)			-48.7 (79.9)
Share w/ university	-3.82 (2.73)			2.78 (3.25)	193.9** (90.1)			251.3** (99.1)
Refugee share		-11.07*** (2.48)		-4.61** (2.04)		-79.3*** (29.1)		-71.5 (119.3)
EU-15 (dummy)		3.66** (1.46)		3.80* (2.20)		306.9*** (79.2)		142.9* (80.1)
Hofstede Index			-0.28*** (0.05)	-0.05 (0.06)			-10.6*** (2.2)	-2.4 (2.7)
Unempl. rate				-10.86*** (2.31)				-183.3*** (57.8)
N (cohorts)	38	38	38	38	38	38	38	38
adj. $R^2$	0.39	0.56	0.25	0.74	0.44	0.64	0.64	0.79



Figure: Cohort-level labor market gaps

	Employment gaps (p.p.)				Real income gaps (Euros)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel B: Gaps 10 years after arrival</b>								
Share w/ school dgr.	5.22*** (0.72)			1.24 (1.00)	206.7*** (39.8)			46.3 (70.9)
Share w/ university	-1.07 (0.83)			2.39** (1.06)	132.7 (89.5)			160.7 (101.0)
Refugee share		-5.32*** (0.86)		-3.00*** (0.62)		-105.4*** (24.4)		-62.3 (104.6)
EU-15 (dummy)		0.41 (0.70)		-0.58 (0.85)		218.5** (84.7)		50.1 (84.8)
Hofstede Index			-0.09*** (0.02)	-0.01 (0.02)			-8.5*** (2.1)	-3.1 (2.4)
Unempl. rate				-3.53*** (1.13)				-101.9* (59.4)
N (cohorts)	38	38	38	38	38	38	38	38
adj. $R^2$	0.57	0.61	0.16	0.79	0.51	0.58	0.58	0.73

Figure: Cohort-level labor market gaps

	Employment gaps (p.p.)				Real income gaps (Euros)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel C: Explaining 10-year gaps with initial gaps</b>								
Initial gap				6.31*** (0.57)				320.7*** (26.4)
N (cohort)				38				38
Adj. $R^2$				0.82				0.89

Specific questions:

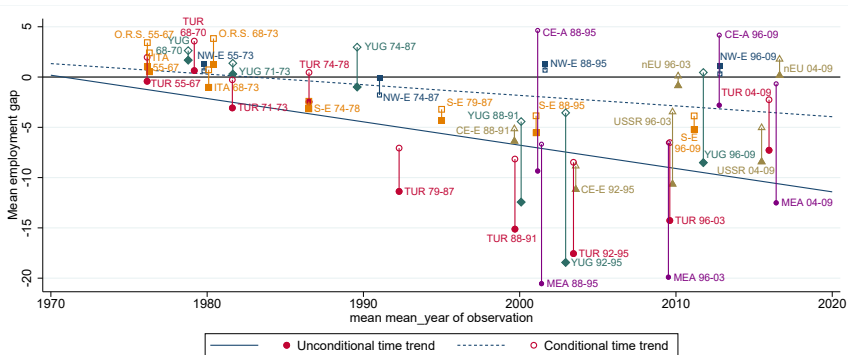
- ▶ How predictable are integration outcomes?
- ▶ Has integration improved over time?

## Time trends

Have integration outcomes improved over the past five decades?

- ▶ Raw employment and income gaps have widened strongly
- ▶ But, gaps have remained fairly stable when controlling for cohort composition and economic conditions

Figure: Time trends in employment gaps (10 years after arrival)



Notes: Filled markers and solid line: unconditional immigrant-native employment gaps and time trend; hollow markers and dashed line: conditional employment gaps and trend. Gaps and time trends are predicted based on the time trend, the average covariates for natives and the residuals from regressions in panel B of Table 3 and aggregated to the cohort level. Unconditional time trends refer to column (1) and conditional time trends to column (4), including controls for individual education, regional unemployment rate (on the level of 75 regional planning units, "Raumordnungsregionen") and cohort-level refugee share.

Figure: Time-trends in employment gaps

	(1)	(2)	(3)	(4)
<b>Panel A: Employment gaps at arrival (p.p.)</b>				
Time trend (10 years)	-5.00**	-6.12***	-2.98*	-0.80
	(2.14)	(1.96)	(1.48)	(1.17)
Observations	40,309	40,309	40,309	40,309
<b>Panel B: Employment gaps 10 years after arrival (p.p.)</b>				
Time trend (10 years)	-2.15***	-2.75***	-1.14**	-0.68*
	(0.75)	(0.70)	(0.49)	(0.36)
Observations	32,612	32,612	32,612	32,612
Education contr.	No	Yes	Yes	Yes
Refugee share	No	No	Yes	Yes
Regional unempl. rate	No	No	No	Yes

Standard errors clustered on the level of cohorts in parentheses

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

Figure: Time trends in income gaps (10 years after arrival)

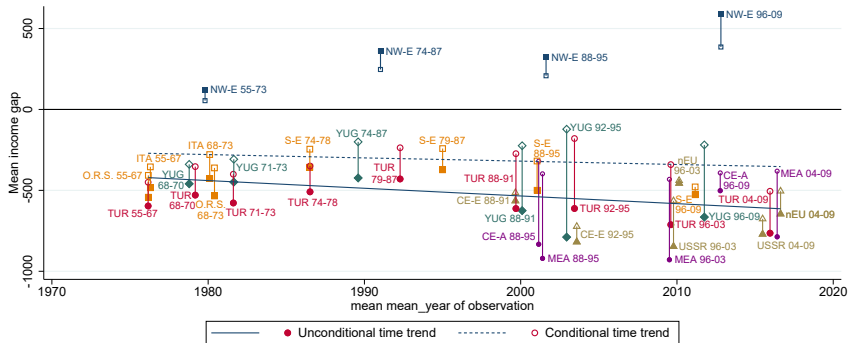


Figure: Time-trends in income gaps

	(1)	(2)	(3)	(4)
<b>Panel C: Income gaps at arrival (Euros)</b>				
Time trend (10 years)	2.63 (81.33)	-72.43 (52.65)	-9.21 (59.54)	31.61 (63.94)
Observations	38,483	38,483	38,483	38,483
<b>Panel D: Income gaps 10 years after arrival (Euros)</b>				
Time trend (10 years)	-43.87 (43.01)	-108.3*** (26.24)	-52.27 (35.07)	-43.90 (37.48)
Observations	31,607	31,607	31,607	31,607
Education contr.	No	Yes	Yes	Yes
Refugee share	No	No	Yes	Yes
Regional unempl. rate	No	No	No	Yes

Standard errors clustered on the level of cohorts in parentheses

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

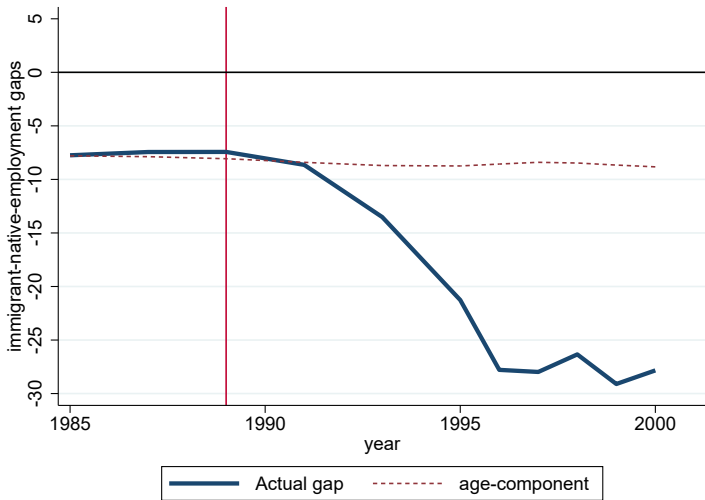


# Case studies

We conclude with two case studies:

1. The 1990s employment collapse
2. Recent refugee arrivals (2015 and 2022 arrivals)

Figure: The 1990s employment collapse (Turkey, 1955-1967)



# The 1990s employment collapse

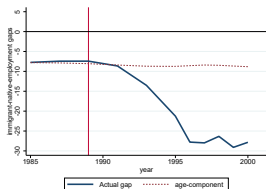
In the early 1990s, employment rates drop strongly, in particular for Turkish cohorts:

- ▶ Across arrival years and age groups (time-specific shock)
- ▶ Can be attributed to changing economic conditions: structural change across sectors, 1993 recession, new in-migration

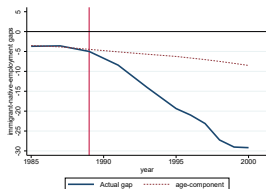
▶ Method. approach

▶ Unempl. and Bartik shocks

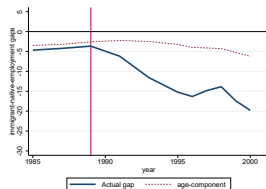
(a) 1955-1967 Arrivals



(b) 1968-1973 Arrivals



(c) 1974-1978 Arrivals



# Case studies

We conclude with two case studies:

1. The 1990s employment collapse
2. Recent refugee arrivals (2015 and 2022 arrivals)

# Recent refugee migration

We study and forecast employment profiles for:

1. Refugees who arrived 2013-2016
2. Ukrainian refugees who were living in Germany before the war

Predications based on (parametrically) estimated employment trajectories in the cumulated microcensus data

- ▶ Age, years since migration, education, refugee share, regional unemployment
- ▶ Compared to individual-level data from IAB-BAMF-SOEP survey

▶ Methodological approach

▶ By perspectives of staying

▶ Longer-run forecast

# Recent refugee migration

We study and forecast employment profiles for:

1. Refugees who arrived 2013-2016
2. Ukrainian refugees who were living in Germany before the war

Predications based on (parametrically) estimated employment trajectories in the cumulated microcensus data

- ▶ Age, years since migration, education, refugee share, regional unemployment
- ▶ Compared to individual-level data from IAB-BAMF-SOEP survey

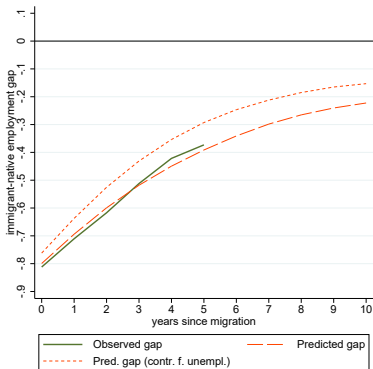
▶ Methodological approach

▶ By perspectives of staying

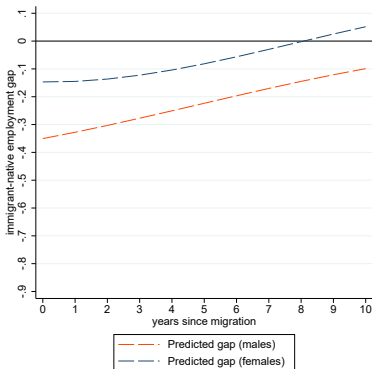
▶ Longer-run forecast

Figure: Employment gaps for recently arrived refugees

(a) 2013-2016 refugee cohorts



(b) Ukrainians



Notes: Figure (a): Green line: Actually observed immigrant-native employment gaps from IAB-BAMF-SOEP survey, estimated non-parametrically. Orange dashed and dotted lines: Predicted gaps estimated parametrically based on the Microcensus (including cohorts since 1974), accounting for age, education, refugee share (dashed line) and the regional unemployment rate in 2021 (dotted line).

## Discussion

Our paper provides a comprehensive overview on the integration of immigrants in the German labor market over the past 50 years

### Main results:

- ▶ Employment profiles converge with time spent in Germany, but large gaps remain for most groups. Income gaps *widen* over the lifecycle.
- ▶ Dramatic collapse of employment in the 1990s → labor market integration is not a one-way street.
- ▶ Labor market gaps close only partially in second generation.
- ▶ How well different groups do on the labor market is highly predictable; Ukrainian arrivals have relatively good prospects.

**A puzzle:** We know certain policies improve integration outcomes, and Germany modernized its migration policies in the 1990s and 2000s. Why do we not see improvements in migrants' labor market outcomes?



## Discussion

Our paper provides a comprehensive overview on the integration of immigrants in the German labor market over the past 50 years

### Main results:

- ▶ Employment profiles converge with time spent in Germany, but large gaps remain for most groups. Income gaps *widen* over the lifecycle.
- ▶ Dramatic collapse of employment in the 1990s → labor market integration is not a one-way street.
- ▶ Labor market gaps close only partially in second generation.
- ▶ How well different groups do on the labor market is highly predictable; Ukrainian arrivals have relatively good prospects.

*A puzzle:* We know certain policies improve integration outcomes, and Germany modernized its migration policies in the 1990s and 2000s. Why do we not see improvements in migrants' labor market outcomes?

## Discussion

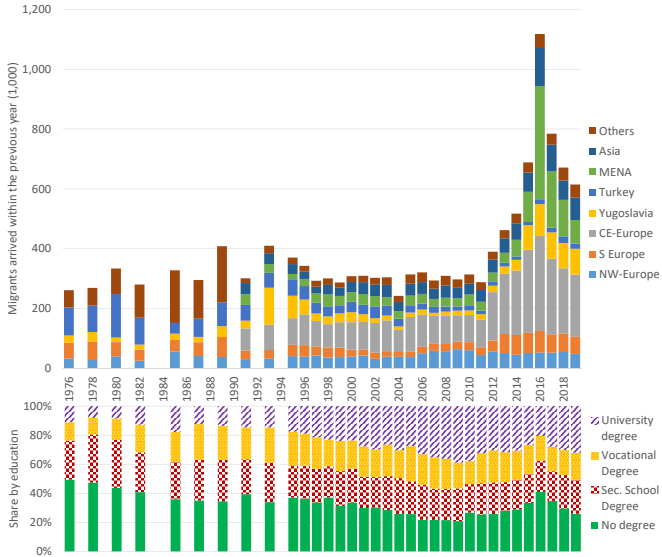
Our paper provides a comprehensive overview on the integration of immigrants in the German labor market over the past 50 years

### Main results:

- ▶ Employment profiles converge with time spent in Germany, but large gaps remain for most groups. Income gaps *widen* over the lifecycle.
- ▶ Dramatic collapse of employment in the 1990s → labor market integration is not a one-way street.
- ▶ Labor market gaps close only partially in second generation.
- ▶ How well different groups do on the labor market is highly predictable; Ukrainian arrivals have relatively good prospects.

**A puzzle:** We know certain policies improve integration outcomes, and Germany modernized its migration policies in the 1990s and 2000s. Why do we not see improvements in migrants' labor market outcomes?

Figure: Immigration to Germany 1976-2019

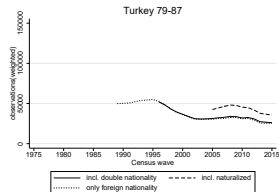


# Selective naturalization: Different immigrant definitions

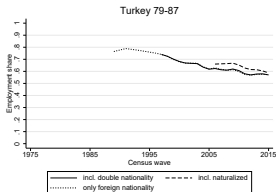
- ▶ Before 1996: Only foreigners without German nationality
- ▶ Until 2004: Including persons with multiple (current) nationalities
- ▶ Since 2005: Including previous nationalities

Example: Turkish immigrants 1979-1987

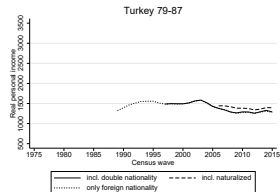
(a) Observations



(b) Employment rates



(c) Mean income



▶ Back

## Empirical approach: Parametric estimates

$$y_i = X_i\phi' + \delta' A_i + \alpha' YSM_i + \sum_{t=1976}^{2015} \gamma_t' \Pi_t + \varepsilon_i \quad (3)$$

Where:

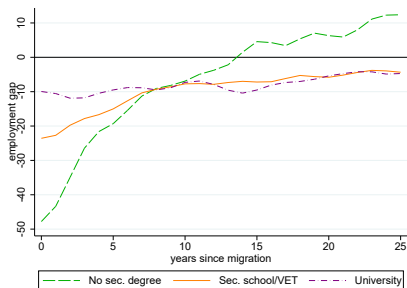
- $y_i$  Labor market outcome for immigrant individual  $i$
- $X_i$  Vector of covariates (optional)
- $A_i$  Age (up to the third polynomial)
- $YSM_i$  Years since migration (up to the third polynomial)
- $\Pi_t$  Dummy for year  $t$

Predicted immigrant-native gaps

$$\hat{y}^I - \hat{y}^N = (\hat{\phi}^I - \hat{\phi}^N)X + (\hat{\delta}^I - \hat{\delta}^N)A + \hat{\alpha}^I YSM \quad (4)$$

Figure: Conditional employment gaps

(a) Conditional gaps by education



(b) Cond. gaps by regional unemp. rate

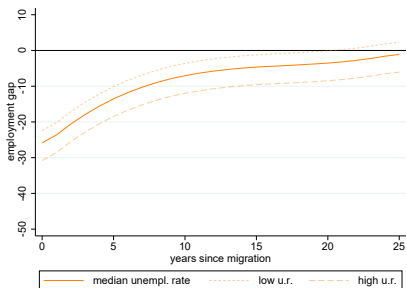


Figure: Mean income, 1974-1987 arrivals

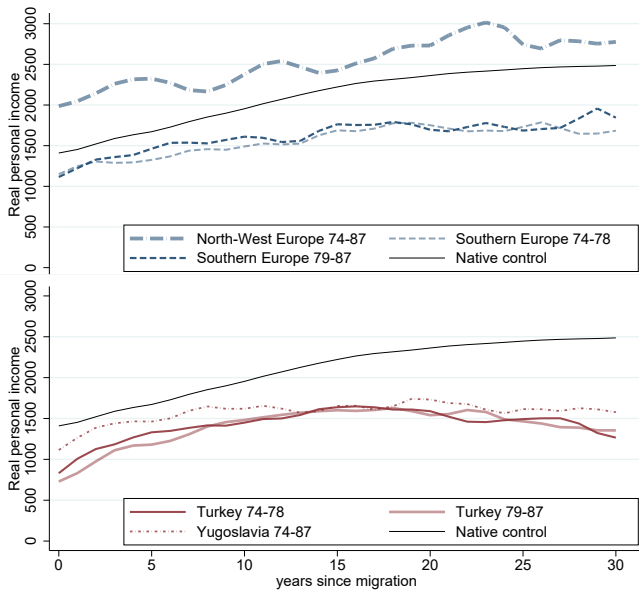


Figure: Mean income, 1988-1995 arrivals

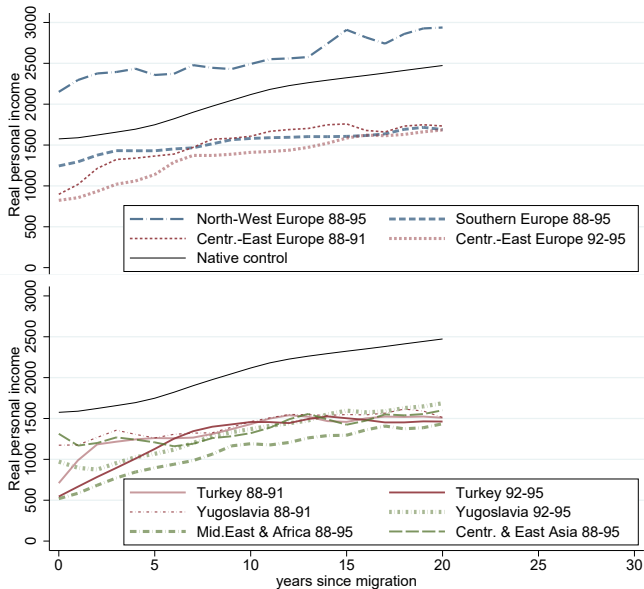




Figure: Mean income, 1996-2009 arrivals

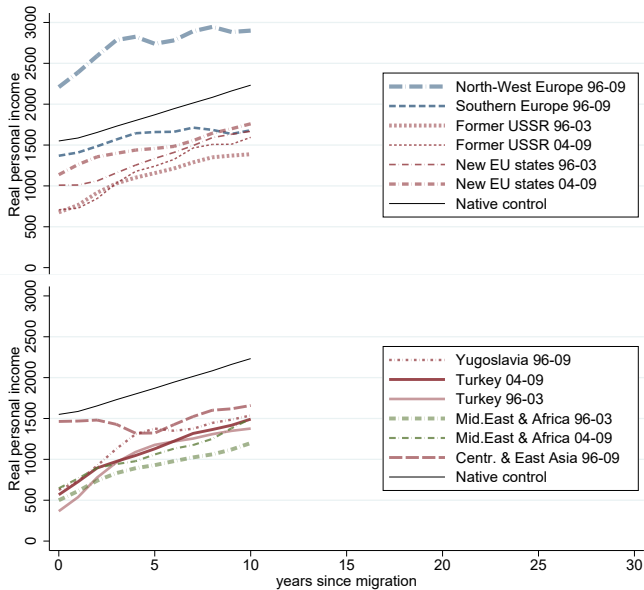
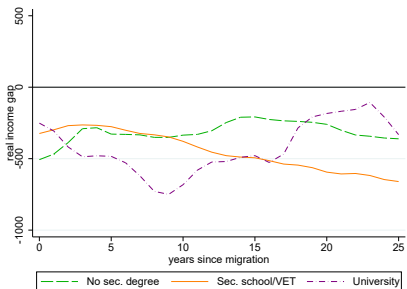


Figure: Conditional income gaps

(a) Conditional gaps by education



(b) Cond. gaps by regional unemp. rate

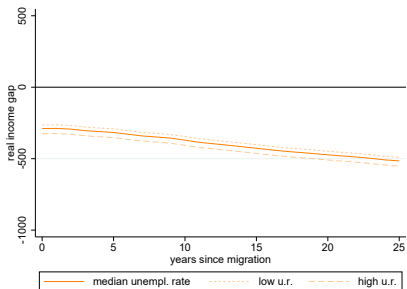


Figure: Individual vs. cohort-level predictors of labor market gaps

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>Panel A: Employment gaps (Percentage points, 10 years after arrival)</b>							
School degree (coh. mean)	5.35*** (0.55)		5.69*** (0.69)				5.04*** (0.69)
University degree (coh. mean)	-1.10 (0.82)		-0.17 (0.70)				-0.55 (0.68)
Cohort size at arrival (coh. mean)		2.33*** (0.77)	1.66** (0.66)				1.40** (0.61)
Age at arrival (coh. mean)		1.74 (1.11)	-1.68 (1.15)				-1.56 (1.08)
School degree (individual)				2.30*** (0.24)		2.281*** (0.238)	1.69*** (0.20)
University degree (individual)				1.47*** (0.50)		1.561*** (0.494)	1.77*** (0.25)
Age at migration (individual)					-2.40*** (0.71)	-2.536*** (0.703)	-3.03*** (0.60)
Observations	32,612	32,612	32,612	32,612	32,612	32,612	32,612
Adj. $R^2$ (in~)	0.03	0.01	0.03	0.02	0.00	0.03	0.05
Adj. $R^2$ (co~)	0.61	0.15	0.69	0.50	0.08	0.57	0.70

## Oaxaca-Blinder decomposition

Estimate separately for immigrants and natives:

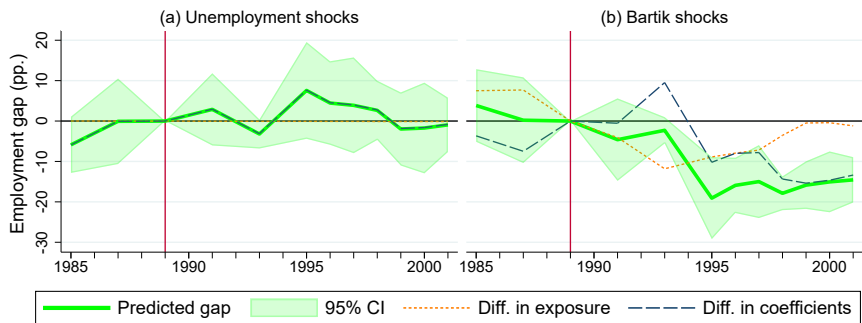
$$y_{ictt} = \delta^I A_i + \alpha YSM_i + \sum_{t=1985}^{2005} \gamma_t^I \Pi_t + \sum_{t=1985}^{2005} \mu_t^I \Pi_t \times UR_{shock1997-1989,r} \\ + \sum_{t=1985}^{2005} \xi_t^I \Pi_t \times BS_{1997-1989,c} + \varepsilon_n \quad (5)$$

where  $y_{ictt}$  is outcome  $y$  for individual  $i$  of cohort  $c$  observed at time  $t$  in region  $r$ ,  $\Pi$  is a set of year dummies,  $UR_{shock1997-1989,r}$  is a regional unemployment shock and  $BS_{1997-1989,c}$  a Bartik-shifter.

We perform Oaxaca-Blinder decompositions to determine which share of the observed immigrant-native gap can be explained by (1) *different exposure* of immigrants to each shock, or (2) *different coefficients*  $\gamma_t$  and  $\mu_t$ .

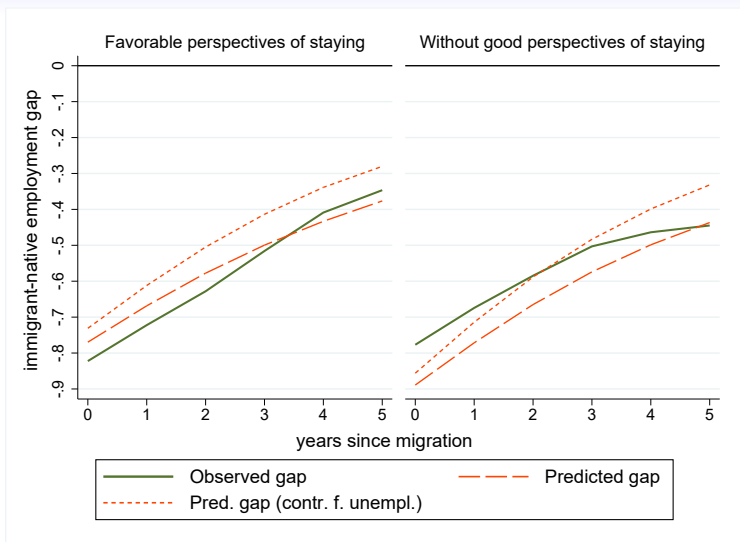
# Application I: 1990s employment collapse

Determinants of the 1990s employment collapse, Turkish migrants



▶ Back

## Application II: Integration of recent refugee cohorts



## Application II: Integration of recent refugee cohorts

Figure: Forecasts for employment gaps of recently arrived refugees

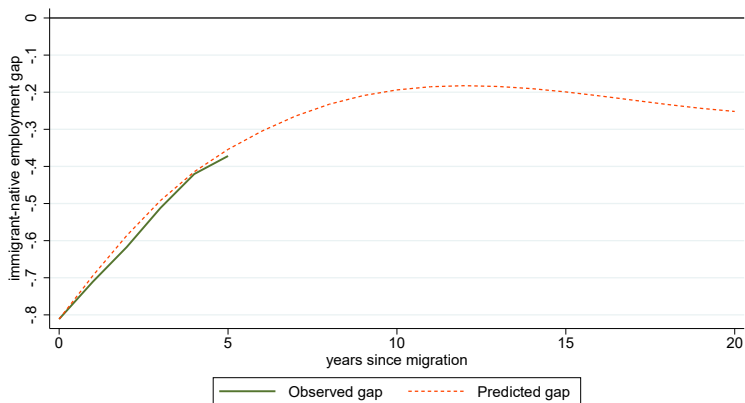


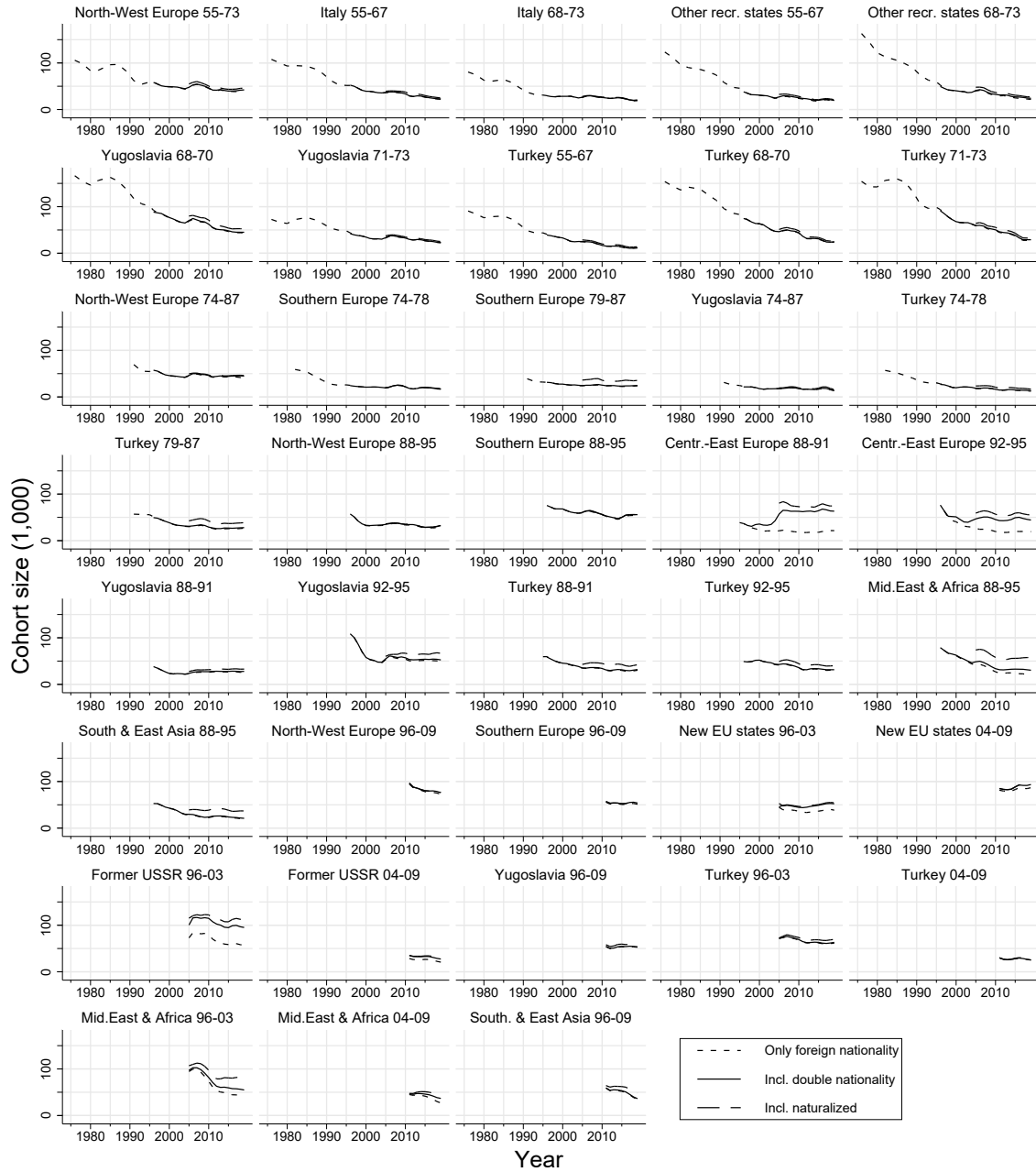
Table 1: Definition and characteristics of immigrant cohorts

	Cohort size (extrapolated)		Age at migration (mean)	Share university degree (%)		Refugee share (%)
	at arrival	after 10 years		at arrival	after 10 years	
<b>1. Recruitment period (1955-1973)</b>						
North-West Europe 55-73	100,000	94,000	27.6	24.6	23.8	0
Italy 55-67		99,000	27.0		1.2	0
Italy 68-73	80,000	71,000	28.8	3.0	0.7	0
Turkey 55-67		89,000	28.6		1.1	0
Turkey 68-70		118,000	29.7		1.8	0
Turkey 71-73	162,000	156,000	29.4	2.2	1.9	0
Yugoslavia 68-70		135,000	27.7		2.4	0
Yugoslavia 71-73	74,000	80,000	28.0	1.0	2.9	0
Other recr. states 55-67		111,000	28.0		2.7	0
Other recr. states 68-73	170,000	100,000	29.4	1.6	2.4	0
<b>2. Consolidation period (1974-1987)</b>						
North-West Europe 74-87	100,000	46,000	28.1	20.5	27.1	0
Southern Europe 74-78	53,000	36,000	28.8	7.6	6.7	0
Southern Europe 79-87	58,000	27,000	27.4	7.9	4.5	0
Yugoslavia 74-87	47,000	19,000	28.9	4.7	6.4	13
Turkey 74-78	55,000	41,000	30.2	8.1	4.4	0
Turkey 79-87	71,000	42,000	26.4	7.8	5.6	6
<b>3. Fall of the Iron Curtain (1988-1995)</b>						
North-West Europe 88-95	59,000	34,000	31.2	46.3	37.7	0
Southern Europe 88-95	77,000	61,000	29.5	9.0	5.7	2
Centr.-East Europe 88-91	43,000	30,000	32.6	25.7	15.2	3
Centr.-East Europe 92-95	82,000	56,000	30.7	24.3	21.1	9
Yugoslavia 88-91	31,000	21,000	29.3	10.7	3.4	41
Yugoslavia 92-95	111,000	64,000	30.7	7.8	7.7	77
Turkey 88-91	52,000	40,000	25.6	8.7	5.5	19
Turkey 92-95	50,000	52,000	26.1	7.1	4.4	29
Mid.East & Africa 88-95	82,000	77,000	27.8	27.5	20.6	57
Central & East Asia 88-95	51,000	39,000	28.5	28.7	17.0	65
<b>4. Period of East-West integration (1996-2005)</b>						
North-West Europe 96-09	111,000	59,000	33.2	55.8	56.3	2
Southern Europe 96-09	68,000	48,000	29.8	30.8	29.5	0
New EU states 96-03	43,000	45,000	29.0	27.4	24.8	4
New EU states 04-09	88,000	89,000	32.4	20.6	15.9	1
Former USSR 96-03	105,000	86,000	33.2	27.7	24.9	34
Former USSR 04-09	39,000	25,000	32.6	32.0	39.4	12
Yugoslavia 96-09	64,000	53,000	28.8	9.6	6.5	38
Turkey 96-03	70,000	68,000	26.0	9.5	10.4	20
Turkey 04-09	35,000	25,000	27.4	21.7	13.2	4
Mid.East & Africa 96-03	104,000	82,000	29.3	26.6	23.7	56
Mid.East & Africa 04-09	56,000	43,000	28.1	37.3	36.8	52
Central & East Asia 96-09	77,000	43,000	28.7	56.7	49.6	34

Notes: Cohort sizes and characteristics measured in the first available census wave after and 10 years after complete arrival. Total population numbers extrapolated using the extrapolation weights provided by the microcensus. Refugee share taken from the SOEP. See Appendix Table A4 for a precise definition of the origin regions.

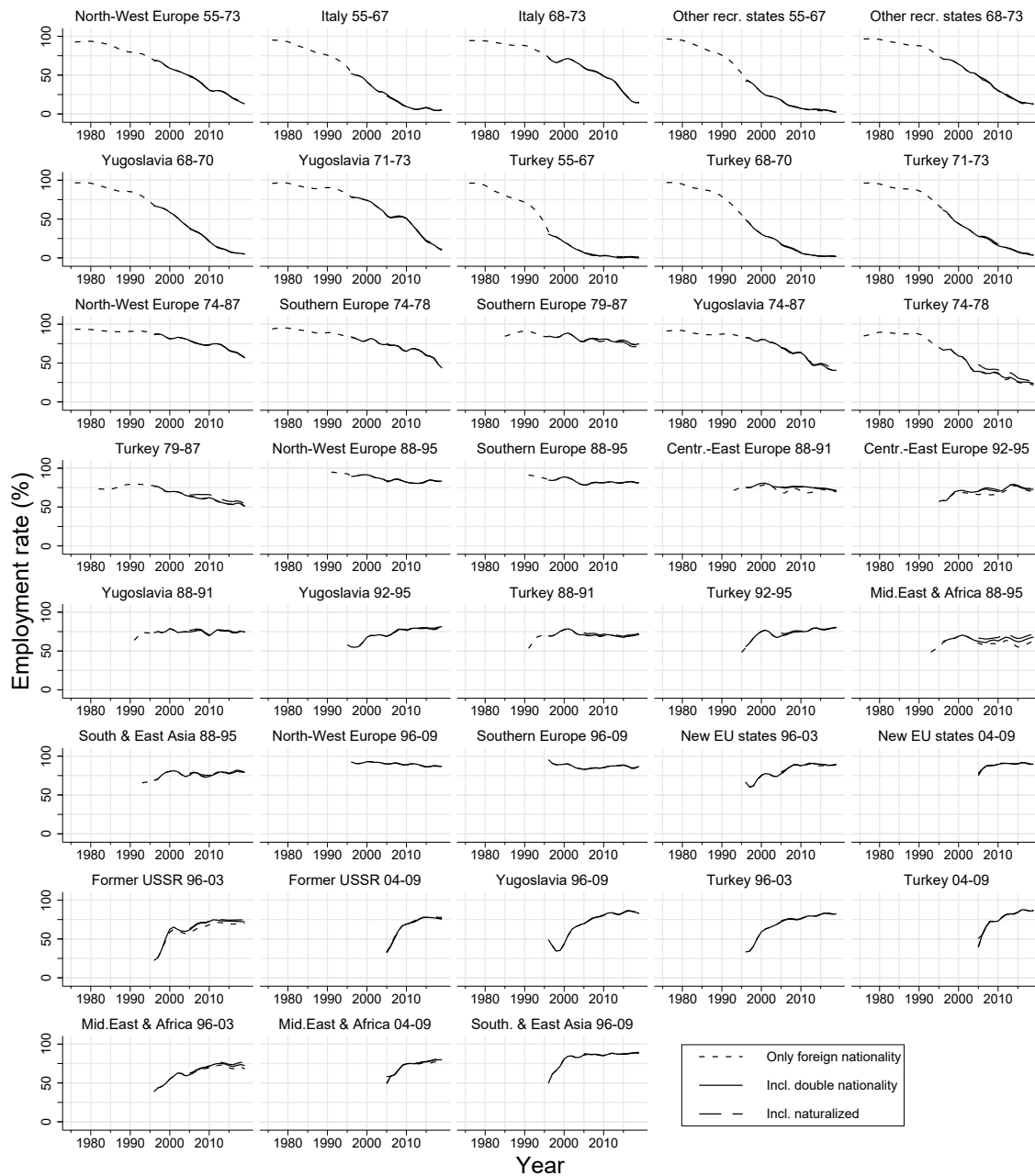


Figure A1: Different immigrant definitions: Number of observations



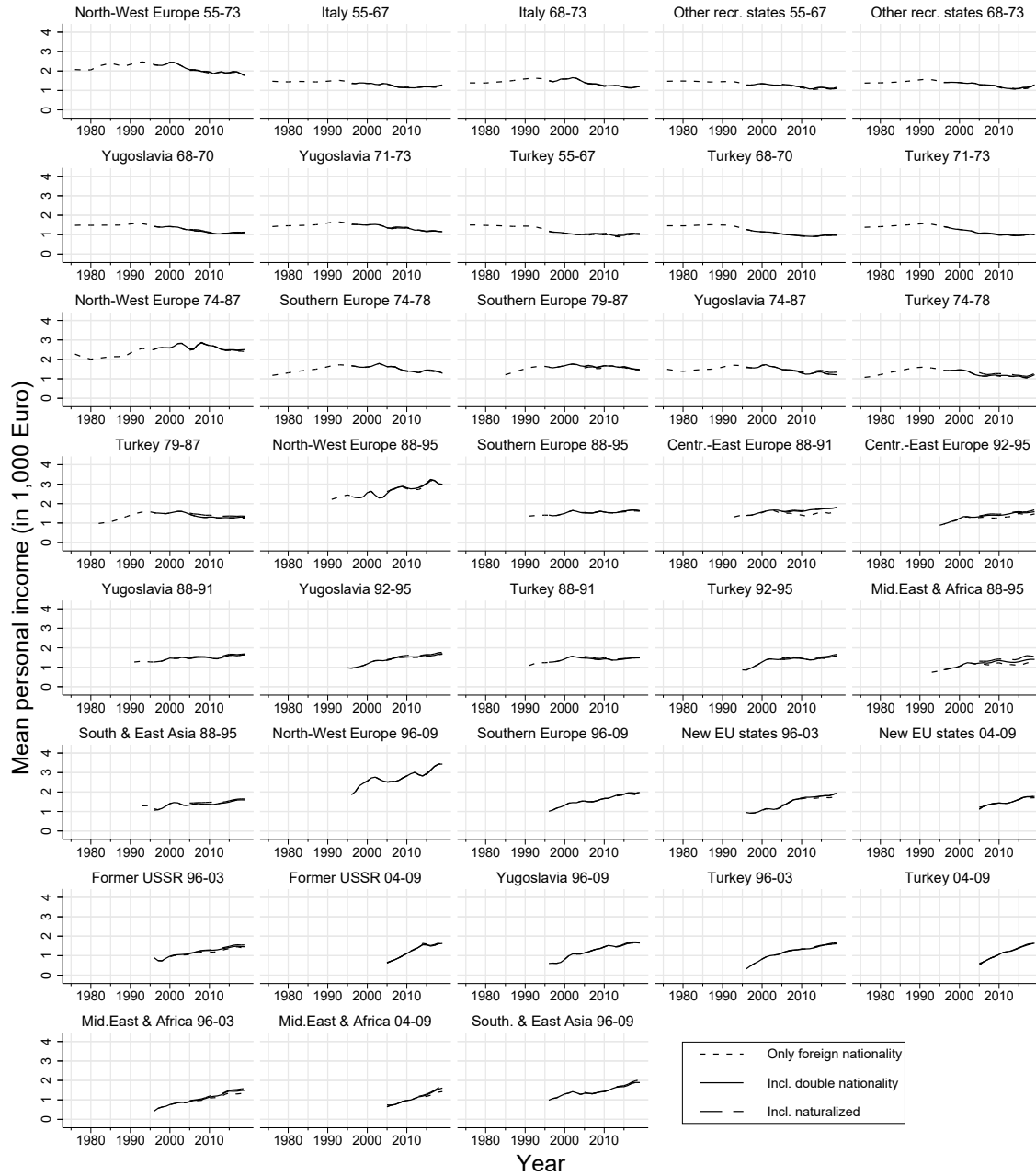
*Notes:* Observation numbers (in 1,000; extrapolated with microcensus weights to match total population numbers; male migrants aged 18 or older, including those above 58). Short dashed line: Migrants holding a foreign nationality, but no German nationality (since 1976). Solid line: Additionally migrants holding both, German and foreign nationality (since 1995). Long dashed line: Additionally naturalized migrants who lost foreign nationality when adopting German citizenship (since 2005).

Figure A2: Different immigrant definitions: Employment rates



Notes: Mean employment rates (male migrants aged 18 or older, including those above 58). Short dashed line: Migrants holding a foreign nationality, but no German nationality (since 1976). Solid line: Additionally migrants holding both, German and foreign nationality (since 1995). Long dashed line: Additionally naturalized migrants who lost foreign nationality when adopting German citizenship (since 2005).

Figure A3: Different immigrant definitions: Average personal income



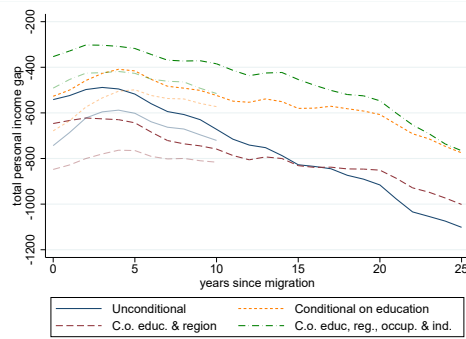
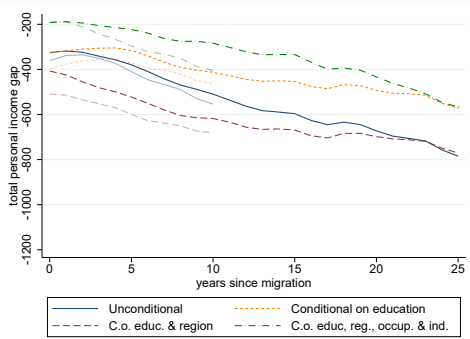
Notes: Mean real individual post-tax income (in 1,000 Euro - reference year 2010; male migrants aged 18 or older, including those above 58). Short dashed line: Migrants holding a foreign nationality, but no German nationality (since 1976). Solid line: Additionally migrants holding both, German and foreign nationality (since 1995). Long dashed line: Additionally naturalized migrants who lost foreign nationality when adopting German citizenship (since 2005).

Figure A4: Additional evidence on income profiles

Gaps in monthly personal income (2010 EUR)

(a) All cohorts

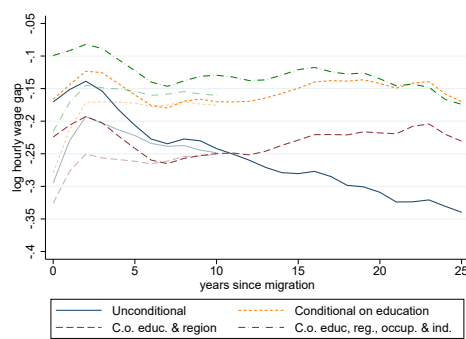
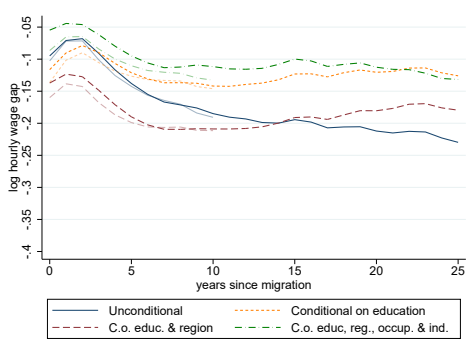
(b) Cohorts with low return migration



Gaps in log hourly labor wage (log-points)

(c) All cohorts

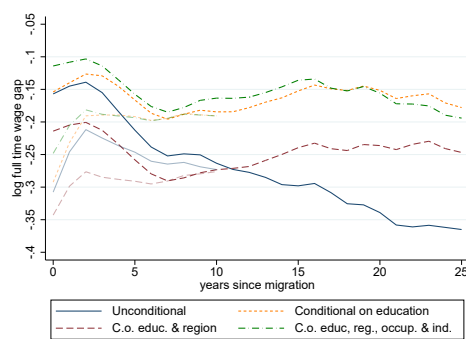
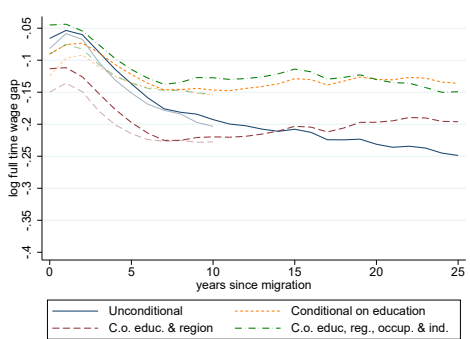
(d) Cohorts with low return migration



Gaps in full-time daily labor wage (log-points)

(e) All cohorts

(f) Cohorts with low return migration



*Notes:* Dark long lines include arrival cohorts 1974-95, light short lines include cohorts 1974-2009. Solid blue lines depict unconditional immigrant-native gaps (controlling only for observation year and age); dotted orange lines additionally controls for education; dashed red lines additionally controls for region, number of children and marital status; dash-dotted green lines additionally controls for occupation and industry groups.

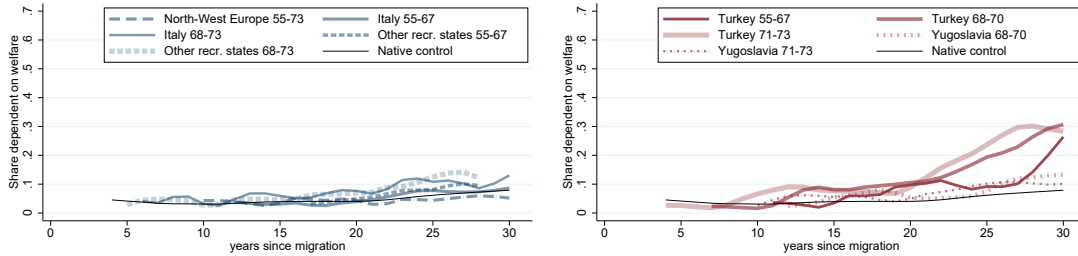
Table A1: Inter- and intramarriage rates of immigrant cohorts

	at arrival		10 years after arrival	
	intermarriage	intramarriage	intermarriage	intramarriage
<b>1. Recruitment period (1955-1973)</b>				
North-West Europe 55-73			39.6	31.7
Italy 55-67			16.7	68.8
Italy 68-73			15.1	64.5
Turkey 55-67			1.5	92.0
Turkey 68-70			0.8	90.0
Turkey 71-73			1.9	91.6
Yugoslavia 68-70			4.7	82.5
Yugoslavia 71-73			4.5	79.5
Other recr. states 55-67			4.2	75.1
Other recr. states 68-73			2.4	69.9
<b>2. Consolidation period (1974-1987)</b>				
North-West Europe 74-87	18.1	30.7	34.7	32.0
Southern Europe 74-78	4.0	48.0	23.2	53.7
Southern Europe 79-87	7.2	41.7	7.5	63.3
Yugoslavia 74-87	11.2	54.4	11.2	71.0
Turkey 74-78	2.9	68.9	4.3	84.7
Turkey 79-87	6.3	54.0	7.4	80.7
<b>3. Fall of the Iron Curtain (1988-1995)</b>				
North-West Europe 88-95	8.0	28.7	27.6	16.8
Southern Europe 88-95	1.0	49.2	9.8	57.9
Centr.-East Europe 88-91	7.9	66.2	21.8	55.7
Centr.-East Europe 92-95	9.3	58.3	20.0	57.6
Yugoslavia 88-91	6.4	65.7	20.8	58.6
Yugoslavia 92-95	1.7	62.5	17.0	60.1
Turkey 88-91	3.7	76.9	13.2	72.2
Turkey 92-95	9.4	71.2	21.5	62.7
Mid.East & Africa 88-95	7.9	31.5	23.3	33.2
Central & East Asia 88-95	2.9	38.7	11.0	61.7
<b>4. Period of East-West integration 1996-2005</b>				
North-West Europe 96-09	6.4	19.8	23.6	20.0
Southern Europe 96-09	3.7	22.8	8.7	36.5
New EU states 96-03	16.4	29.9	14.7	47.3
New EU states 04-09	4.4	43.8	4.9	48.1
Former USSR 96-03	23.1	53.1	22.1	54.5
Former USSR 04-09	21.7	42.0	25.1	44.4
Yugoslavia 96-09	21.2	41.6	17.8	56.2
Turkey 96-03	39.3	42.0	37.4	44.0
Turkey 04-09	49.7	33.5	43.2	33.6
Mid.East & Africa 96-03	22.8	16.4	18.6	32.1
Mid.East & Africa 04-09	25.8	20.0	15.8	30.1
Central & East Asia 96-09	5.3	29.6	13.8	45.7

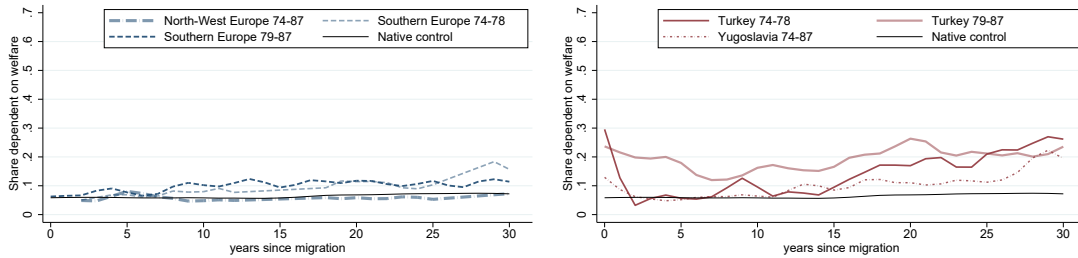
Notes: Percentages are taken from the entire sample, regardless of marital status. Non-married persons are included in the percentages and treated as zeros. Intramarriage refers to be married to a spouse of the same nationality group (the same groups our cohorts are based on); intermarriage refers to being married to a spouse that only holds the German nationality.

Figure A5: Welfare dependency of different immigrant cohorts

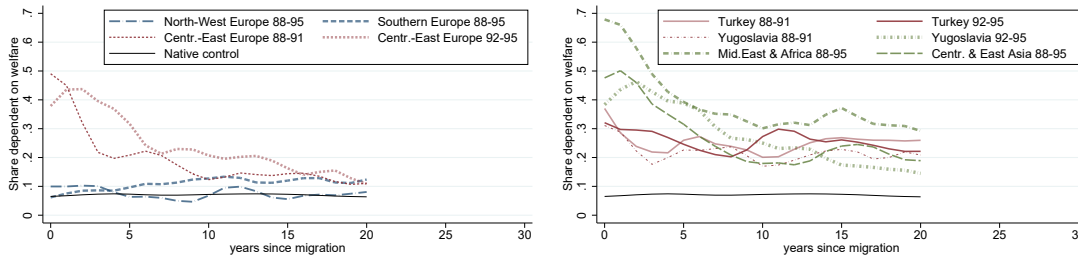
(a) Arrivals 1955-1973



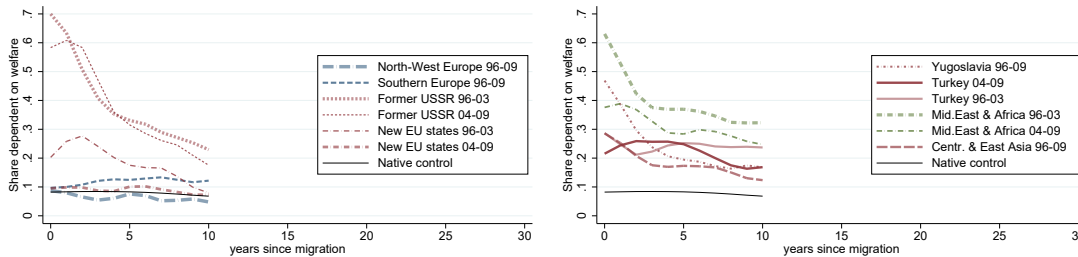
(b) Arrivals 1974-1987



(c) Arrivals 1988-1995



(d) Arrivals 1996-2005



Notes: Share of persons whose main source of income is public transfers. This includes unemployment benefits and social assistance, but also other programs like asylum seeker benefits, parental benefits, student aid (BAFoeG). Pensions are *not* considered. The counterfactual native welfare shares are for natives of the same age observed in the same year as the immigrant sample (estimated according to equation 2).

Table A5: Table: Assimilation of immigrant-native gaps by cohorts (Part I)

	ysm	personal income (EUR)			log hourly wage			employment (p.p.)		
		uc	ed	fm	uc	ed	fm	uc	ed	fm
<b>1. Recruitment period (1955-1973)</b>										
N. & W. Europe 55-73	10	105.9	63.7	84.5	0.01	-0.02	0.02	1.64	1.09	1.26
	20	204.8	132.3	177.1	0.06	0.01	0.05	-1.41	-2.46	-1.85
Italy 55-67	10	-483.8	-403.1	-181.6	-0.29	-0.24	-0.09	0.52	1.84	2.34
	20	-556.0	-492.1	-299.2	-0.25	-0.21	-0.13	-0.37	0.64	0.35
Italy 68-73	10	-435.9	-351.5	-181.5	-0.25	-0.20	-0.11	-1.04	-0.44	-1.10
	20	-709.9	-651.1	-344.0	-0.33	-0.29	-0.19	-2.21	-1.22	-1.42
Turkey 55-67	10	-596.4	-527.1	-260.4	-0.26	-0.21	-0.08	-0.42	1.52	1.26
	20	-565.1	-495.1	-338.9	-0.17	-0.13	-0.09	-4.94	-1.88	-2.71
Turkey 68-70	10	-529.3	-453.6	-251.8	-0.24	-0.18	-0.11	0.64	2.24	1.26
	20	-805.4	-721.0	-519.2	-0.24	-0.19	-0.16	-6.92	-4.24	-5.77
Turkey 71-73	10	-574.8	-490.3	-301.6	-0.23	-0.17	-0.11	-3.05	-1.71	-2.93
	20	-834.7	-738.1	-544.8	-0.22	-0.16	-0.14	-6.30	-4.22	-5.76
Yugoslavia 68-70	10	-459.5	-388.6	-183.2	-0.23	-0.18	-0.10	1.68	1.90	1.15
	20	-692.6	-660.7	-386.4	-0.24	-0.20	-0.15	-2.26	-2.15	-3.11
Yugoslavia 71-73	10	-436.2	-350.6	-154.8	-0.19	-0.13	-0.04	0.23	0.89	0.11
	20	-728.5	-662.4	-420.7	-0.25	-0.20	-0.15	-0.14	-0.24	-1.35
O. recr. states 55-67	10	-542.4	-487.4	-258.0	-0.26	-0.22	-0.10	1.02	1.91	1.27
	20	-486.6	-434.9	-267.7	-0.24	-0.20	-0.15	-0.79	0.46	-0.12
O. recr. states 68-73	10	-528.0	-444.3	-267.9	-0.26	-0.20	-0.13	1.34	2.38	1.76
	20	-740.8	-677.7	-418.7	-0.25	-0.20	-0.15	-0.72	0.93	-0.17
<b>2. Consolidation period (1974-1987)</b>										
N. & W. Europe 74-87	1	292.2	193.2	164.9	0.18	0.08	0.12	-9.74	-10.38	-10.48
	10	369.8	281.1	245.8	0.08	0.03	0.06	0.97	-0.46	-0.79
	20	433.5	297.6	305.1	0.06	0.00	0.03	2.24	0.95	1.22
S. Europe 74-78	1	-111.1	-78.3	-20.9	-0.08	-0.06	0.09	0.15	0.46	1.70
	10	-420.4	-380.2	-182.4	-0.22	-0.18	-0.11	-5.44	-4.63	-5.91
	20	-538.1	-423.1	-204.7	-0.21	-0.14	-0.06	-6.59	-4.30	-4.70
S. Europe 79-87	1	-138.5	-130.1	-91.3	-0.16	-0.17	-0.05	-5.89	-5.71	-6.49
	10	-351.3	-278.3	-173.2	-0.21	-0.17	-0.11	-2.88	-1.76	-3.24
	20	-772.1	-616.6	-465.5	-0.29	-0.20	-0.13	-2.40	1.08	-0.91
Yugoslavia 74-87	1	-396.9	-362.0	-276.1	-0.17	-0.15	0.01	-10.44	-10.08	-8.37
	10	-408.1	-339.5	-144.8	-0.19	-0.15	-0.10	-0.15	0.76	-0.85
	20	-701.1	-582.1	-430.6	-0.22	-0.17	-0.11	-3.78	-2.17	-3.50
Turkey 74-78	1	-485.2	-447.4	-207.2	-0.16	-0.13	-0.01	-9.20	-7.47	-6.82
	10	-489.2	-411.4	-276.0	-0.18	-0.13	-0.11	-2.81	-0.12	-1.97
	20	-733.7	-574.6	-438.3	-0.18	-0.10	-0.10	-15.14	-10.71	-12.80
Turkey 79-87	1	-534.6	-483.7	-124.0	-0.06	-0.03	0.07	-30.67	-28.90	-29.44
	10	-495.6	-390.6	-277.2	-0.14	-0.09	-0.09	-14.27	-11.58	-14.38
	20	-838.9	-541.0	-336.4	-0.16	-0.02	-0.02	-22.98	-15.41	-18.19

Notes: *ysm*: years since migration; *uc*: unconditional estimates (controlling only for age and observation year); *ed*: conditional estimates (controlling for age, observation year and education); *fm*: full model (controlling for age, observation year, education, marital status, household size, number of children, region, and – in the case of income and wage – also for broad industry and occupation groups).

Table A6: Table: Assimilation of immigrant-native gaps by cohorts (Part II)

	ysm	personal income (EUR)			log hourly wage			employment (p.p.)		
		uc	ed	fm	uc	ed	fm	uc	ed	fm
<b>3. Fall of the Iron Curtain (1988-1995)</b>										
N. & W. Europe 88-95	1	705.5	490.2	436.4	0.22	0.10	0.12	1.78	-0.44	-0.14
	10	265.2	167.2	207.6	0.02	-0.01	0.03	0.73	-0.02	0.15
	20	412.7	236.0	307.1	0.13	0.07	0.08	-3.37	-4.08	-4.66
S. Europe 88-95	1	-232.0	-182.3	-122.8	-0.19	-0.18	-0.08	-4.49	-3.44	-4.60
	10	-557.2	-419.3	-254.9	-0.25	-0.19	-0.11	-7.19	-5.01	-7.29
	20	-774.0	-536.7	-301.2	-0.32	-0.19	-0.10	-3.71	1.47	-0.21
C. & E. Europe 88-91	1	-669.1	-708.5	-611.9	-0.17	-0.21	-0.19	-33.75	-34.67	-36.27
	10	-551.5	-518.5	-419.2	-0.14	-0.12	-0.11	-4.93	-4.22	-6.32
	20	-677.2	-596.2	-430.2	-0.19	-0.16	-0.13	-2.30	-1.60	-3.32
C. & E. Europe 92-95	1	-773.2	-766.4	-669.7	-0.37	-0.37	-0.32	-33.32	-33.07	-35.54
	10	-771.5	-749.2	-533.8	-0.24	-0.24	-0.19	-10.58	-9.95	-11.92
	20	-783.2	-681.6	-476.6	-0.22	-0.17	-0.12	-2.71	-1.48	-3.37
Yugoslavia 88-91	1	-458.4	-428.1	-289.0	-0.13	-0.13	-0.09	-28.50	-28.28	-30.99
	10	-643.3	-532.5	-353.8	-0.20	-0.15	-0.14	-12.27	-10.67	-13.57
	20	-950.3	-722.1	-517.0	-0.25	-0.15	-0.12	-13.34	-9.61	-12.04
Yugoslavia 92-95	1	-816.6	-714.6	-553.7	-0.30	-0.28	-0.23	-40.01	-38.46	-40.23
	10	-771.2	-626.5	-381.1	-0.25	-0.19	-0.14	-16.59	-14.63	-17.50
	20	-816.0	-622.2	-454.3	-0.23	-0.13	-0.08	-8.55	-4.97	-7.59
Turkey 88-91	1	-424.0	-346.8	-393.8	-0.05	-0.05	-0.11	-40.23	-38.18	-43.40
	10	-605.6	-402.0	-293.8	-0.17	-0.08	-0.08	-16.05	-11.85	-15.84
	20	-950.0	-527.6	-411.3	-0.28	-0.06	-0.08	-18.70	-7.65	-11.08
Turkey 92-95	1	-687.9	-546.2	-643.8	-0.08	-0.04	-0.09	-48.70	-45.31	-50.45
	10	-600.7	-324.9	-277.4	-0.22	-0.10	-0.11	-18.09	-12.07	-16.60
	20	-1040.8	-586.2	-451.7	-0.27	-0.06	-0.04	-12.58	-1.96	-5.38
M.East & Africa 88-95	1	-952.0	-965.6	-771.9	-0.32	-0.35	-0.28	-46.71	-44.82	-45.17
	10	-914.9	-835.0	-549.2	-0.31	-0.28	-0.17	-20.13	-16.92	-18.09
	20	-1086.4	-834.3	-604.4	-0.34	-0.19	-0.12	-17.43	-10.00	-10.99
C. & E. Asia 88-95	1	-352.2	-409.5	-74.2	-0.04	-0.11	-0.05	-36.79	-35.79	-36.11
	10	-793.1	-753.3	-540.4	-0.33	-0.29	-0.18	-8.67	-5.98	-8.60
	20	-812.6	-526.8	-335.9	-0.42	-0.27	-0.19	-8.45	-1.22	-3.42
<b>4. Period of East-West integration (1996-2005)</b>										
N. & W. Europe 96-09	1	698.7	413.3	471.6	0.25	0.13	0.14	1.56	-0.94	-1.07
	10	517.3	325.6	281.1	0.14	0.07	0.07	0.93	-0.01	-0.48
S. Europe 96-09	1	-213.9	-258.4	-149.5	-0.17	-0.18	-0.06	-3.24	-2.66	-3.29
	10	-558.4	-456.4	-288.8	-0.26	-0.20	-0.13	-3.46	-0.25	-1.57
New EU states 96-03	1	-495.1	-521.4	-283.3	-0.23	-0.24	-0.18	-18.85	-18.87	-21.84
	10	-389.5	-373.8	-336.7	-0.12	-0.11	-0.10	0.34	0.95	-1.44
New EU states 04-09	1	-566.3	-604.1	-408.2	-0.26	-0.27	-0.18	-10.93	-10.82	-13.62
	10	-560.5	-508.8	-394.5	-0.22	-0.18	-0.13	1.44	2.60	0.68
Former USSR 96-03	1	-917.2	-948.7	-618.4	-0.23	-0.24	-0.26	-44.24	-44.01	-47.05
	10	-798.4	-757.1	-543.8	-0.26	-0.24	-0.21	-11.39	-10.45	-12.94
Former USSR 04-09	1	-1039.6	-1028.6	-827.1	-0.29	-0.33	-0.33	-47.95	-47.12	-50.45
	10	-926.4	-862.9	-688.6	-0.28	-0.24	-0.22	-10.32	-8.60	-11.44
Yugoslavia 96-09	1	-783.9	-629.9	-343.7	-0.22	-0.19	-0.16	-45.91	-42.38	-39.61
	10	-661.4	-423.6	-315.0	-0.23	-0.12	-0.10	-10.17	-5.36	-8.75
Turkey 96-09	1	-717.5	-546.9	-526.8	-0.19	-0.16	-0.18	-41.28	-36.94	-42.24
	10	-702.7	-370.0	-341.5	-0.26	-0.10	-0.11	-13.19	-5.63	-10.10
M.East & Africa 96-09	1	-848.7	-827.8	-654.3	-0.30	-0.29	-0.23	-41.57	-37.91	-35.58
	10	-918.1	-762.1	-539.0	-0.31	-0.22	-0.16	-18.48	-12.19	-14.14
C. & E. Asia 96-09	1	-137.0	-448.7	60.3	0.09	-0.04	-0.03	-12.74	-13.93	-12.79
	10	-608.0	-710.6	-677.5	-0.19	-0.22	-0.18	-4.47	-1.90	-4.32

See Table A5 for table notes.



Table A7: Time-trends in immigrants' labor market gaps (weighted)

	(1)	(2)	(3)	(4)	(5)
<b>Panel A: Employment gaps at arrival (p.p.)</b>					
Time trend (10 years)	-4.78** (2.13)	-5.89*** (1.98)	-2.80* (1.47)	-0.64 (1.12)	0.84 (1.33)
Observations	40,288	40,288	40,288	40,288	40,288
<b>Panel B: Employment gaps 10 years after arrival (p.p.)</b>					
Time trend (10 years)	-2.28*** (0.82)	-2.92*** (0.77)	-1.26** (0.53)	-0.74* (0.39)	-0.64 (0.43)
Observations	32,612	32,612	32,612	32,612	32,612
<b>Panel C: Income gaps at arrival (Euros)</b>					
Time trend (10 years)	12.34 (79.48)	-63.03 (51.69)	-0.04 (58.23)	43.05 (62.74)	5.89 (72.94)
Observations	38,462	38,462	38,462	38,462	38,462
<b>Panel D: Income gaps 10 years after arrival (Euros)</b>					
Time trend (10 years)	-46.82 (44.40)	-111.8*** (26.99)	-55.02 (36.40)	-45.63 (39.43)	-62.22 (38.26)
Observations	31,598	31,598	31,598	31,598	31,598
Education contr.	No	Yes	Yes	Yes	Yes
Refugee share	No	No	Yes	Yes	Yes
Regional unempl. rate	No	No	No	Yes	No
National unempl. rate	No	No	No	No	Yes

Standard errors clustered on the level of cohorts in parentheses

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

Notes: Equations estimated according to equation (6), using microcensus weights. The dependent variables are individual migrant-native employment gaps (including education) predicted according to equation (1). The variable that captures the linear time trend is year/10, thus coefficients capture a change over one decade. Educational controls are individual dummies for an academic degree and a vocational degree, refugee share is measured on the cohort level, regional unemployment rate on the level of 75 regional planning units ("Raumordnungsregionen").