



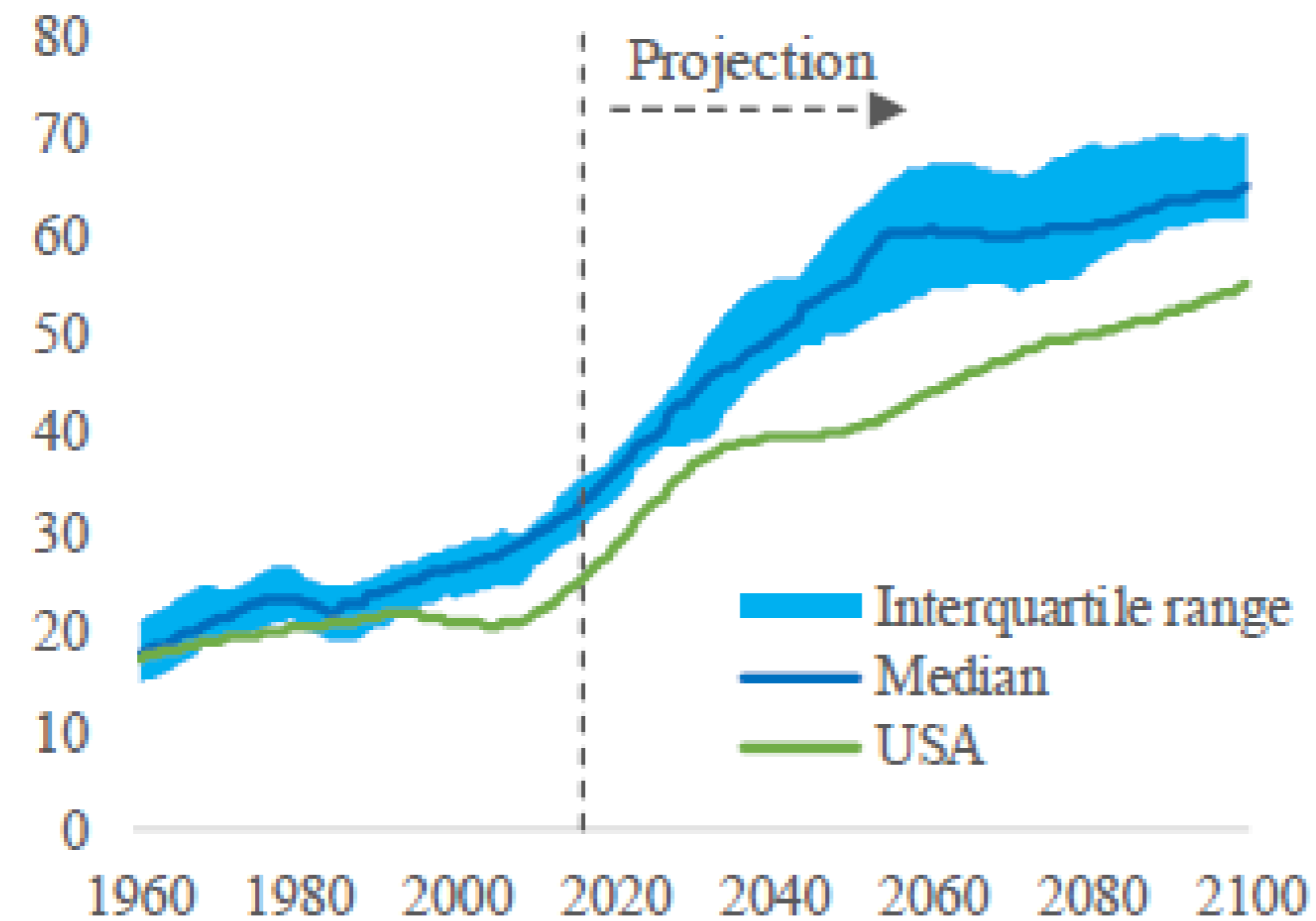
# Labor Force Participation in Europe

*Benjamin Hilgenstock and Zsoka Koczan*

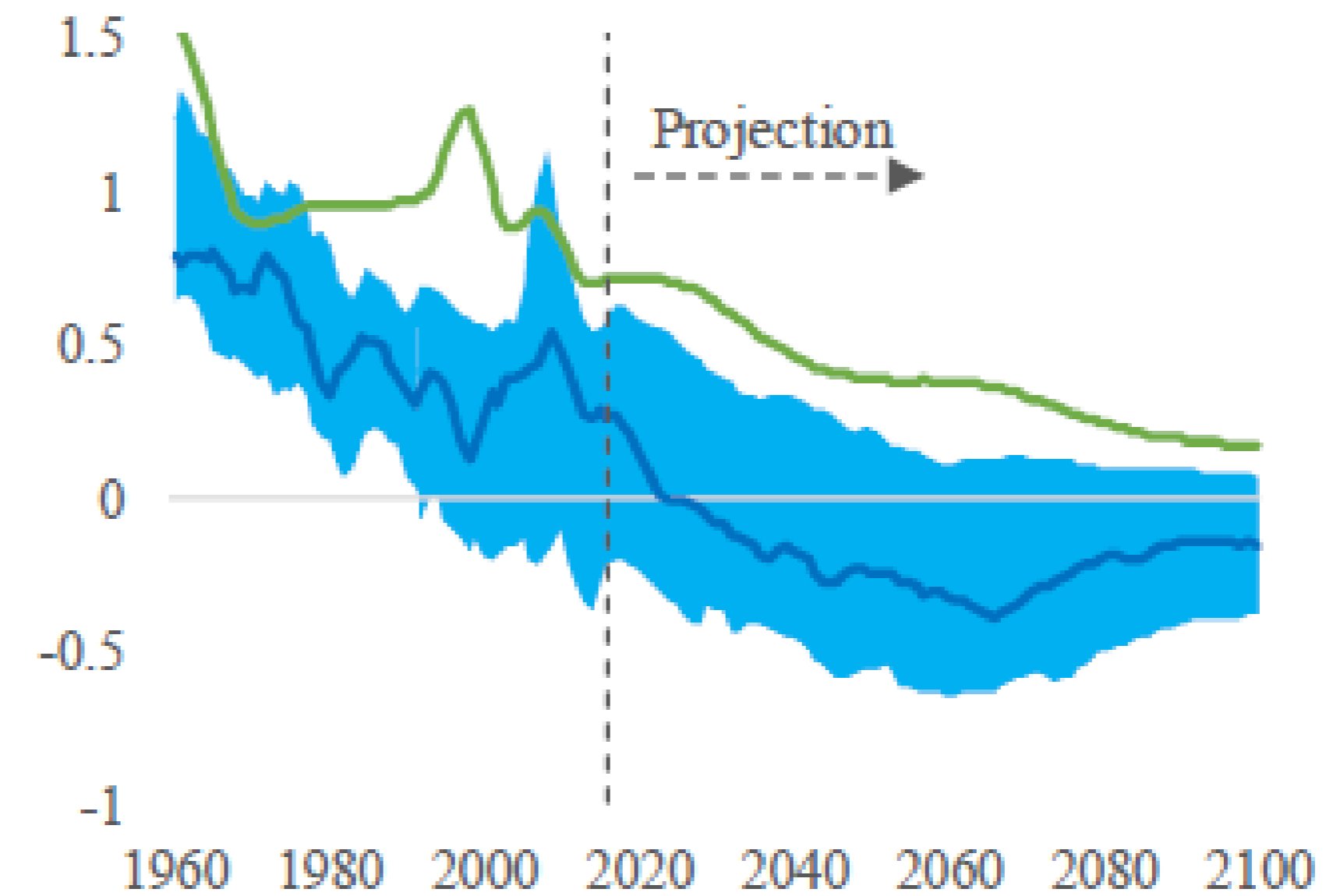
# Population growth is slowing and the number of elderly is rising in most European economies...

## Demographic Transition in European Economies, 1960-2100

1. Population Ages 65 and Older  
(Percent of population ages 20-64)

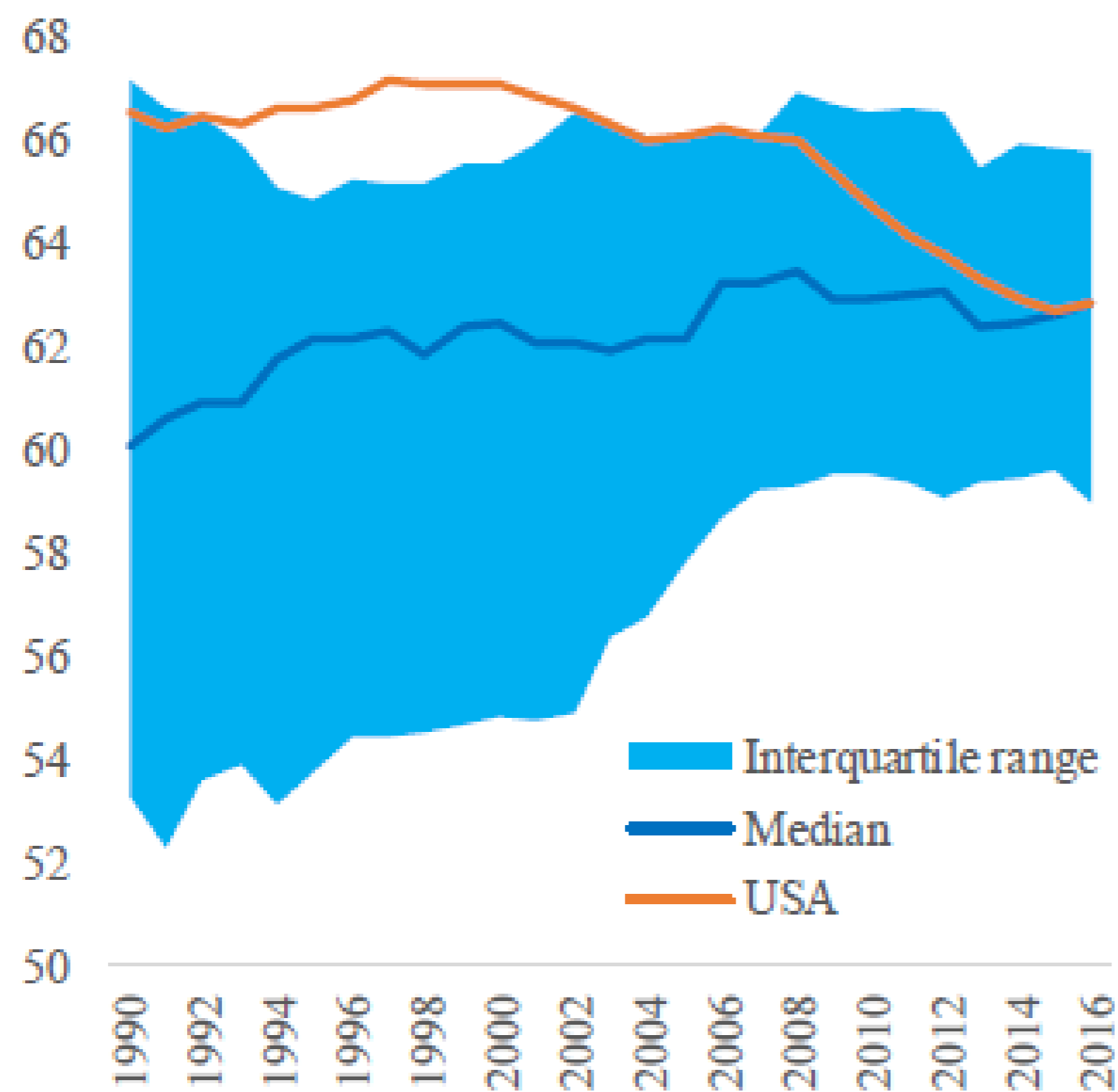


2. Population Growth  
(Percent)

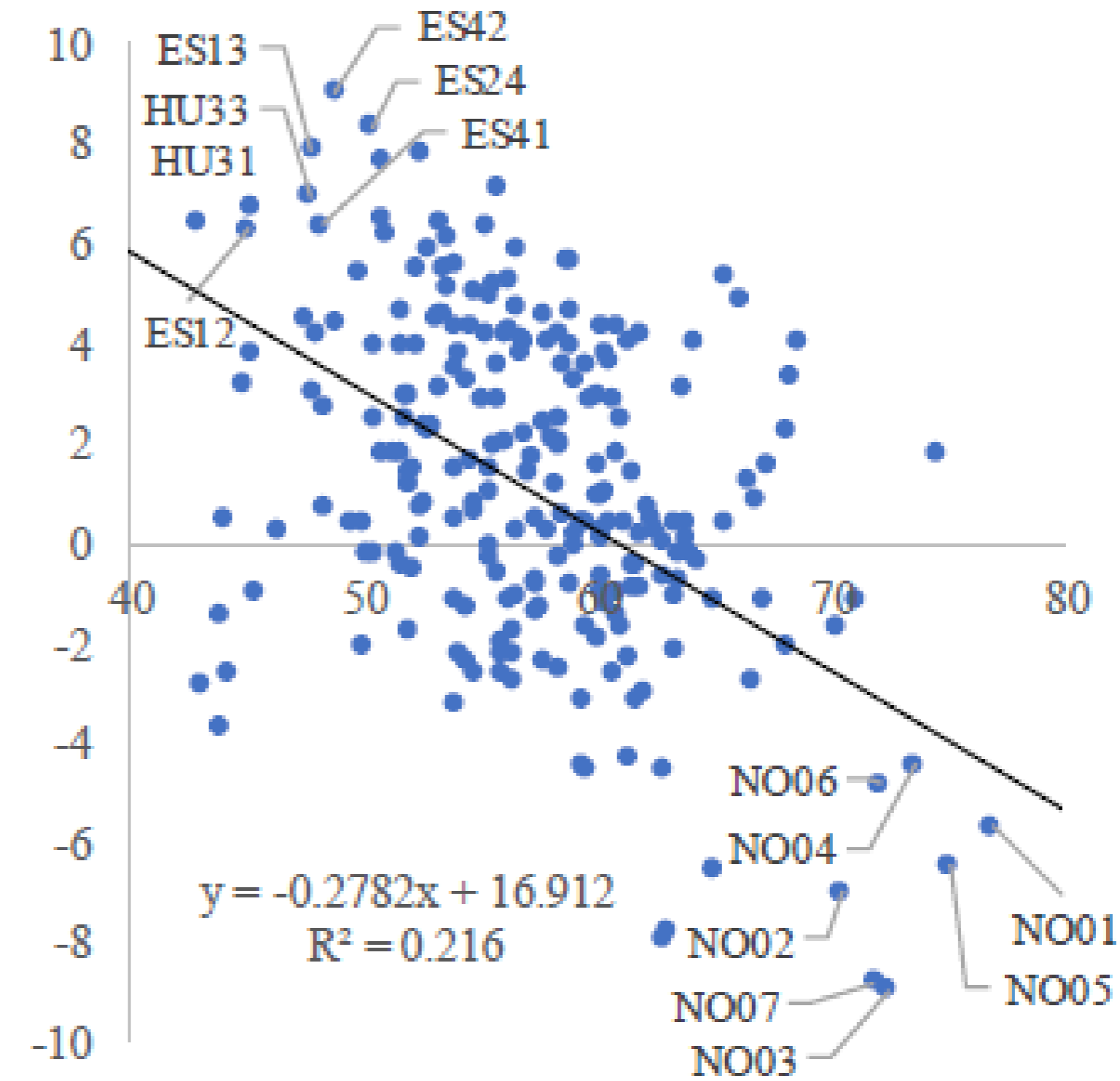


# ...yet so far participation rates have increased in most European countries and exhibited convergence...

### Evolution of Labor Force Participation Rates

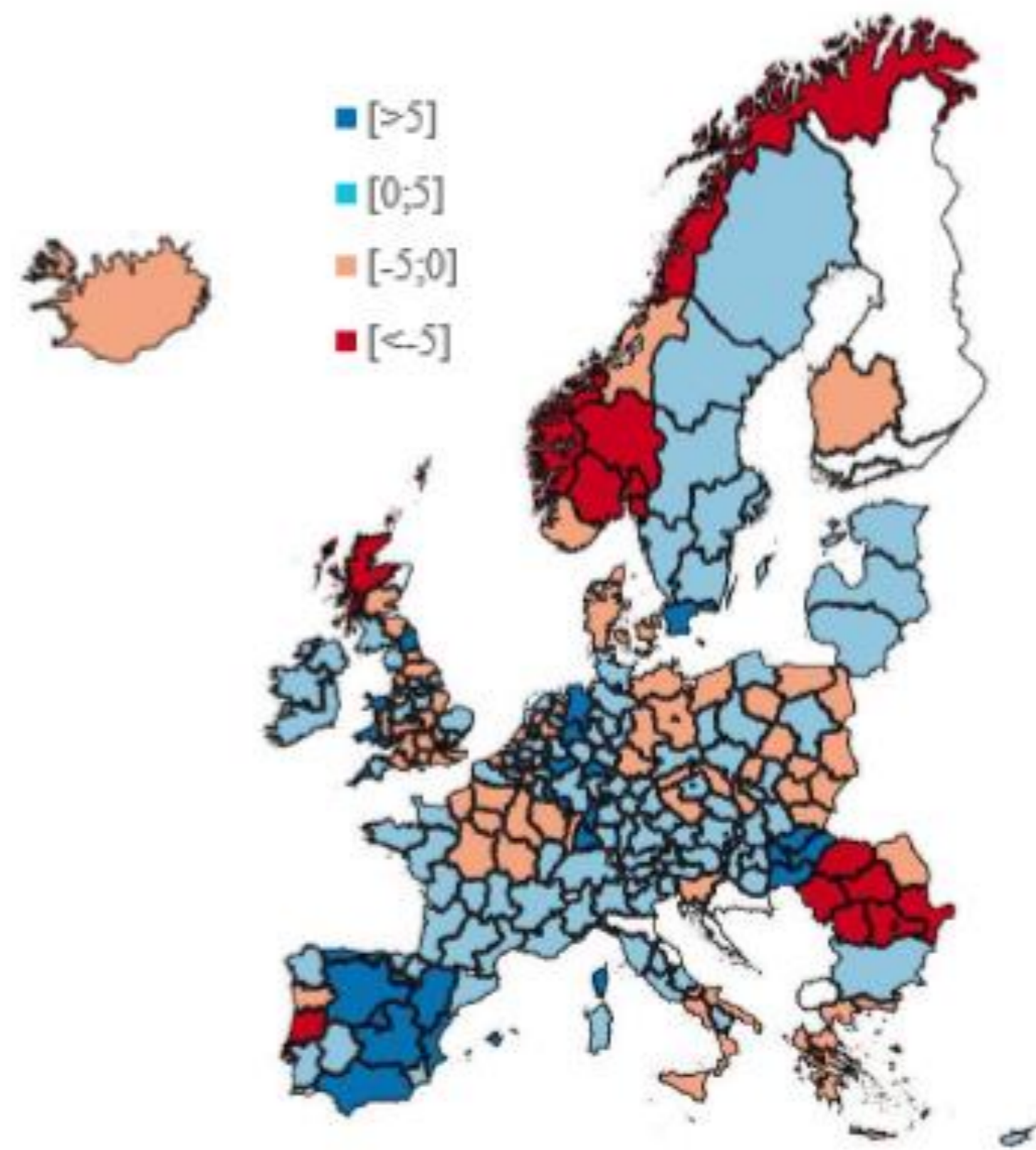


### Convergence of Labor Force Participation Rates



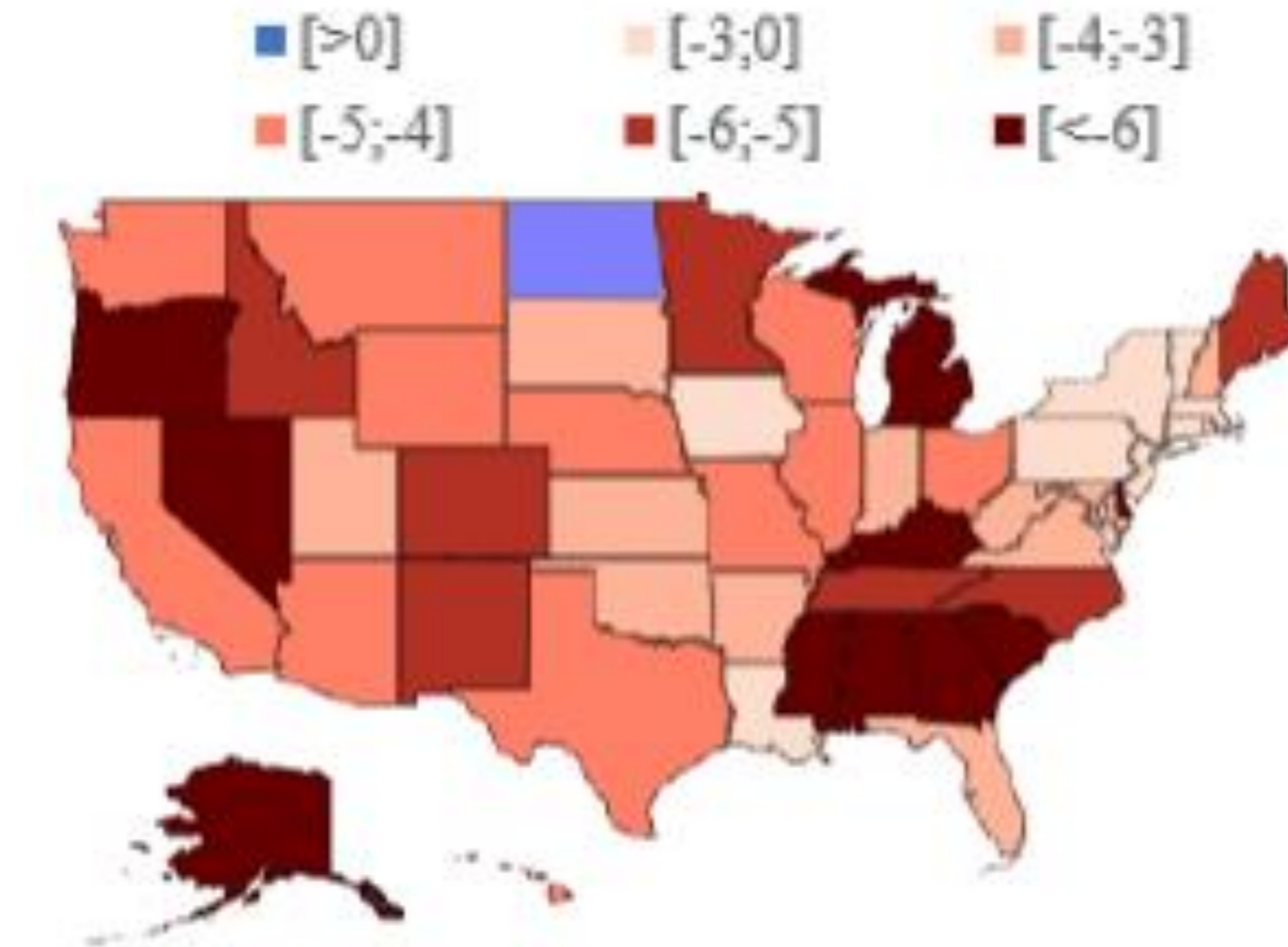
# Regional patterns point to significant heterogeneity...

Changes in Labor Force Participation Rates, 2000-2016  
(Percentage points)



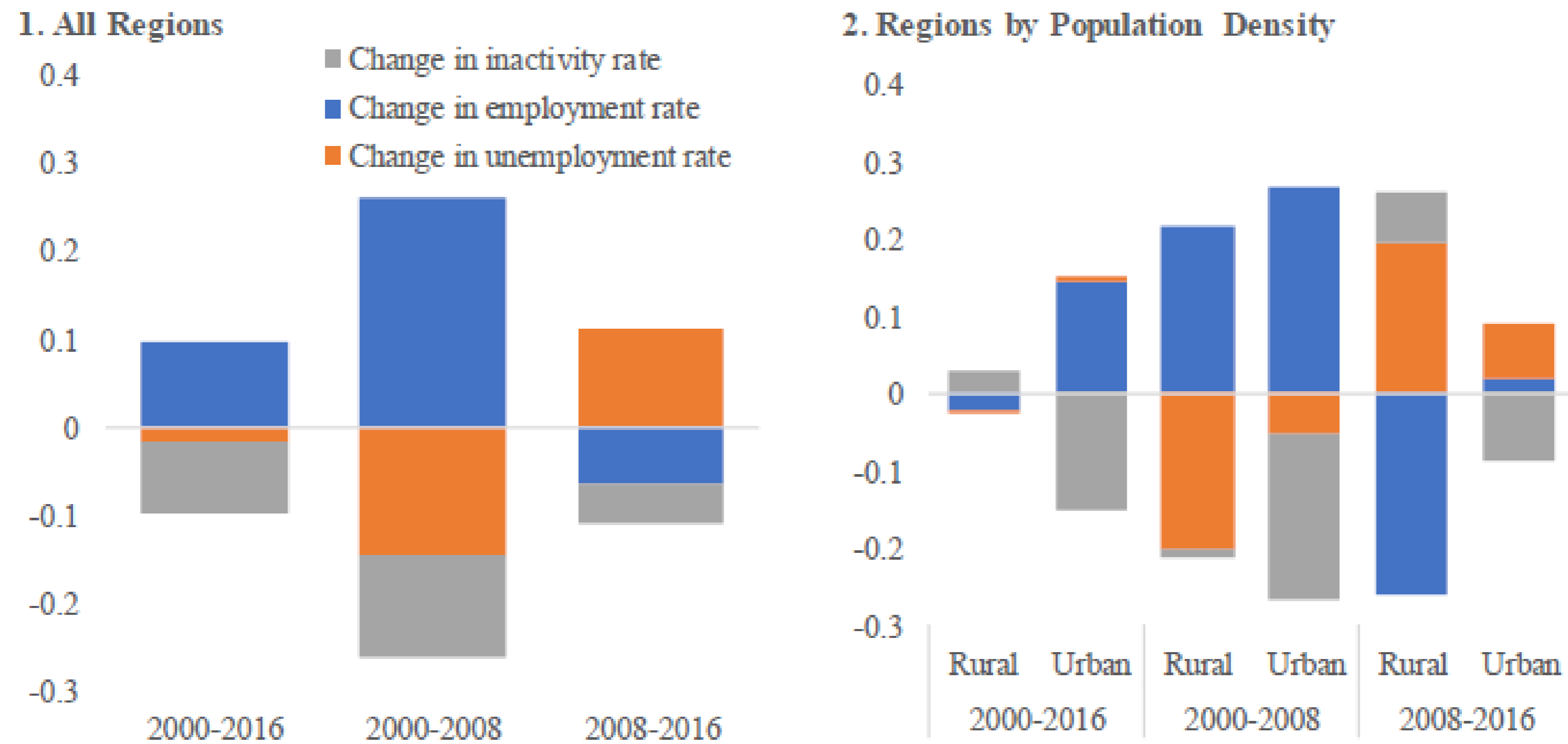
# Regional patterns point to significant heterogeneity...

Changes in Labor Force Participation Rates, 2000-2016  
(Percentage points)



# ...and worse outcomes in rural areas

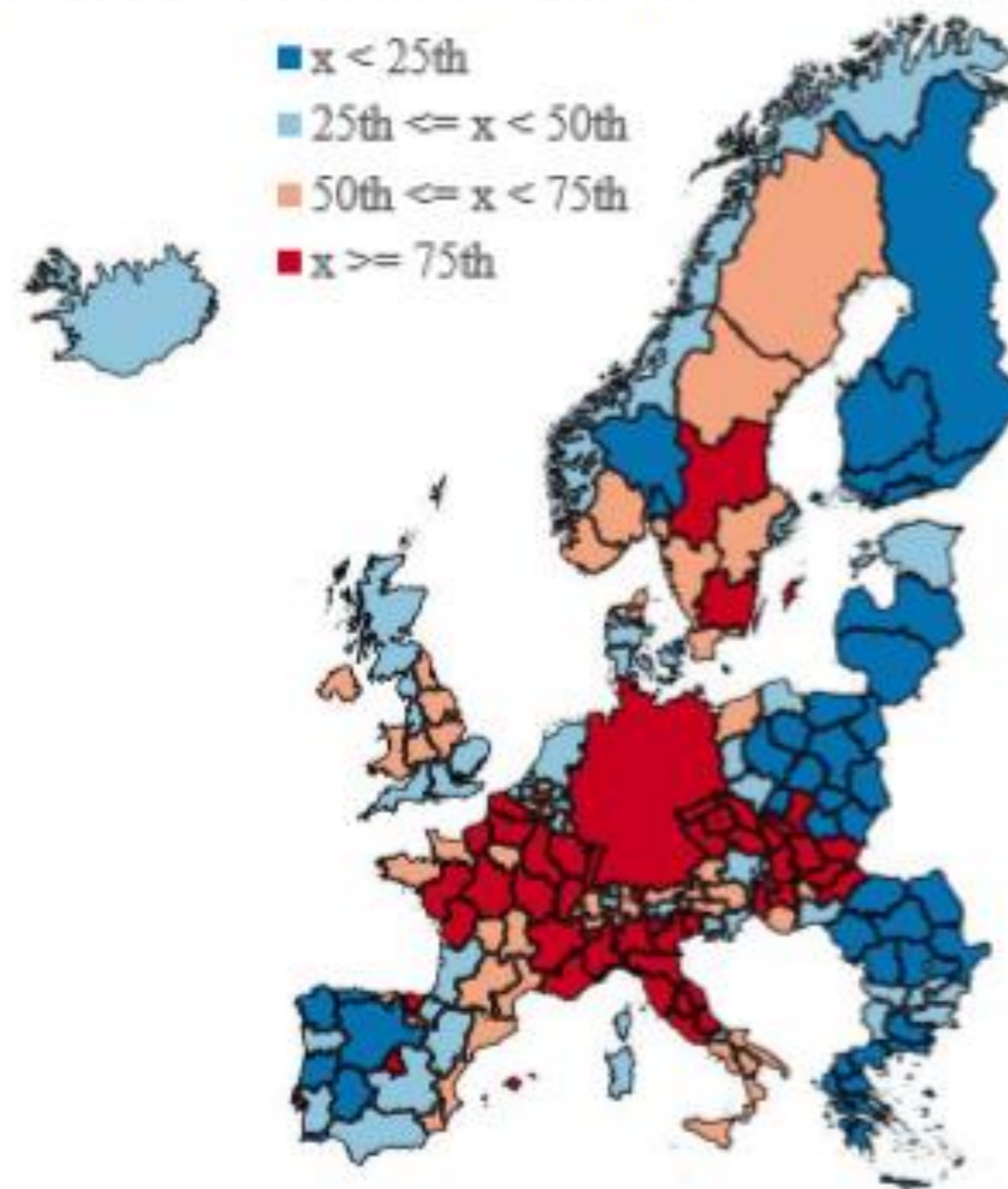
## Changes in Labor Market Dynamics (Percentage points)



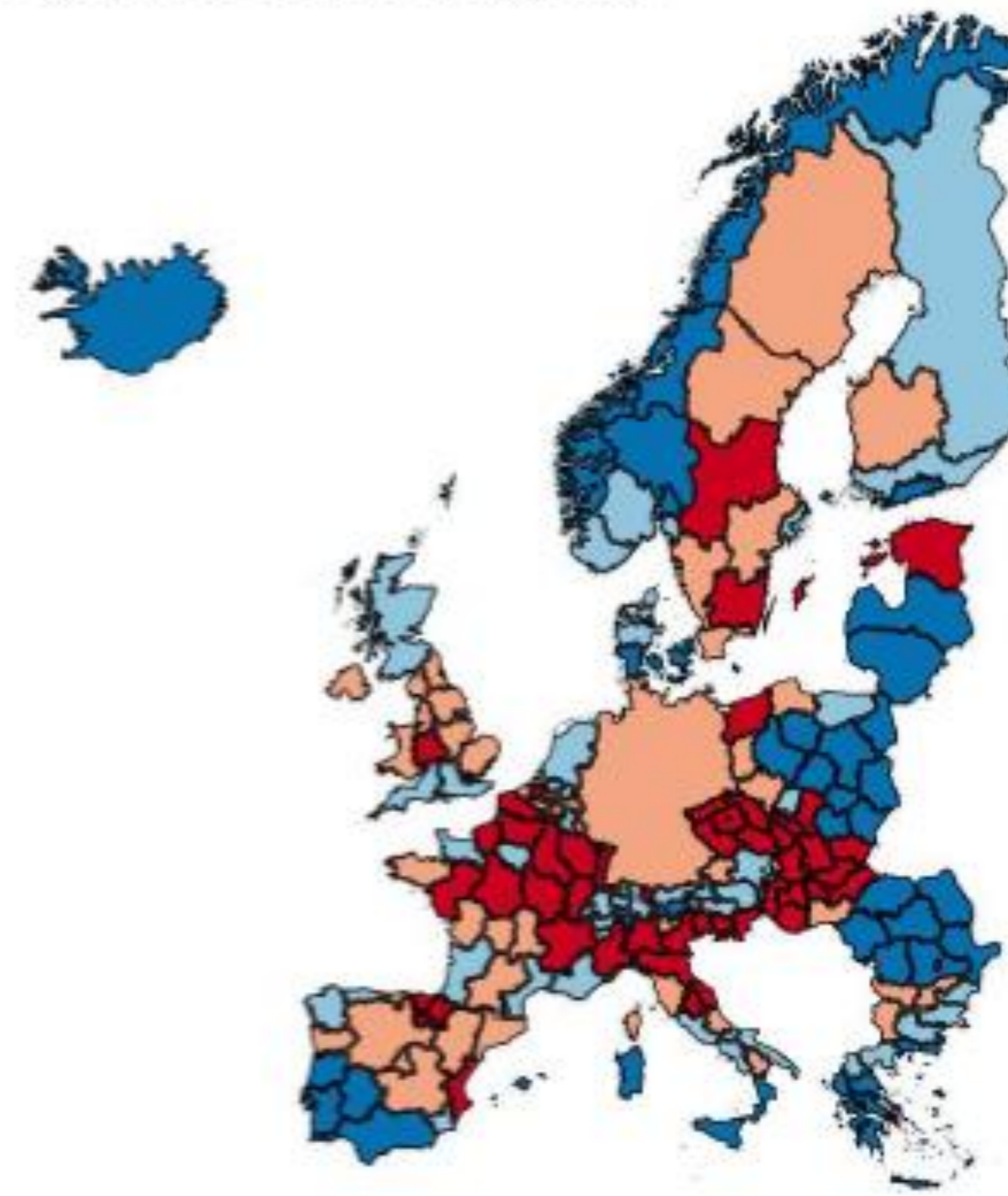
# This could reflect differential initial exposures to routinization and offshoring...

## Exposures to Routinization and Offshoring, 2000

1. Exposure to Routinization (index)



2. Exposure to Offshoring (index)

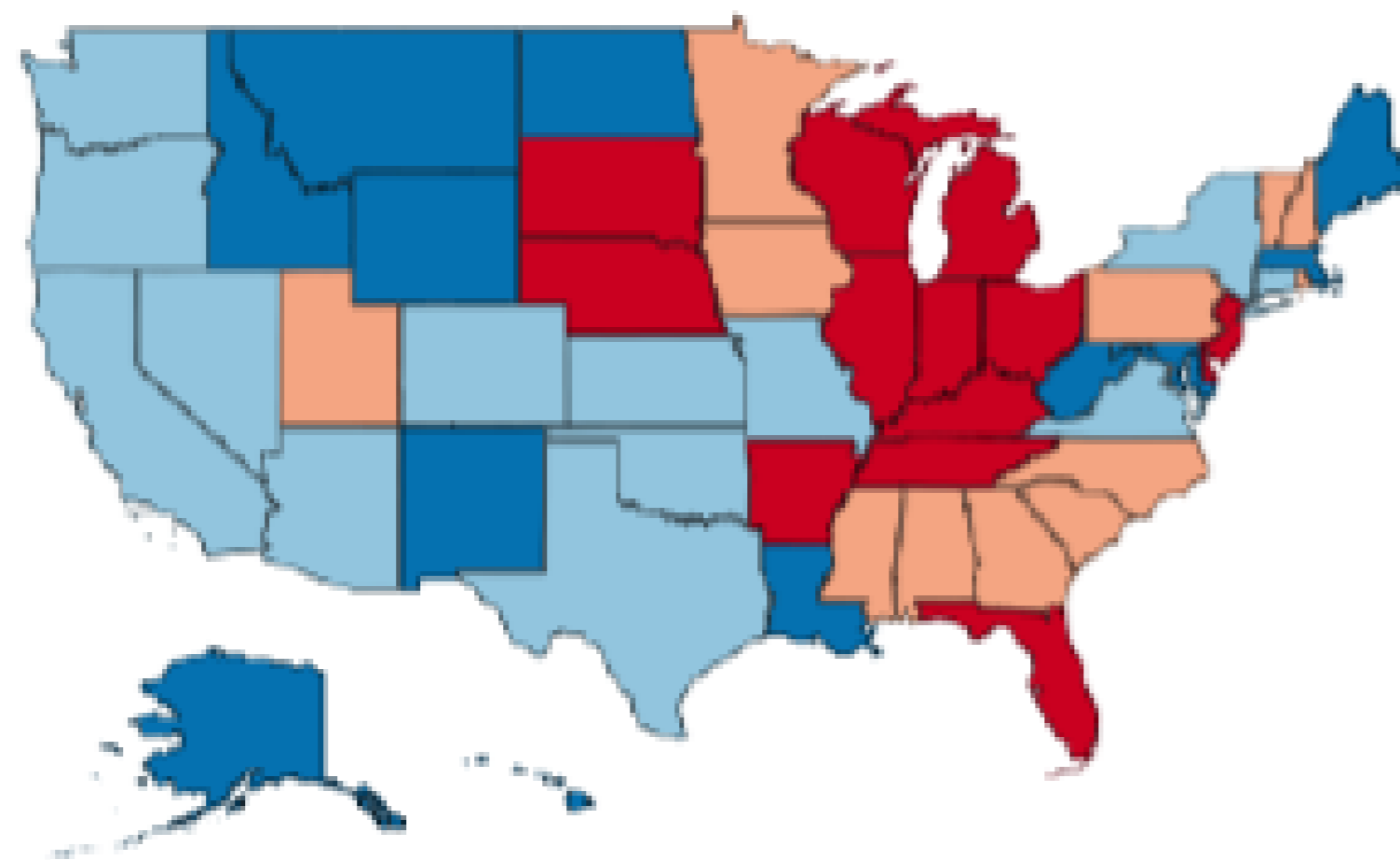


# This could reflect differential initial exposures to routinization and offshoring...

## Exposures to Routinization and Offshoring, 2000

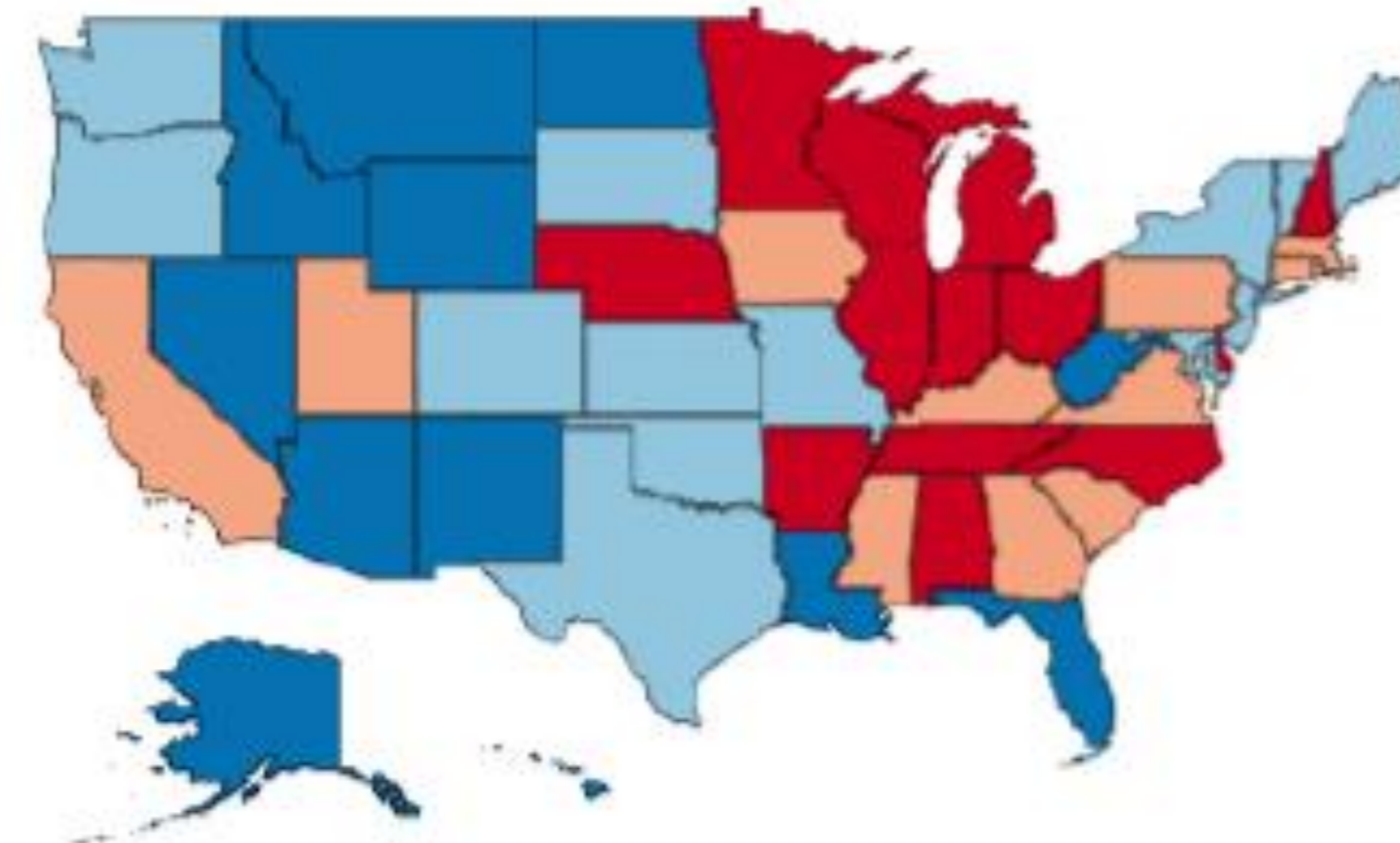
2. Exposure to routinization, 2000 (index)

■  $x < 25^{\text{th}}$       ■  $25^{\text{th}} \leq x < 50^{\text{th}}$   
■  $50^{\text{th}} \leq x < 75^{\text{th}}$       ■  $x \geq 75^{\text{th}}$



3. Exposure to offshoring, 2000 (index)

■  $x < 25^{\text{th}}$       ■  $25^{\text{th}} \leq x < 50^{\text{th}}$   
■  $50^{\text{th}} \leq x < 75^{\text{th}}$       ■  $x \geq 75^{\text{th}}$





# ...which weigh on participation in the United States...

**Table 1. Drivers of Labor Force Participation Rates in US Metropolitan Areas**

Variables	(1)	(2)	(3)	(4)	(5)
Average Real GDP Growth			0.0362 (0.0227)	0.0396* (0.0227)	0.0540** (0.0221)
Change in Old-Age-Dependency Ratio			-0.149*** (0.0393)	-0.137*** (0.0397)	-0.159*** (0.0378)
Change in Postsecondary Share			0.441*** (0.144)	0.443*** (0.143)	0.370*** (0.139)
Initial Exposure to Routinization	-2.617** (1.133)			-2.342* (1.194)	
Initial Exposure to Offshoring		-4.026*** (0.914)			-4.825*** (0.937)
Observations	381	381	346	346	346
$R^2$	0.284	0.313	0.358	0.367	0.412

Source: IMF staff calculations.

Note: Standard errors are in parentheses. The dependent variable is change in labor force participation rate.

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

# ...but do not appear to displace workers on average in Europe

**Table 1. Drivers of Labor Force Participation Rates in European Regions**

Variables	(1)	(2)	(3)	(4)	(5)
Average Real GDP Growth			-0.178 (0.240)	-0.441 (0.275)	-0.348 (0.277)
Change in Old-Age-Dependency Ratio			-0.275*** (0.0627)	-0.288*** (0.0824)	-0.295*** (0.0844)
Change in Postsecondary Share			0.256*** (0.0557)	0.308*** (0.0703)	0.282*** (0.0716)
Initial Exposure to Routinization	6.544*** (1.484)			7.058*** (1.428)	
Initial Exposure to Offshoring		6.770*** (1.686)			6.992*** (1.642)
Observations	185	185	262	177	176
$R^2$	0.698	0.693	0.680	0.751	0.741

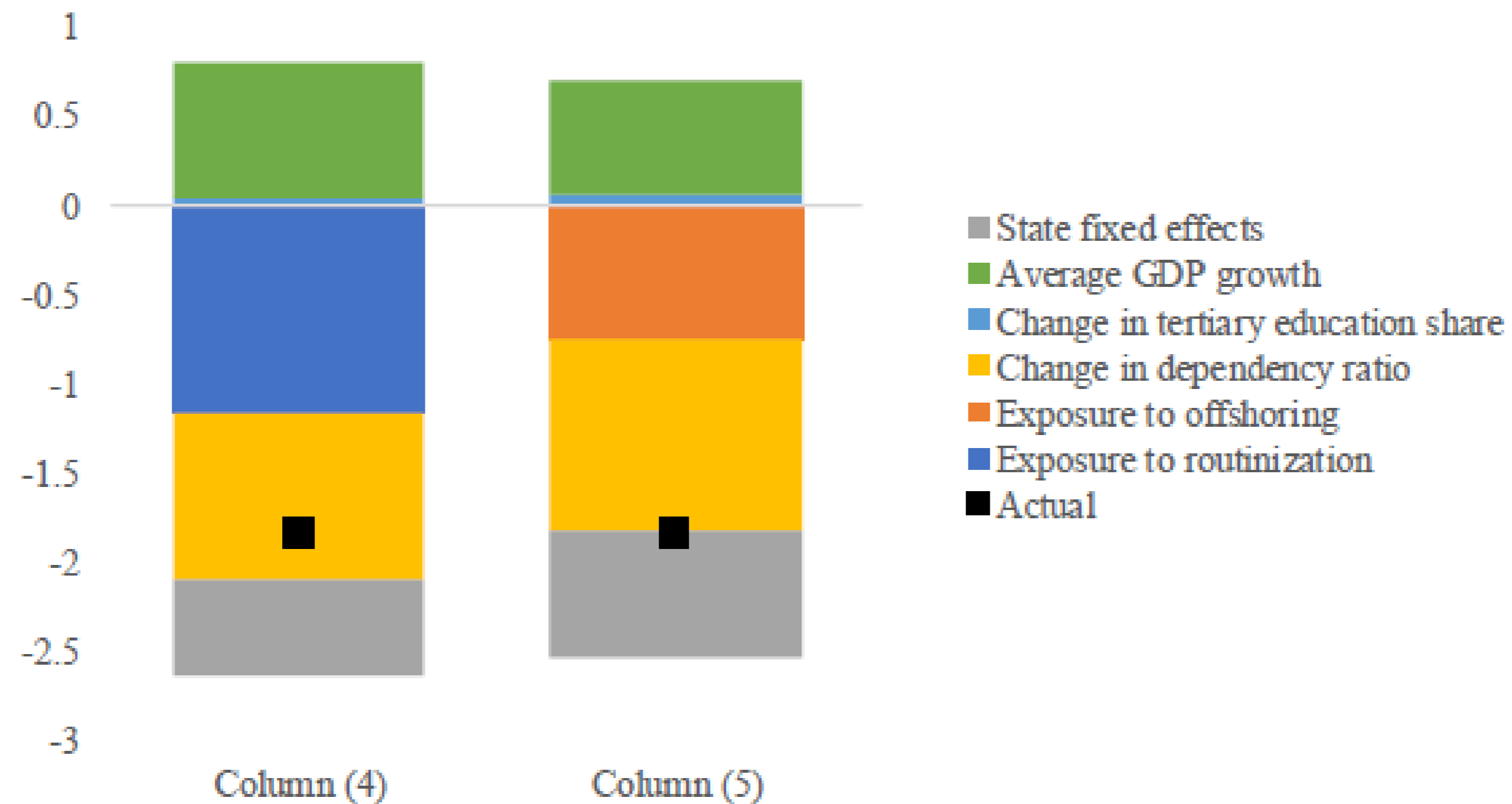
Source: Authors' calculations.

Note: Standard errors are in parentheses. The dependent variable is change in labor force participation rate.

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$ .

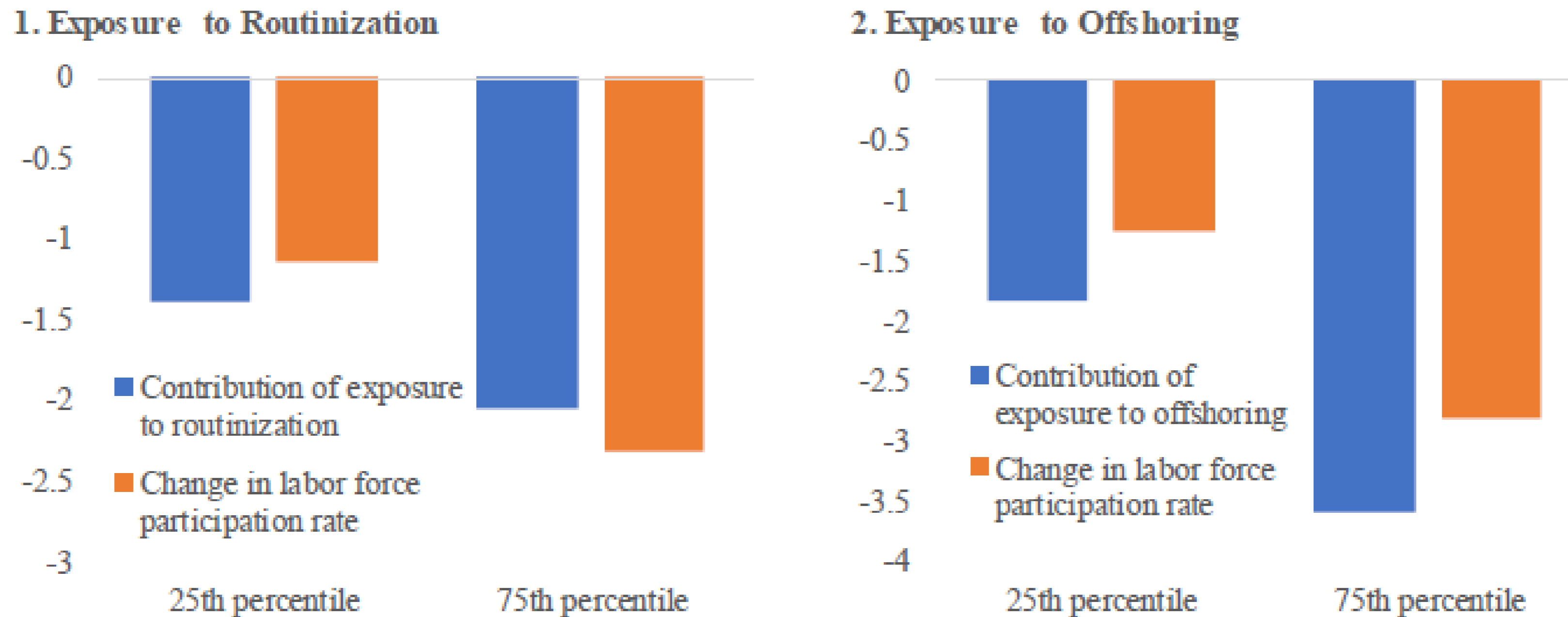
# In the United States routinization and offshoring can account for about half of the decline in participation...

Contributions to Changes in Labor Force Participation Rates, 2000-2016  
(Percentage points)



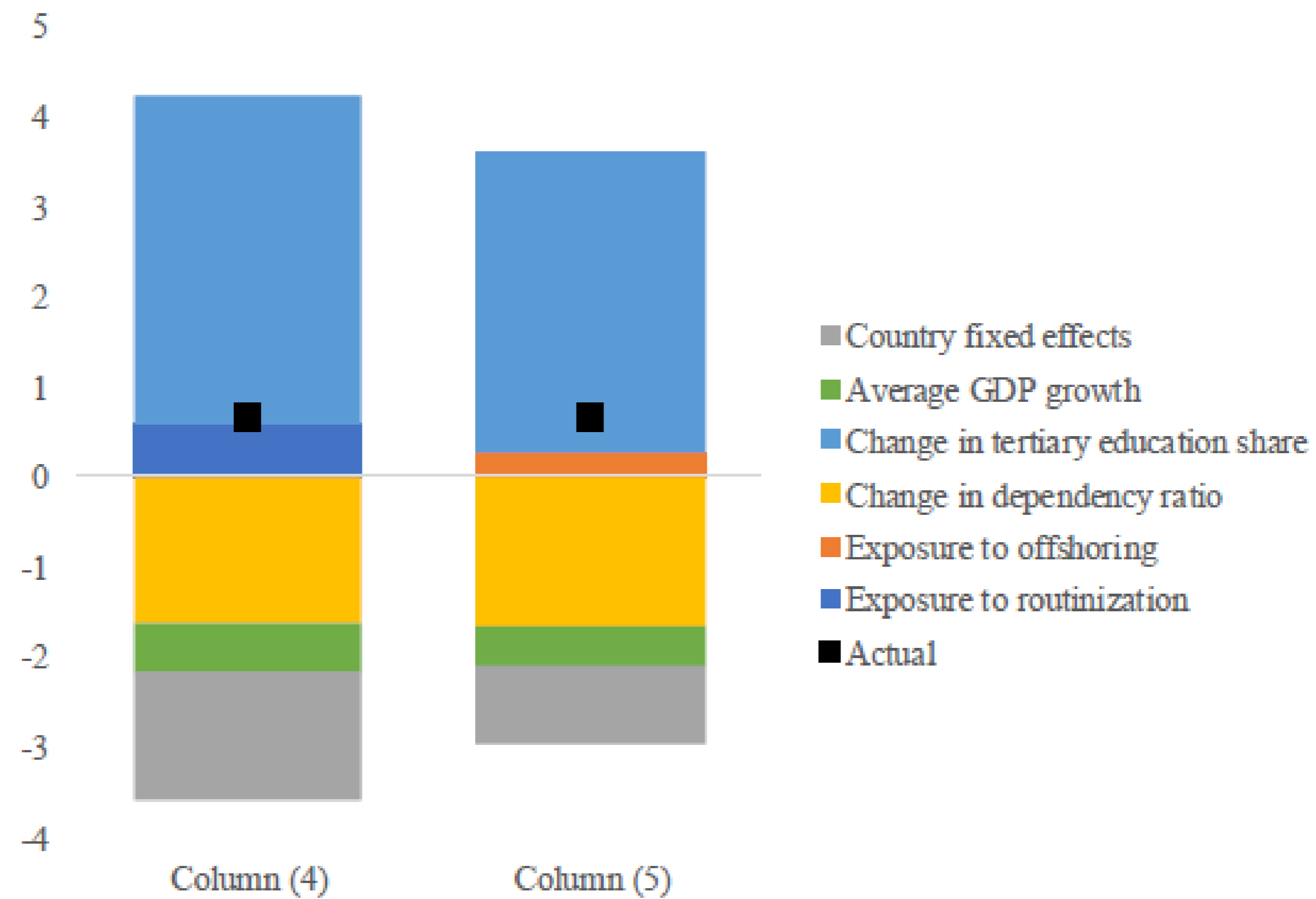
# In the United States routinization and offshoring can account for about half of the decline in participation...

## Contributions of Exposures to Routinization and Offshoring to Changes in Labor Force Participation Rates



# ...in Europe overall gains are mostly driven by gains in education...

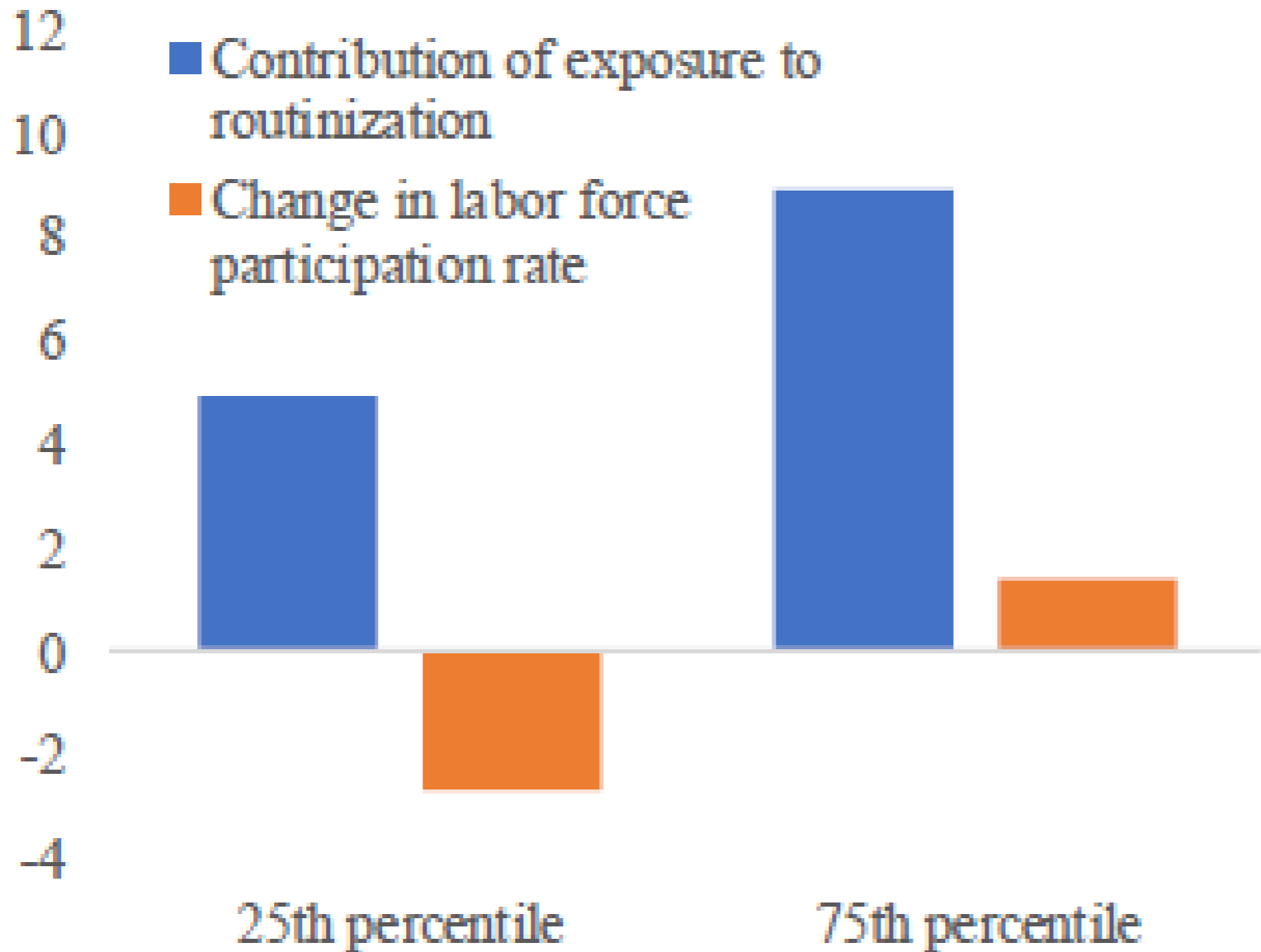
Contributions to Changes in Labor Force Participation Rates, 2000-2016



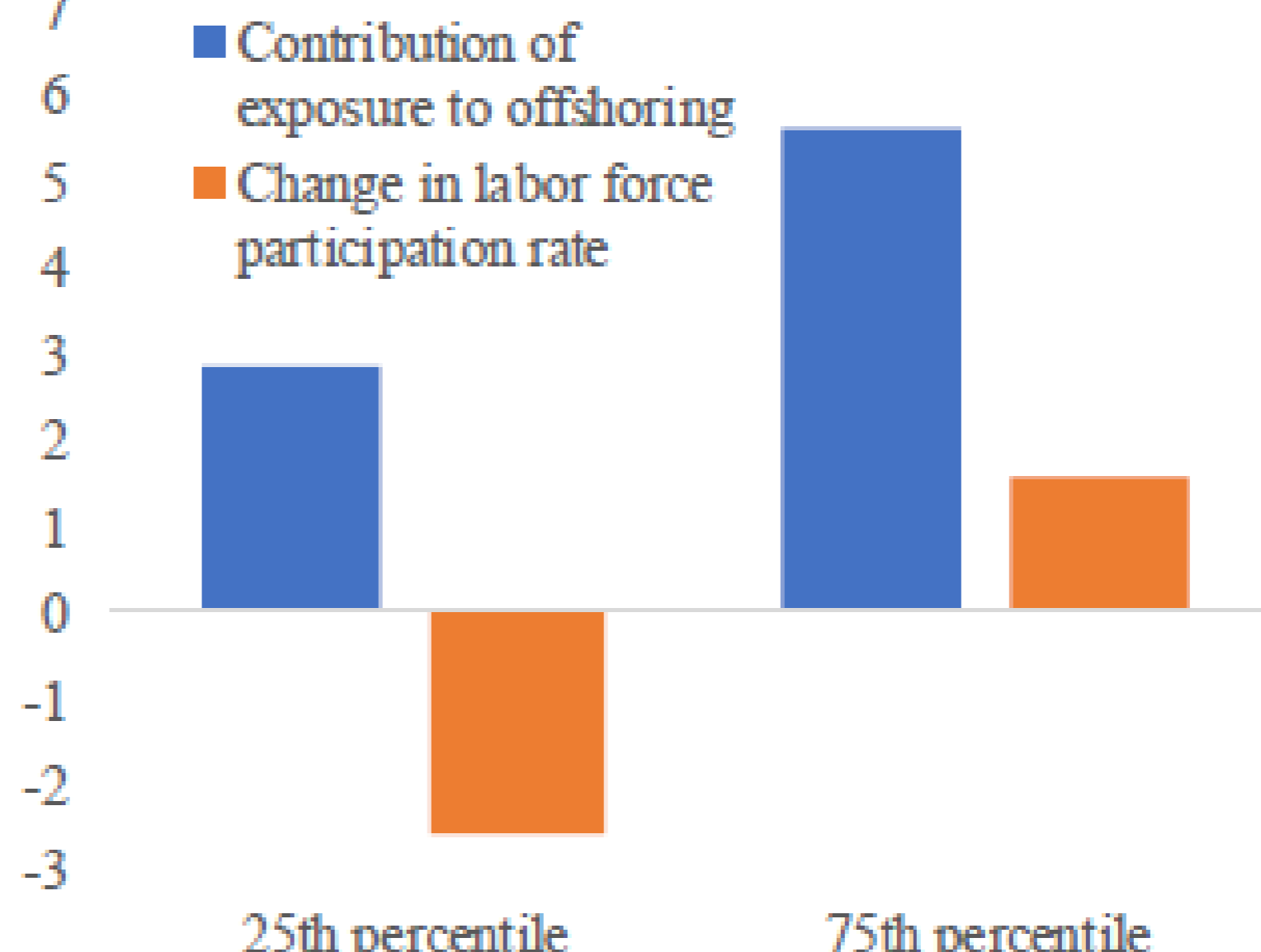
# ...but routinization and offshoring have significant effects in some regions

## Contributions of Exposures to Routinization and Offshoring to Changes in Labor Force Participation Rates

1. Exposure to Routinization



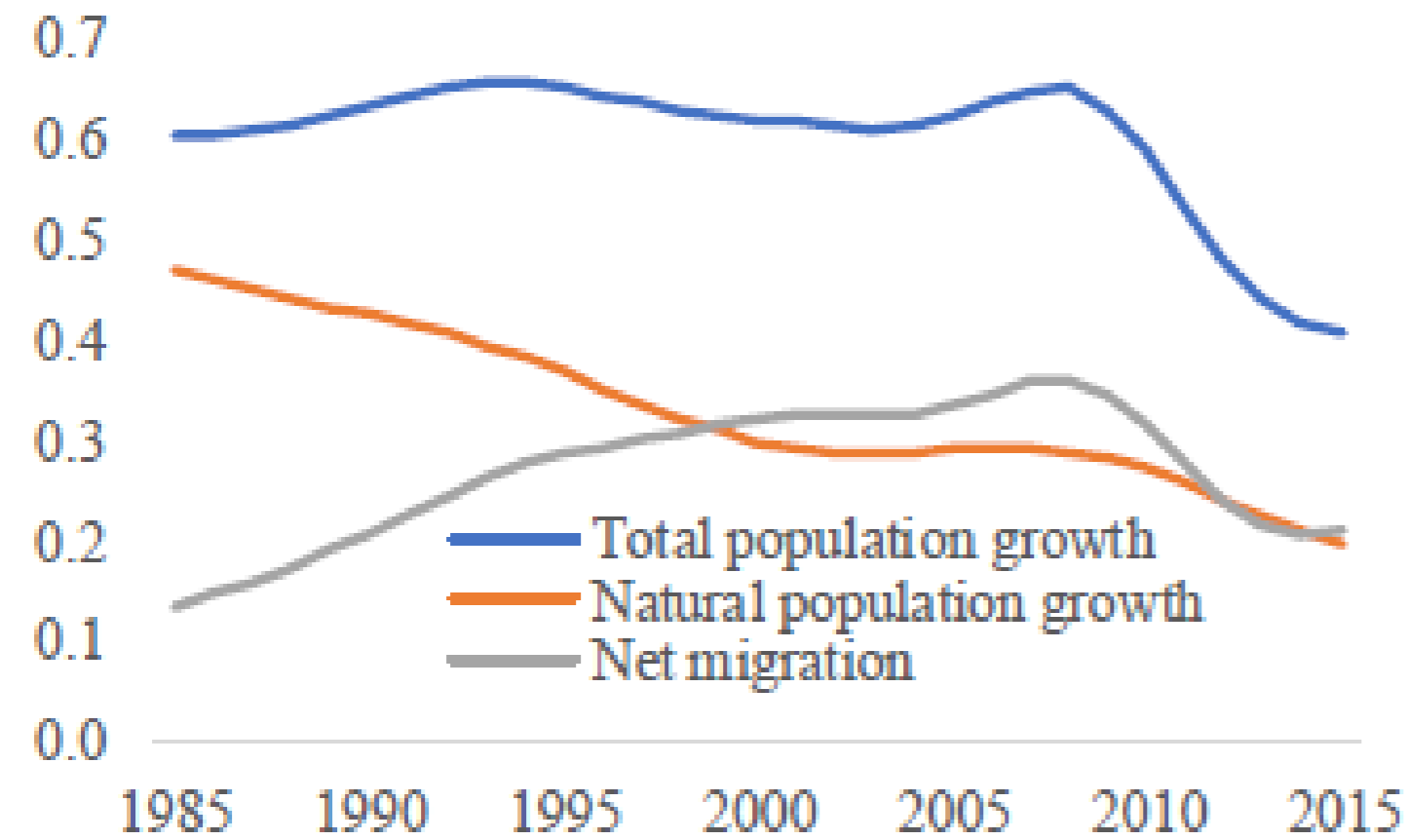
2. Exposure to Offshoring



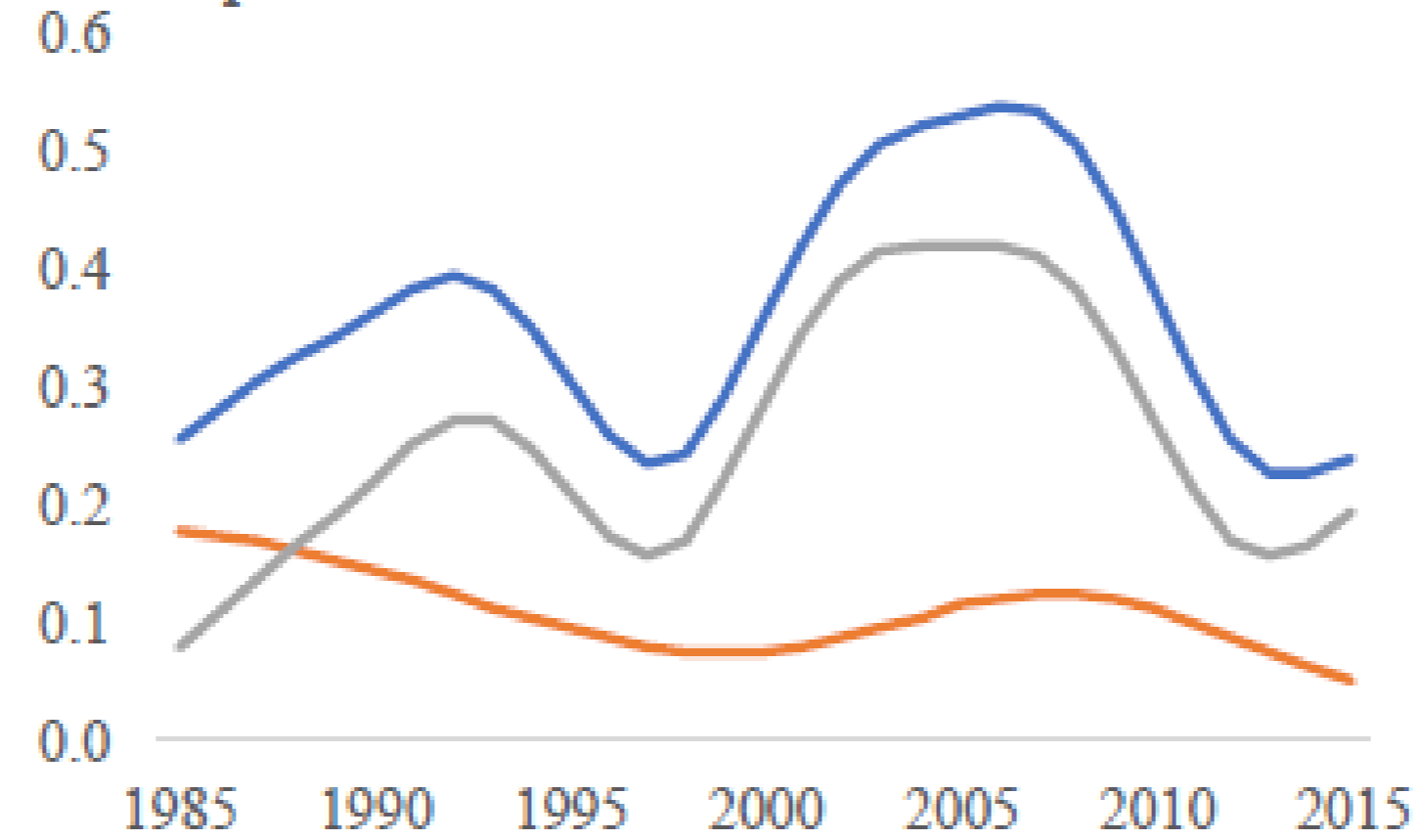
# Net migration accounted for about half of population growth in advanced economies since the mid-1980s...

Contributions of Natural Population Growth and Net Migration to Total Population Growth, 1985-2015  
(Percent)

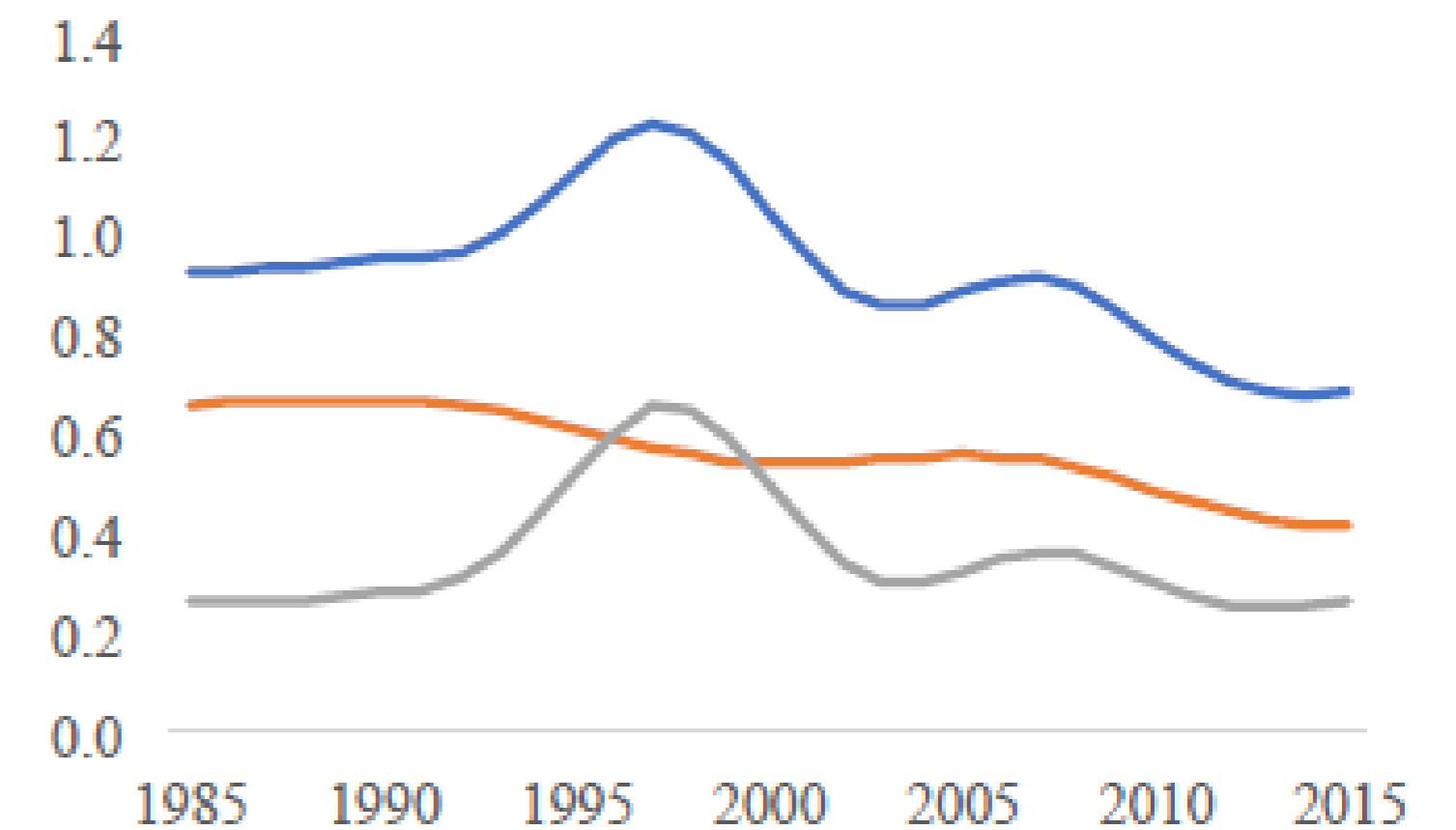
1. Advanced Economies



2. European Advanced Economies

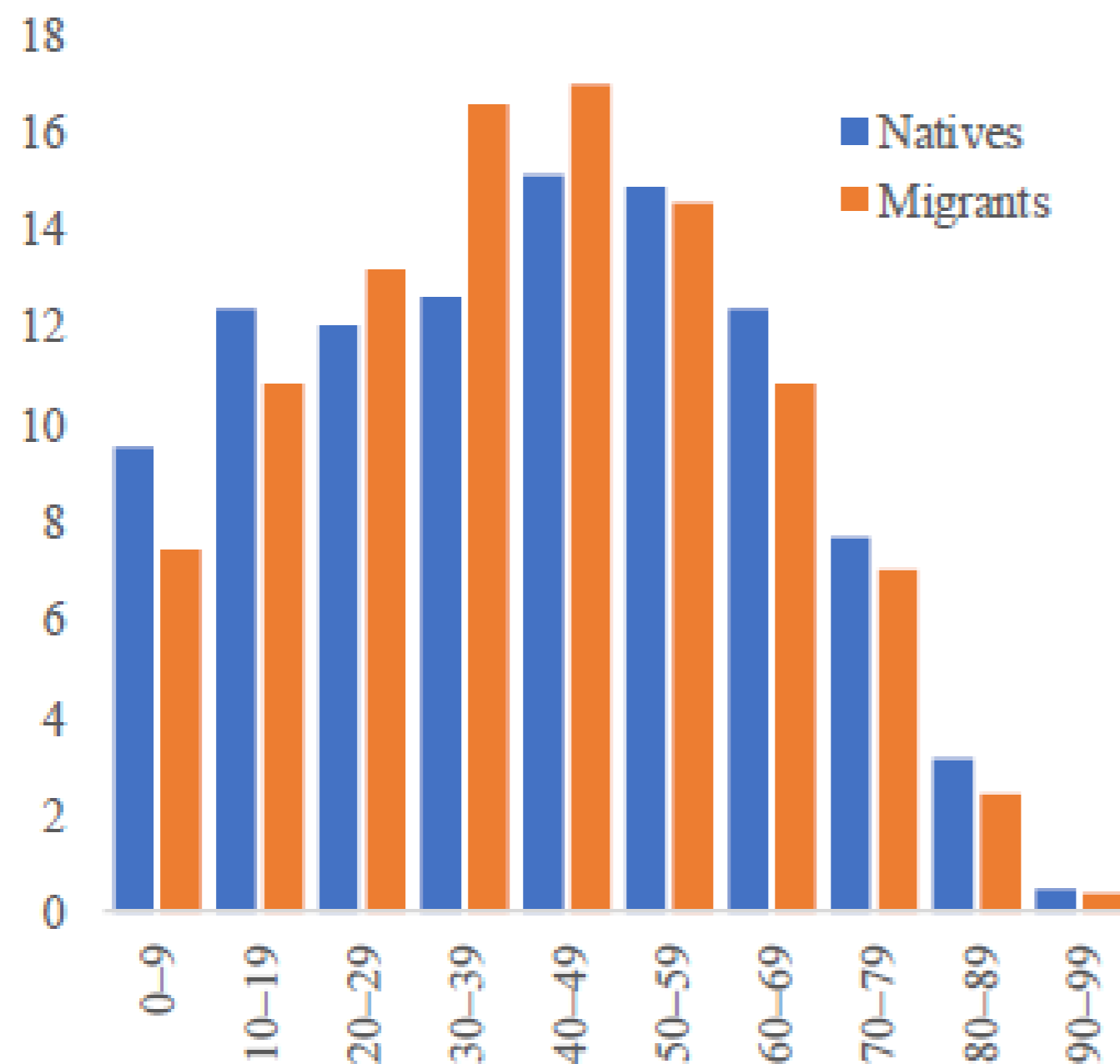


3. United States

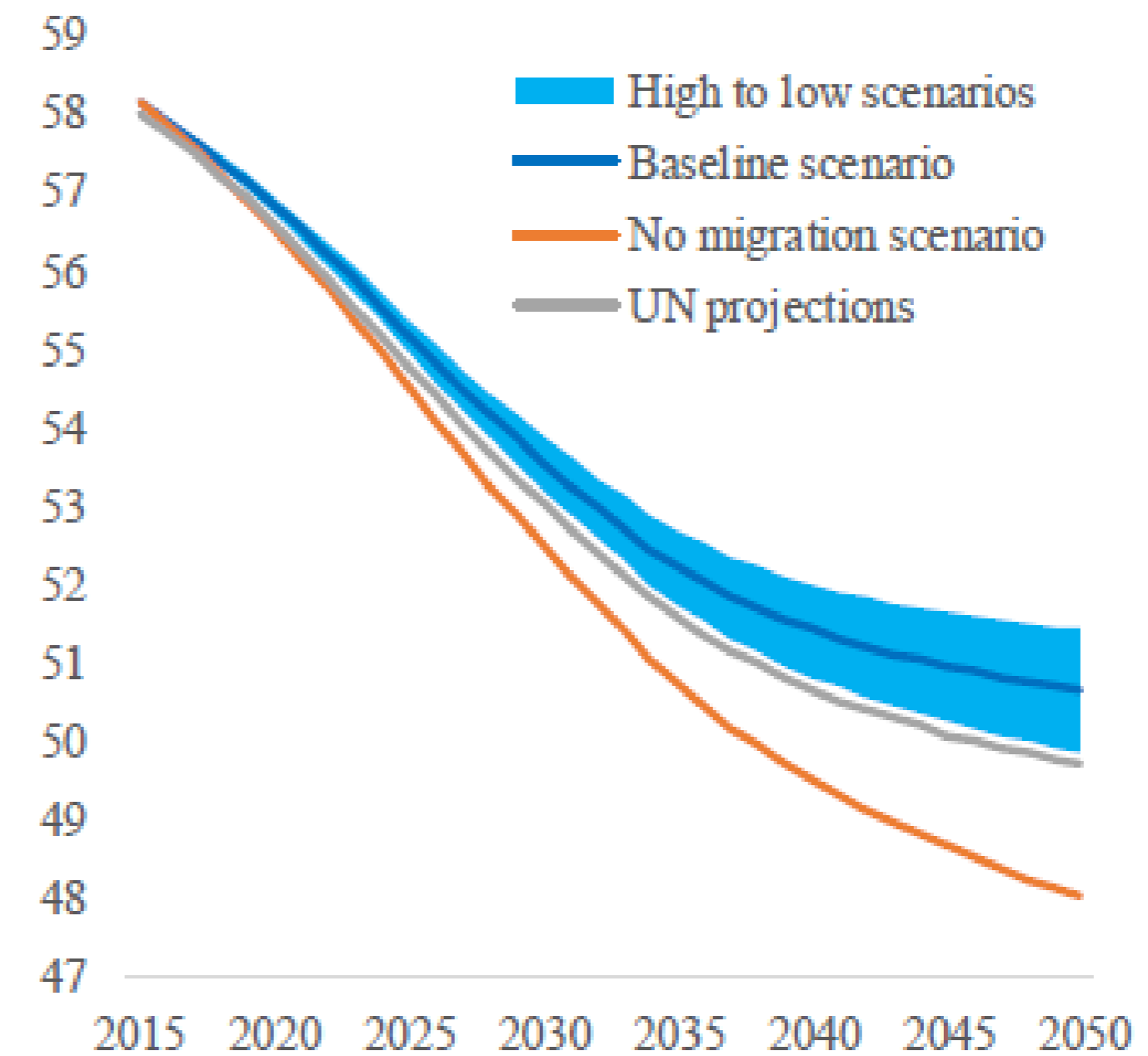


# ...migrants are more likely to be prime-age and thus increase overall participation

Age Profile of Natives and Migrants  
(Percent of population)



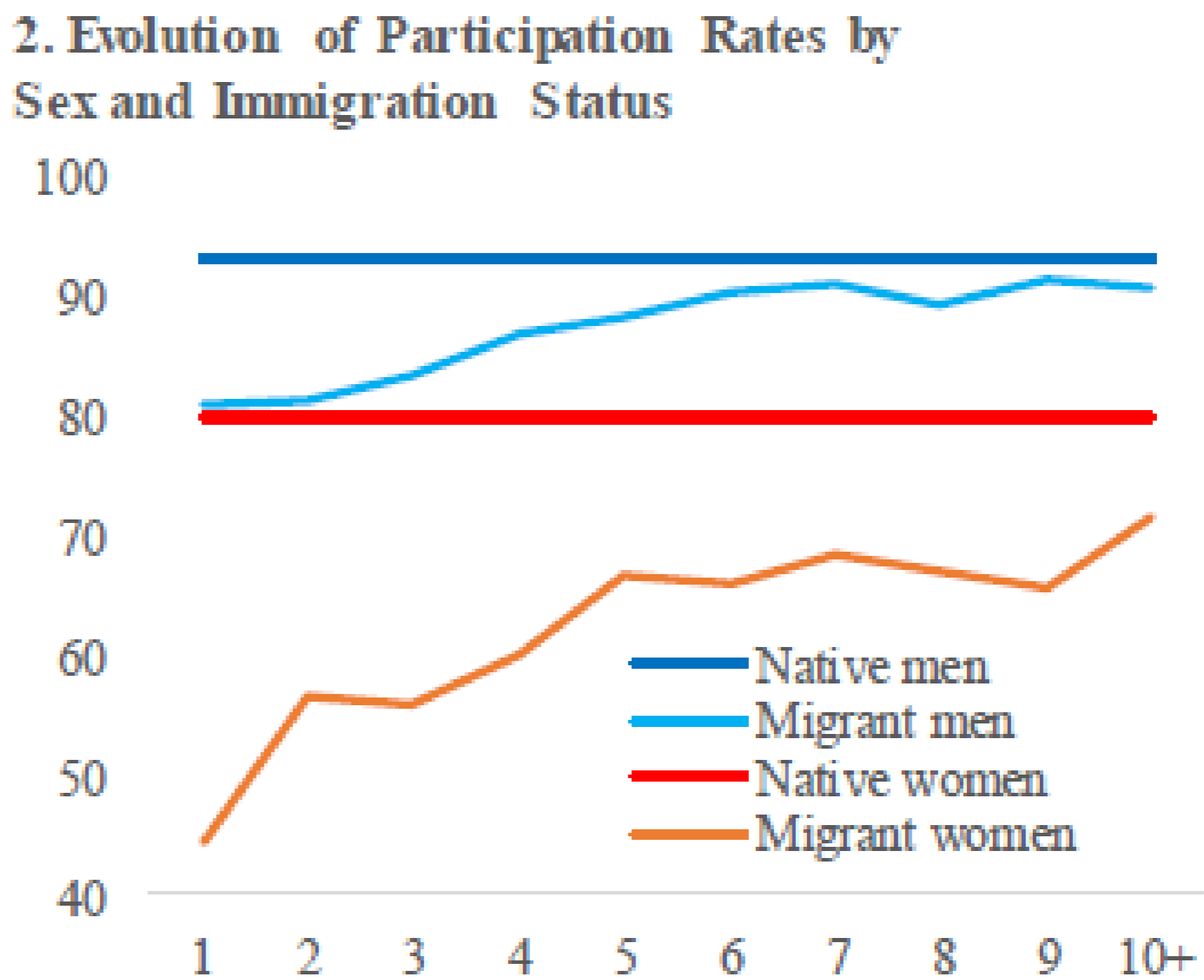
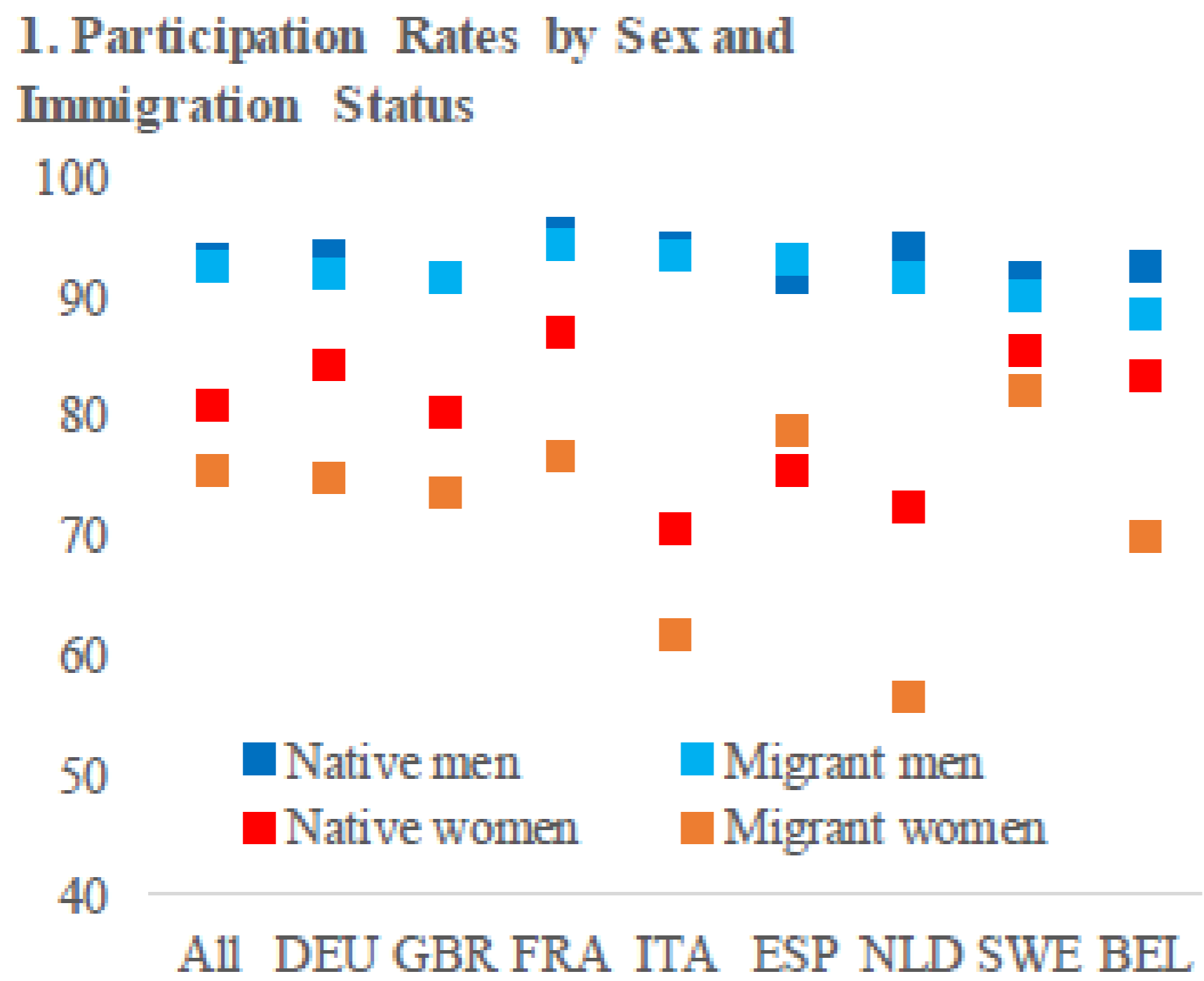
Projected Participation Rates, 2015-2050  
(Percent)





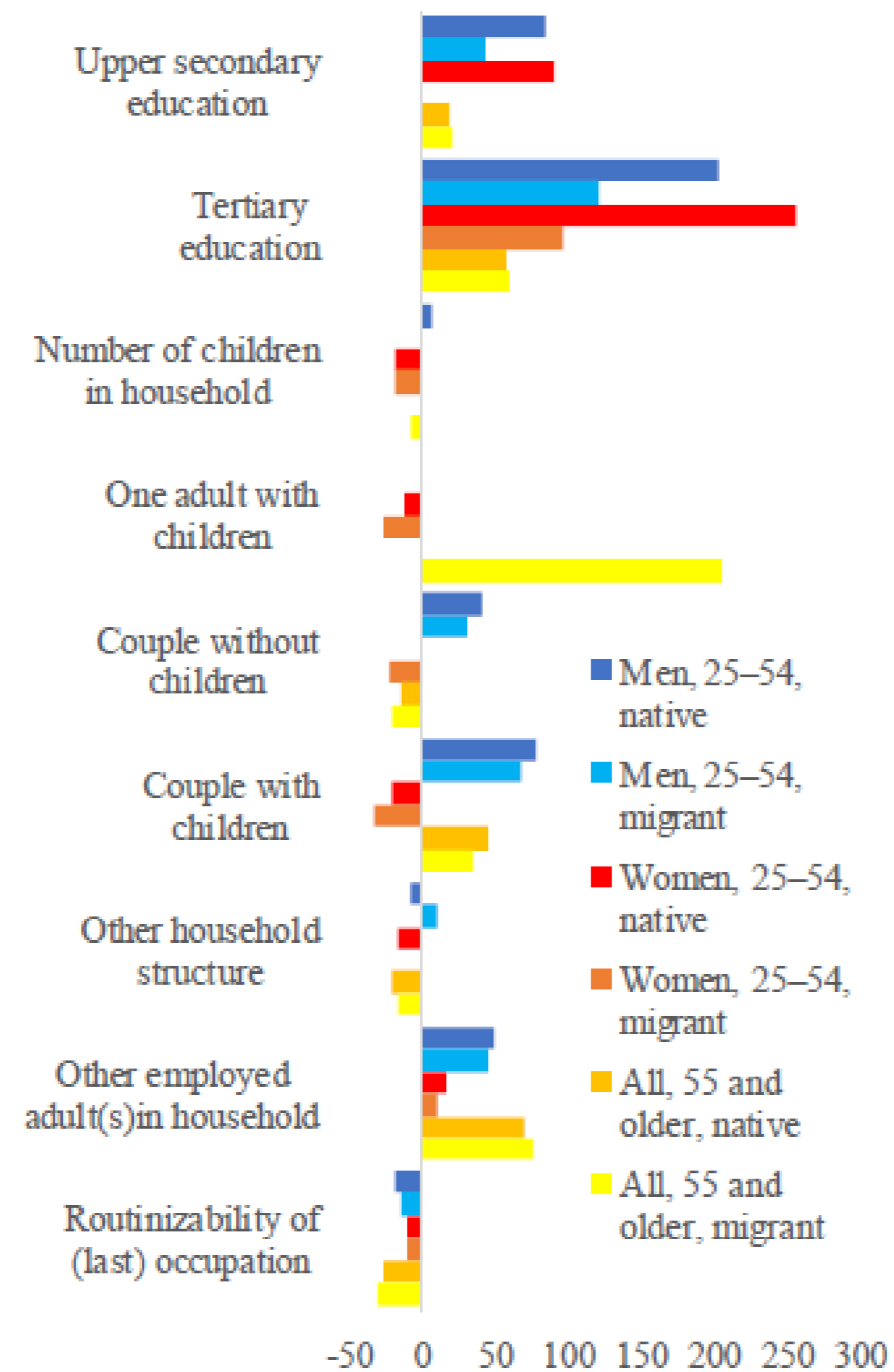
# Migrants' participation rates are typically lower than those of natives, but converge over time

Labor Force Participation Rates of Prime-Age Natives and Migrants, 2000-2016  
(Percent)



# Higher education increases migrants' participation less than that of natives...

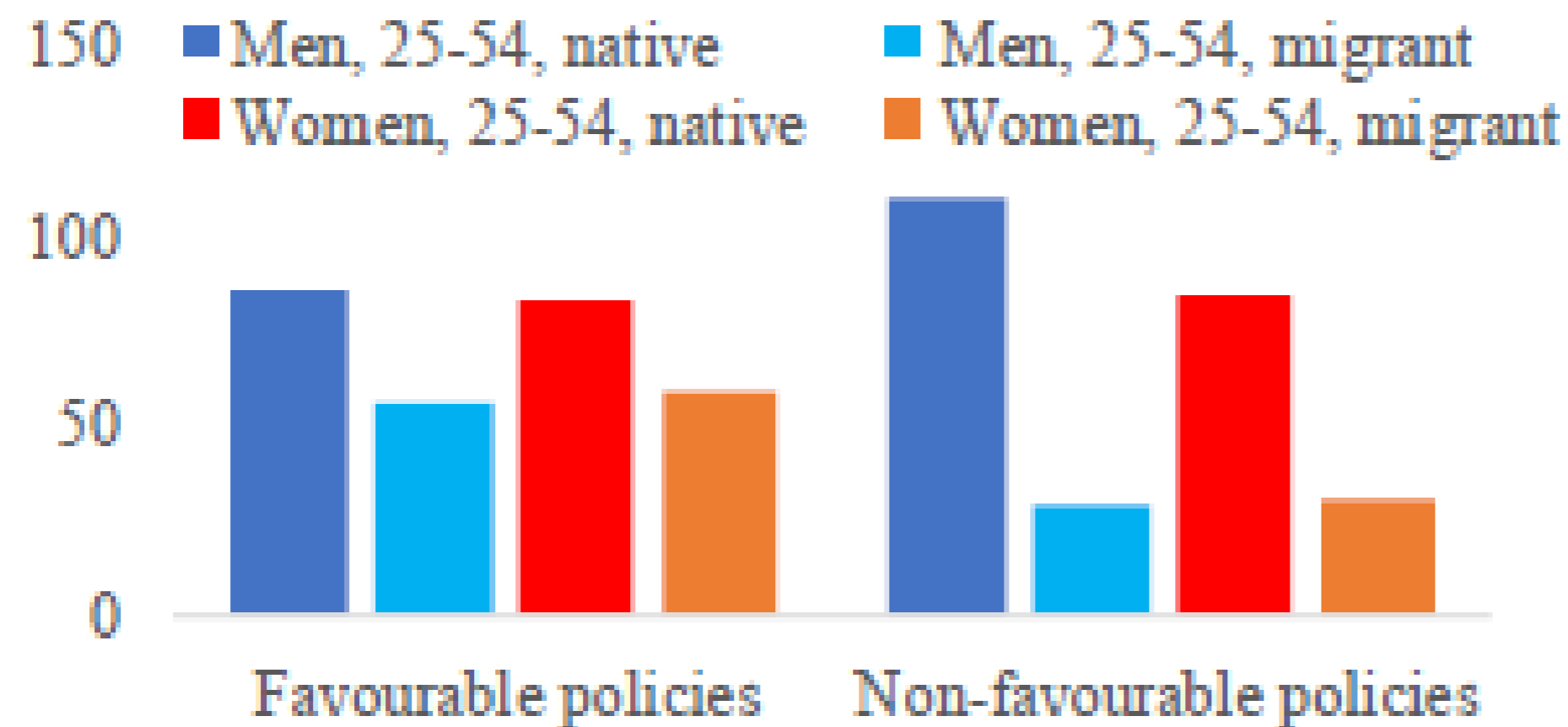
Change in the Odds of Being Active  
(Percent)



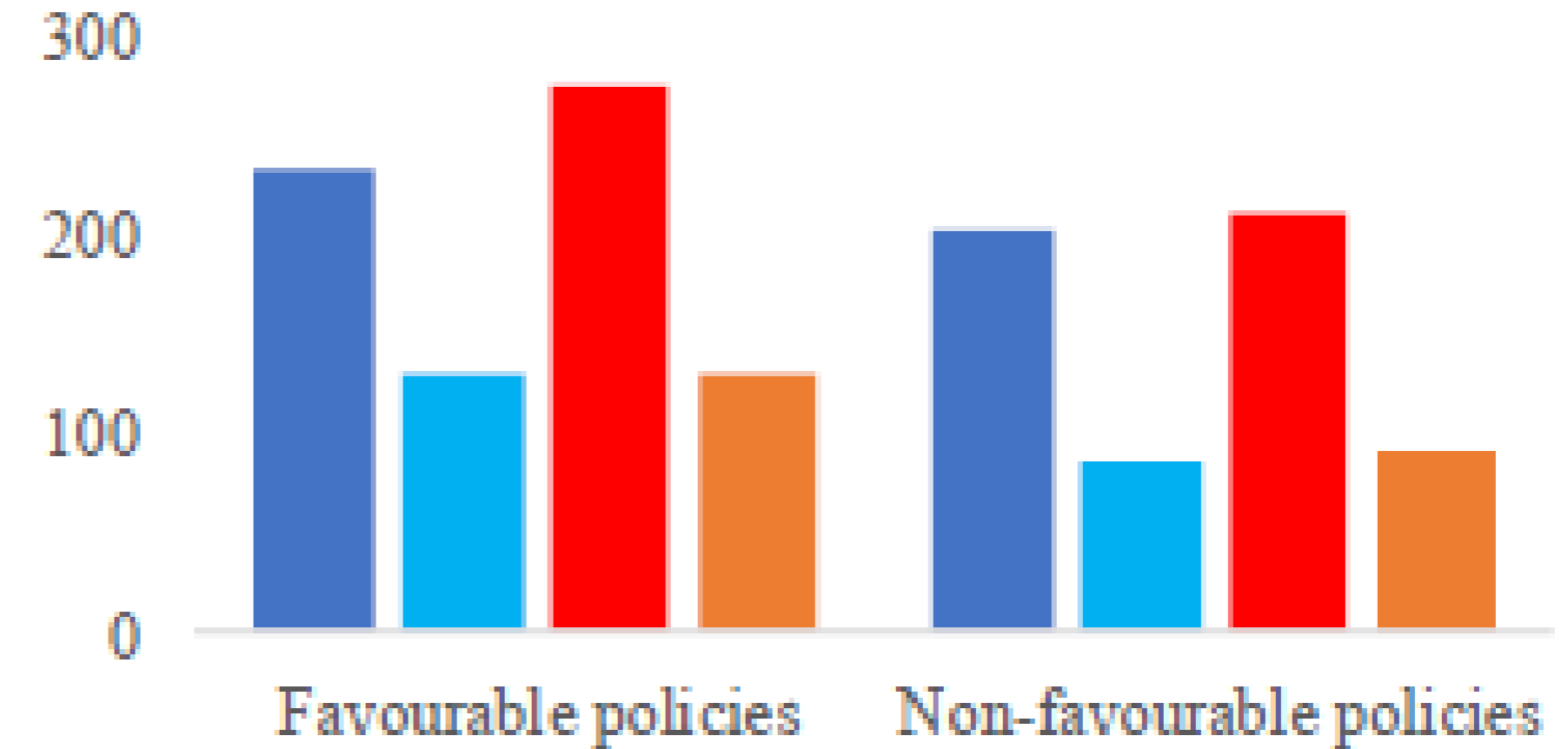
# ...likely due to difficulties in the recognition of qualifications

## Migrant Labor Market Integration and Odds of Being Active

2. Effects of Upper Secondary Education on Odds (Percent)



3. Effects of Tertiary Education on Odds (Percent)



## 4. Policy implications

- Heterogeneity in the evolution of participation rates across European regions and US states and metropolitan areas, with more pronounced declines in rural regions.
- Trade and technology explain about half of the observed decline in participation in the US, but are not associated with displacement in Europe, likely driven by a second worker effect.
- Support should be provided to workers displaced as a result of automation and globalization to dampen the negative effects of labor market shocks.
- Striking within-country differences may, however, call for more explicit recognition of the spatial dimension of economic vulnerability.

## 4. Policy implications

- Migration plays a very significant role in alleviating aging pressures, driven by an age composition effect.
- However, participation rates are lower among migrants than among natives, though the participation gap narrows with years since migration.
- The effects of education on participation appear to be smaller for migrants than for natives.
- Policies that support migrant integration, such as recognition of educational qualifications or language training could increase the positive effects of migration on participation.