Appendix for Online Publication:

A1. Data Description

We construct two new datasets from publicly available data to create Figures 2 and 5 of this paper. In order to construct Figure 2, we collect information from the United Nations (2023a. and 2023b.) on homicides and immigration for a panel of 55 countries between 1990 and 2019 (the countries concerned are listed in the notes to the Figure 2). Data on homicide rates is available yearly from https://dataunodc.un.org/dp-intentional-homicide-victims and data on immigrant shares available every 5 years from https://www.un.org/en/development/desa/population/migration/data/index.asp.

For Figure 5, we use information from Eurostat (2023) on crime and migration from the OECD (2023) for a panel of 71 European regions observed yearly from 2002 to 2017. Region level homicide and vehicle theft rates are from https://ec.europa.eu/eurostat/web/crime/database. Yearly migration flows/stocks data is from https://stats.oecd.org/Index.aspx?QueryId=48877. To build the initial shares by European region in the year 2000, to construct the SSIV instrument which is explained in Section 2.2 of this Appendix, we us the dataset of immigrant stock by country of origin in all European regions compiled by Alesina et al. (2021) available from https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/8COTFK. The data is complete for the following 8 European countries: Austria, Belgium, Germany, Norway, Portugal, Spain, Sweden & Switzerland. The surviving sample includes the following regions: AT11 AT12 AT13 AT21 AT22 AT31 AT32 AT33 AT34 BE1 BE2 BE3 CH01 CH02 CH05 CH06 CH07 DE1 DE2 DE3 DE4 DE5 DE6 DE7 DE8 DE9 DEA DEB DEC DED DEE DEF DEG ES11 ES12 ES13 ES21 ES22 ES23 ES24 ES30 ES41 ES42 ES43 ES51 ES52 ES53 ES61 ES62 ES70 NO01 NO02 NO03 NO04 NO05 NO06 NO07 PT11 PT15 PT16 PT17 PT18 PT30 SE11 SE12 SE21 SE22 SE23 SE31 SE32 SE33. We also note that we apply the inverse hyperbolic sine transformation (HIS) to the homicide rates. This is very similar to the classic logarithmic (LN) transformation but is defined in 0. Since 57 regions and 2 countries had homicide rates equaling 0 in some years, we decided to use IHS instead of LN, but the results do not vary significantly whichever of these two transformations are used.

A2. Methodology

2.1. OLS Estimates

Our baseline estimating equation for the regression results using regional data, which are presented in Figure 5 (and Table A1 below), is the following:

$$\Delta \frac{Crime_{j,t}}{Pop_{j,t}} = \alpha + \beta \Delta \frac{Imm_{j,t}}{Pop_{j,t}} + (\gamma \Delta Pop_{j,t} + \delta \Delta GDP_{j,t}) + \theta_t + \epsilon_{j,t} \quad (1)$$

Since we express all variables in natural logarithms, the β coefficient is the elasticity of the crime rate with respect to the *share* of immigrants. It should be interpreted as follows: when the share of immigrants increases by 1 percent, the crime rate will increase by β percent. The time fixed effect allows us to control for common trends, and the first-difference specification for geographical unit-specific characteristics that do not change overtime. In all specifications, we include population and GDP as controls. As explained in the main body, β in equation 1 cannot have a causal interpretation, as immigration is potentially endogenous. Therefore, we instrument immigration following the shift-share instrumental variable (SSIV) strategy, which is explained below.

2.2. Shift-Share Instrumental Variable (SSIV) Estimates

Our preferred models to enable causal interpretation of the link between immigration on crime instruments the endogenous variable, immigration, using a shift-share approach, widely employed in the immigration literature. We construct the instrument by taking the log-change of the predicted share of immigrants. The predicted stock is obtained by cumulatively adding the predicted inflow to the initial (real) stock of foreign-born individuals in the year before the dataset starts.

$$\begin{aligned} \widehat{Imm_{J,t}} &= Imm_{j,t} \quad \text{when t= -1} \\ \widehat{Imm_{J,t}} &= \widehat{Imm}_{j,t-1} + \sum_o^0 \frac{F_{o,j,t_0}}{F_{o,t_0}} * \Delta F_t \quad \text{when t>-1} \end{aligned} \quad (2)$$

In equation (2), $\frac{F_{o,j,t_0}}{F_{o,t_0}}$ represents the initial share of immigrants from country o that were in region/country j in t_0. The year used as t_0 to construct the shares 2000 in each European region. The second term in the parentheses is the national inflow in the trans-regional regressions and the global change in stock in the case of trans-national regressions. It is the "shift" part of the instrument. The instrument constructed above exploits two sources of

variation: i) cross-sectional variation in the shares of immigrants per geographical unit in t_0, and ii) the national/global variation over time in the number of immigrants from sending countries.

Table A1: Immigration and crime - causal evidence across European regions

	Dependent variables:					
	Homicide rate per 1,000 population			Vehicle theft rate per 1,000 population		
	OLS	OLS	SSIV	OLS	OLS	SSIV
Share of immigrants	0.008	-0.045	0.028	-0.006	0.020	-0.245
	(0.066)	(0.069)	(0.102)	(0.035)	(0.038)	(0.211)
Population	0.097	-2.271	-2.466	-1.056	-0.059	0.165
	(0.789)	(0.834)	(1.041)	(0.515)	(0.534)	(0.533)
GDP per capita	-0.139	-0.152	-0.182	0.416	0.432	0.399
	(0.309)	(0.326)	(0.348)	(0.215)	(0.220)	(0.220)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	Yes	Yes	No	Yes	Yes
F-stat 1st stage	-	-	102.5	-	-	26.75
Observations	1,038	1,038	1,038	941	941	941

Notes: The table reports estimated elasticity responses of homicide (vehicle theft) rates to a 1 percent increase in the share of immigrants in a region using a yearly panel of 73 (85) European regions, NUTS 2, of ten (eleven) European countries over the period 2002-2017. Each regression is weighted by population in 2002 and the standard errors, reported in are clustered at the region level. Columns (1), (2), (4), and (5) present ordinary least square (OLS) estimates. Columns (3), and (6) instrument the endogenous share of immigrants using the shift-share instrument variable (SSIV) approach described in section 2.1. We use the same samples for the OLS and SSIV for ease of comparison.