Online Data Appendix

A Data Construction

A.1 Top Marginal Tax Rates

Top marginal tax rates series were initially computed by Kleven et al. (2013) and Piketty et al. (2014). We expand the time period of these historical series until 2015 for the following 15 coun- tries: Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom and United States. We further compute novel top marginal tax rates series from 2009-2015 for 15 additional countries: Austria, Belgium, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Luxembourg, Poland, Romania, Slovakia, and Slovenia, following the same methodology as described below.

Individual Income Taxes For the individual income tax components of the top marginal tax rate, we use the top statutory marginal tax rate, taking into account exemptions and deductions rules. For countries which have a local income tax rate, we use the representative average local top marginal income tax rate. The main sources used are the OECD (annual) *Taxing wages* publications since 1980 and the PriceWaterhouseCoopers (annual): *Worldwide Tax Summaries*. As tax rules may be complex, we supplement these sources with specific country-level data obtained directly from domestic sources to cross-check our final measures of top income tax rates. We further use country-level sources to take into account specific tax schemes for foreigners, that are summarized in Table 2 of the paper. When the preferential scheme is a flat tax rate for foreigners, we use this flat rate as our measure of the top marginal income tax rate for foreigners. If the preferential regime takes the form of a tax exemption that is proportional to taxable income, we compute the top personal income tax rate for foreigners as

the regular top marginal income tax rate reduced proportionally by the tax exemption rate.

Payroll Taxes Our top marginal tax rates account for *uncapped* social security contributions and payroll taxes at both the employer and employee level. The main sources used are the OECD (annual) *Taxing wages*, PriceWaterhouseCoopers (annual): *Worldwide Tax Summaries,* and country-level specific data from social security administrations.

Consumption Taxes We also include VAT rates in our computation, using the standard VAT rate that applies to the broader set of goods. The main source we used is OECD (annual) *Consumption tax trends* and the European Commission (2009): *Taux de TVA appliqués dans les Etats membres de la Communauté européenne*. For the US, we used average sales tax rates.

Top Marginal Tax Rates We combine the top personal income tax rate τ_i, the payroll tax rates on employees (workers) and employers (firms) τ_{pw} and τ_{pf} , and the VAT (or sales tax) rates τ_c in order to obtain our final measure of the top marginal tax rate τ . This measure captures the total tax wedge: when the employer increases labor costs by 1 dollar, the employee can increase consumption by $1 - \tau$ dollars. The formula for $1 - \tau$ is given by

$$(1 - \tau) = \frac{(1 - \tau_i)(1 - \tau_{pw})}{(1 - \tau_c)(1 - \tau_{pf})}$$

Note that this formula has been written for the standard case where the employer's and employee's payroll taxes are both based on gross earnings, and where the income tax rate applies to earnings net of all payroll taxes. When this is not the case, we have adapted our computations to capture precisely country-specific rules.

Foreigners' Tax Schemes We collected information on foreigners' tax schemes since 1980

in OECD countries, using various national level sources and individual countries' tax codes. Additional information on the foreigners' tax schemes can be found in the following country-specific sources

Italy : https://www.altalex.com/documents/leggi/

France: http://www11.minefi.gouv.fr/boi/boi2005/5fppub/textes/5f1205/5f1205.htm
Netherlands: http://www.voorbij-partners.com/pagina.asp?pid=16&l=end
Spain: https://www.boe.es/buscar/doc.php?id=BOE-A-2005-9875
Finland : https://www.vero.fi/en/individuals/tax-cards-and-tax-returns/arriving_in_finland/work_in_finland/
Denmark : https://skat.dk/
Portugal : https://www.pwc.pt/pt/fiscalidade/2017/pwc-non-habitual-tax-residents.pdf
Sweden:https://forskarskattenamnden.se/andrasprak/taxationofresearchworkersboard.4.14dfc9b0163796ee3e7743d9.html

A.2 Cross-Country Analysis

In order to conduct the cross-country analysis presented in Figure 2 of the paper, we combine our top marginal tax rates series with shares of foreigners in the top 5% of the income distribution. We do this for 25 European countries during the period 2009-2015. These European countries' shares were originally computed by Muñoz (2019); the share of top 5% foreigners in the United States were computed using the Current Population Survey (CPS) for the same period. We describe each computation in more detail next.

A.2.1 European Series

The shares of foreign top earners are computed using the European Labor Force Survey (EU-LFS).[14]The EU-LFS is the largest European survey providing annual micro data on the labour participation of people aged 15 and more, in and outside the labour force. It is conducted every

[14] https://ec.europa.eu/eurostat/fr/web/microdata/european-union-labour-force-survey

year in 33 participating countries: the 28 members of the Union, the three EFTA countries (Switzerland, Norway, and Iceland) and two candidate countries (former Republic of Macedonia and Turkey). It is designed as a continuous quarterly survey since 2004, with interviews spread uniformly over all weeks of a quarter. The participation in the EU-LFS for surveyed individuals is compulsory for fourteen of the participating countries. On average, the achieved sampling rate in the EU-LFS is approximately 0.3% of the total European population.[15] Surveys are implemented by National Statistics Institutes, and aggregated by Eurostat, which also corrects for non-responses and applies yearly weighting methods. This allows to use the survey at the yearly level and to conduct cross-country comparisons.

To build the share of foreign top earners in the overall population, we use the information on citizenship and income provided by the EU-LFS.[16]The information on individuals' nationality is available since 1995, and allows us to select non-citizens, that we define as "foreigners."[17] The EU-LFS also provides the decile of labor earnings for surveyed earners since 2009. Information on the level of earners' monthly labor earnings is collected during the interview but is not provided in the micro-data. The LFS instead directly provides the income decile of each earner.[18] Importantly, this decile is based on labor income only, and does not take into account any other source of income, such as capital income.[19]

To go at a finer level than the top 10%, we proceed to a matching on characteristics and build an imputed measure of income, using the European Survey on Income and Living Conditions

[15] Sampling rates vary across countries and years.

[16] The EU-LFS also provides information on individuals' country of birth, which could also have been used for the exercise. However, this information is not available for all European countries (e.g., it is missing for Germany). Thus, we chose to define "foreigners" based on citizenship rather than country of birth.

[17]People with dual citizenships will also be counted as citizens.

[18] Norway and Sweden did not provide the information on decile of income and we are therefore unable to include them in our analysis.

[19] More precisely, the decile of income is computed relative the monthly (take-home) pay that is the pay from the main job after deduction of income taxes and National Insurance Contributions. It includes regular overtime pay, extra compensation for shift work, seniority bonuses, regular travel allowances and per diem allowances, tips and commissions, and compensation for meals.

(EU-SILC). The EU-SILC is a detailed individual-level annual European survey that gives precise information on various sources of income, such as monthly labor earnings, gross household income, and capital income and wealth taxes for the period 2005-2015. The main advantage of the EU-SILC dataset is that it shares a large set of common variables with the EU-LFS, and that these covariates are coded and defined in exactly the same way in the two surveys. We take advantage of this common set of covariates to perform an exact matching on characteristics within the EU-LFS top decile of the income distribution. We match individuals according to their gender, age, country of residence, country of birth, marital status, ISCED education level, number of hours worked by week, the size of the firm where they work, and an indicator variable if they have a managerial position. We use the imputed measure of gross earnings to define the top 5% of the income distribution within the top 10% selected by the EU-LFS. We also restrict our analysis to individuals whose are between 18 and 62 years old. We compute the share of top 5% foreigners as the share of non-citizen earners aged 18-62 who fall in the top 5 percent of the labor earnings distribution of their residence country, relative to the overall population of individuals aged 18-62 of their residence country. The final result is a series from 2009 to 2015 of the share of top 5% foreigners for 25 European countries: Austria, Belgium, Bulgaria, Switzerland, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Croatia, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, and the United Kingdom.

A.2.2 United States Series

We complement our series on the shares of top 5% foreigners in these 25 European countries with a series of the share of top 5% foreigners in the US. We use the March supplement of the Current Population Survey (CPS ASEC sample), that provides yearly information on individuals' income and citizenship, with supplemental data on poverty, geographic

mobility/migration, and work experience. The ASEC data therefore allows to obtain cross-sectional yearly information on foreigners' stocks and incomes that are comparable to the European data. To be consistent with the series built from the EU-LFS, we define foreigners as non-citizens. We further use the information on wage earnings to select the top five percent earners, among those of ages between 18 and 62. We compute the share of top five percent foreigners as the share of non-citizen earners aged 18-62 who fall in the top five percent of the labor earnings distribution, relative to the overall population of individuals aged 18-62.

B Supplementary Table

Table B.I: Migration Rates and Foreigners' Stocks At the Top of the Earnings Distribution

Country	Migration Rates (%)		Foreigners' Stocks (%)	
	Top 10%	Top 5%	Top 10%	Top 5%
Austria	.31	.16	6.4	3.4
Belgium	1.1	.87	14	11
Bulgaria	.36	.59	.30	.56
Croatia	1.3	-	.31	.64
Czech Republic	.30	.43	2.1	2.5
Denmark	.43	.41	4.9	3.0
Estonia	.75	.58	6.7	5.0
France	.45	.30	3.9	2.4
Finland	-	-	1.3	.83
Germany	.45	.21	5.4	4.6
Hungary	.39	.27	.81	.57
Italy	.04	.04	2.3	.88
Ireland	-	-	12	9.5
Latvia	.65	.37	7.8	7.2
Lithuania	.33	.28	.71	.66
Luxembourg	2.4	2.2	54	43
Netherlands	.05	-	2.3	2.8
Poland	.14	.12	.33	.15
Portugal	.30	.29	1.3	.82
Romania	.06	.03	.18	.16
Slovakia	.51	.32	.78	.79
Slovenia	.10	.31	.49	.37
Spain	.12	.11	3.9	2.5
Switzerland	2.3	1.5	26	19
United Kingdom	1.5	.93	11	8.7
United States	.26	.26	5.7	5.6

Notes: This table shows average migration rates and foreigners' stocks in the top 5% and the top 10% of the earnings distribution or employees over the period 2009-2015, using data from the EU-LFS, and the CPS for the United States. The migration rate is the share of individuals that changed their country of residence relative to the previous year. The foreigners' stock is the share of non-citizens within the top five percent (respectively top ten percent). Finland and Ireland provided incomplete information on previous residence at the top. It was not possible to impute the top 5% of the earnings distribution in Croatia and Netherlands due to data constraints. See Appendix A for details.