ESTIMATING THE EFFECT OF IMMIGRATION ON PUBLIC FINANCES: EVIDENCE FROM THE INFLUX OF VENEZUELAN MIGRANTS TO COLOMBIA

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The Issue

- **Our question…**

  What is the **effect** of immigration on public finances?

- **Why is it important?**

  Natives see immigration as a **burden** for the economy + **political discourse**

  Large **fiscal imbalances** LAC countries = commodity price shock + Covid-19 + ageing + …

  Migration is **not distributed uniformly** across space = **regional inequalities**

- **The context…**

  Venezuela's economic, political and social **crisis**

  1.5 million immigrants (Venezuelan-born + returnees) moved to Colombia between 2013 and 2018

Our contribution

- **Context…**

  Provide new evidence for a **developing country**

- **Type of migration…**

  Estimates for **native-born returnees**, which has not been address in the literature

  Additional evidence for migration that is neither solely **voluntary** nor **forced**

- **Scope…**

  Estimates by **level of government** (National, Regional, Local)

  Complete picture of the effects by estimating also the impact on **tax expenditures**

What we find

- **Welfare take-up**

  Immigrants tend to have less access to, and make lower use of, the **welfare** system

- **At the aggregate level**

  No clear evidence of immigrants imposing a higher burden to public finances **relative** to natives

  Overall **net fiscal effect** is small in terms of GDP (≈ **–0.05%** for Venezuelan-born)

  Lower net contributions are driven by the **short-term cohort** (< 1 year in the country)

- **At the local level**

  Heterogenous picture

  - **Forces:** fiscal effort (the ability to raise revenues from their own sources) and share of immigrants
  - **Drivers:** compulsory education for immigrants' dependents + social protection for vulnerable population

What we do

- **Our approach…**

  We follow broadly Dustmann and Frattini (2014)

  Static accounting = taxes and other **contributions** – costs of **benefits**

- **Straightforward?... NO**

  Detailed information + methodological **choices**

- **Conceptual issues**

  Unit of analysis, immigrants' children, public goods (*average* vs. *marginal* effect), interest on the debt, …

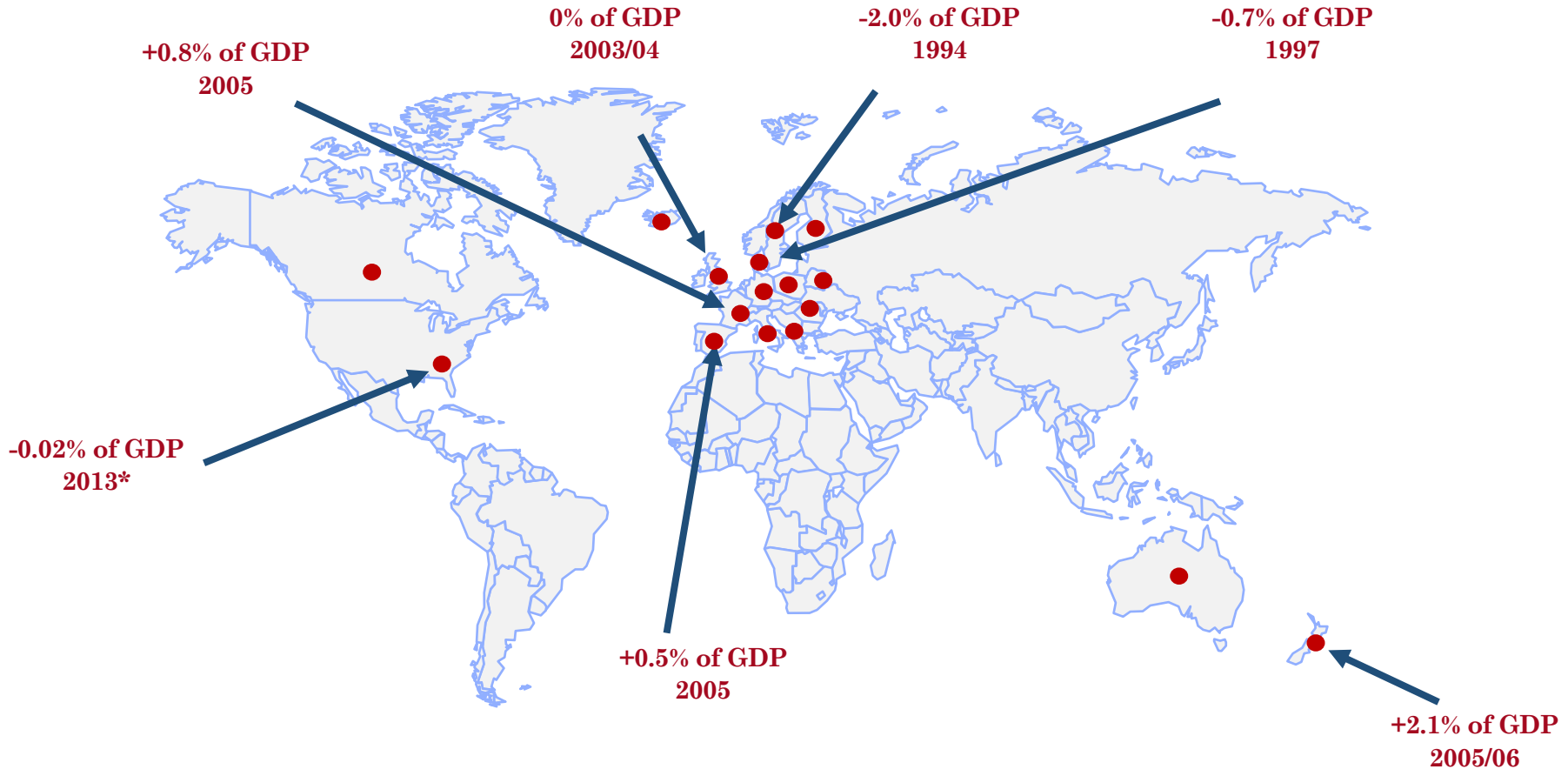
- **Data**

  General Government's budget **(!)** + Labor Force Survey + other sources

What evidence do we have for other countries?

- **On average, the fiscal effect of immigrants among OECD countries is close to zero!**

  (International Migration Outlook 2013, OECD)



*First generation immigrants and their dependents. Own estimates from NASEM (2017).

Groups and measures

- **Groups**

Natives		+	Venezuelan-born			+	Other immigrants
Permanent	Returnees		Short-term	Mid-term	Long-term		

- **3 types of measures**

i. Net fiscal contributions = contribution to revenues – expenditures received

ii. Ratio of revenues to expenditures (RE) = contribution to revenues / expenditures received

iii. Relative net contributions = RE (immigrants) / RE (natives)

→ The relative net contributions account for both the **group size effect** and the **fiscal balance effect**

Data

- **Labor Force Survey**

  Gran Encuesta Integrada de Hogares 2013 – 2018

- **General Government's budget**

  Central Government

  - Revenues: DIAN + MHCP (SIIF) + General Accounting Office
  - Expenditures: DANE – Classification of the Functions of Government

  Social Security

  - MHCP + ADRES

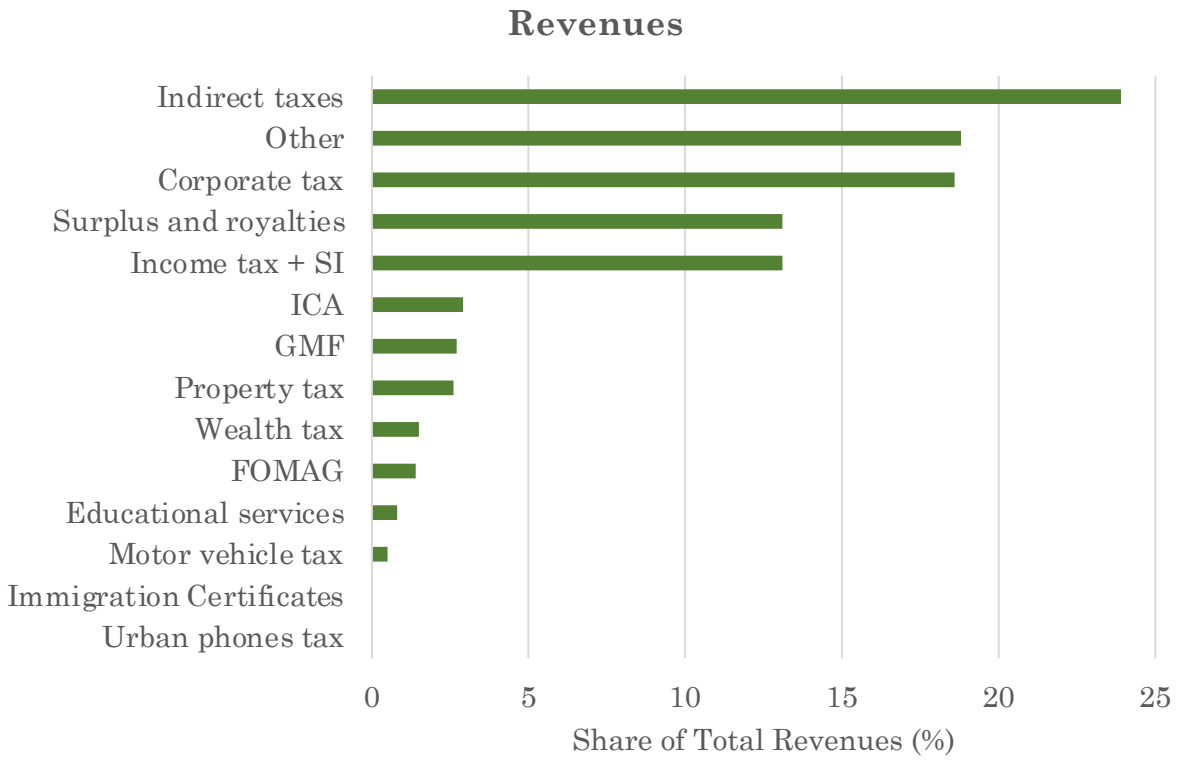
  Regional and Local Governments

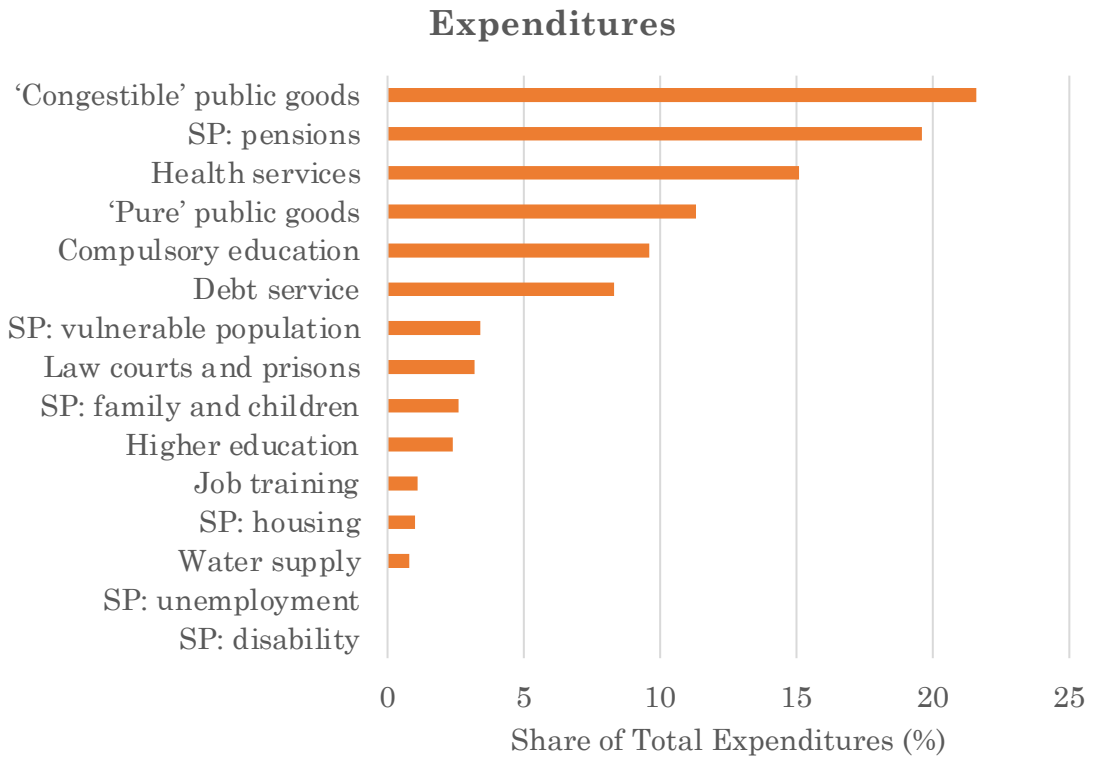
  - Revenues: Formulario Único Territorial—FUT
  - Expenditures: DANE – Classification of the Functions of Government

- **Other**

  Royalties (SGR – DNP) + prison population (INPEC) + tax incidence (ECV/ENPH – DANE)

General Government's budget (2013 – 2018)





Conceptual issues

- **Unit of analysis**

  Our analysis focuses on **individual** immigrants rather than immigrant households

  We define the immigrant population as all **foreign-born and their dependents**

  Mixed households: we apportion the cost of dependents using the relationship with the head of household

- **Treatment of public goods**

  We estimate the fiscal impact under two scenarios: *average* vs. *marginal* effect

- **Treatment of interest on the debt**

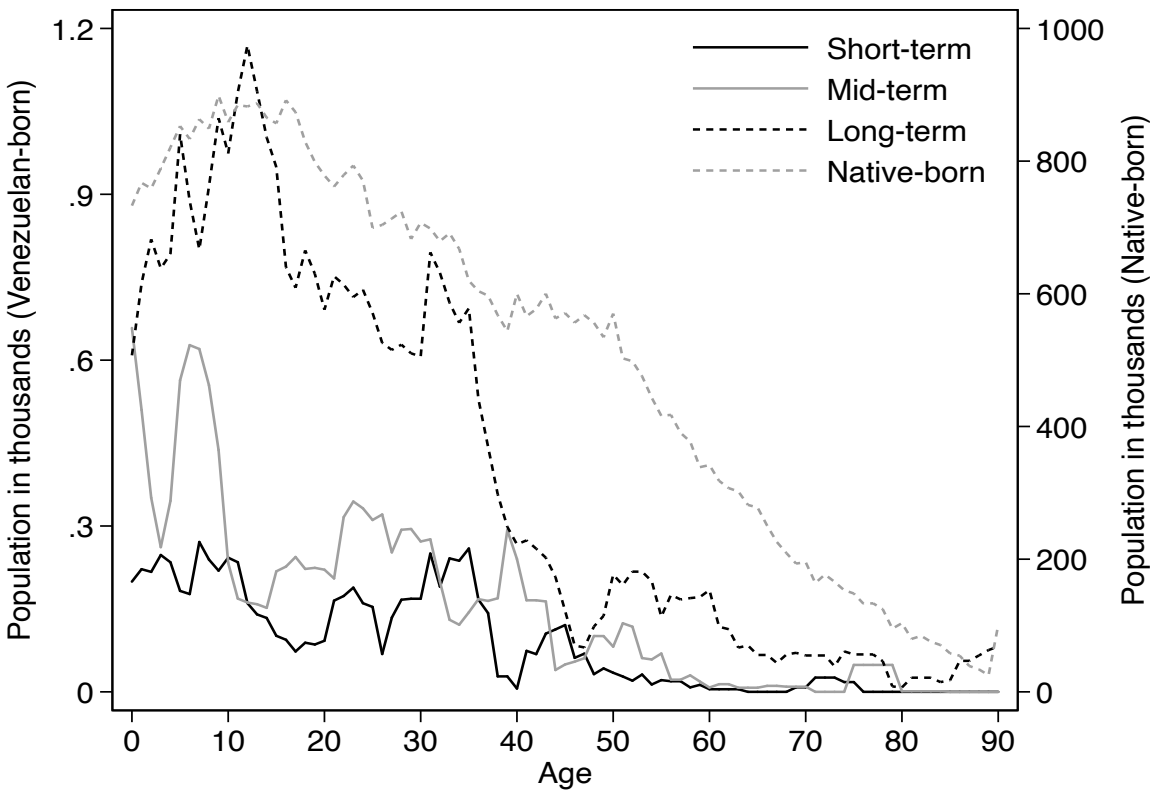
  We attribute to immigrants only interests for debt acquired as a result of their arrival to the country

Descriptive statistics: stylized facts

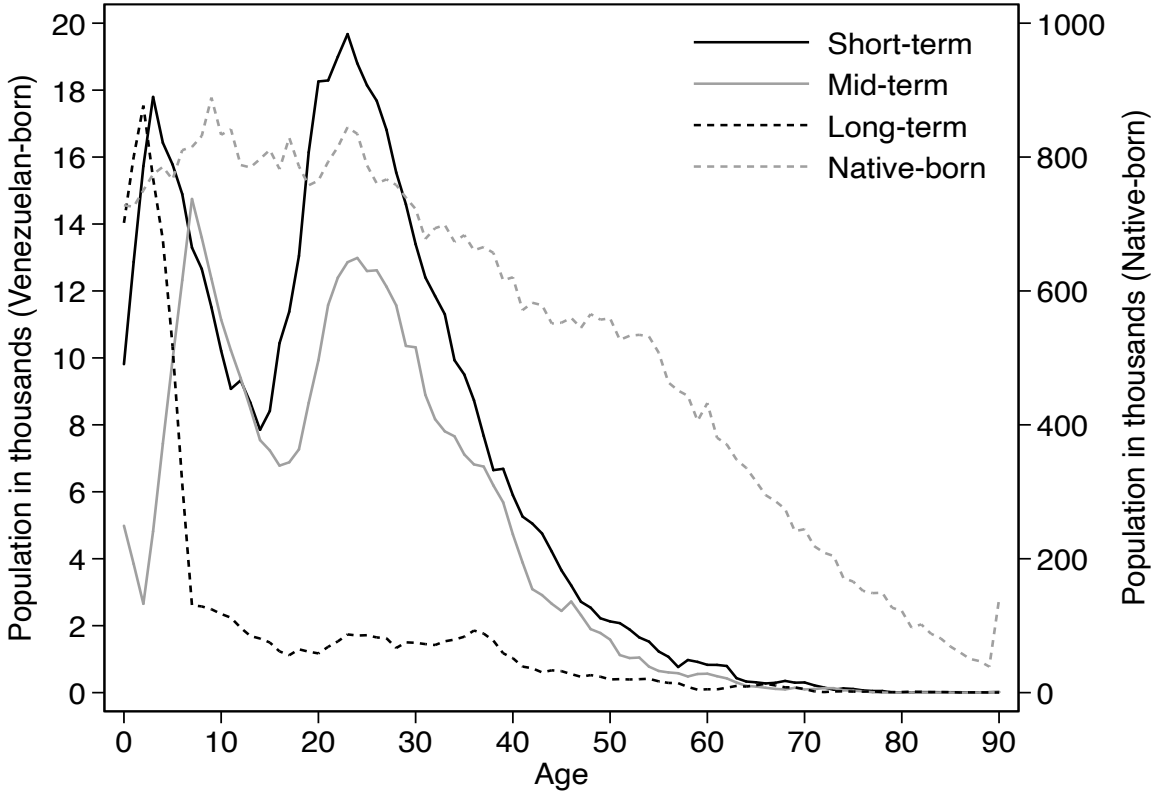
1. Venezuelan-born immigrants are on average **younger** than natives (≈ 11 years)
2. Immigrants are heavily concentrated at **working ages** but, at the same time, have many **children**
3. Immigrants have higher **educational attainment** with respect to natives (≈ 1.7 years of schooling)
4. Immigrants present on average a lower **employment** rate when comparing them to natives and a higher **unemployment** rate
5. Labor outcomes improve as immigrants **assimilate** in the country
6. Immigrants have a similar composition in terms of **wage and salary workers** and **self-employed** to the native-born population, but long-term migrants are more likely to be self-employed
7. Immigrants seem to **downgrade** upon arrival (66% short-term below min. wage)

Age structure of immigrant cohorts

(a) Fiscal year 2013



(b) Fiscal year 2018



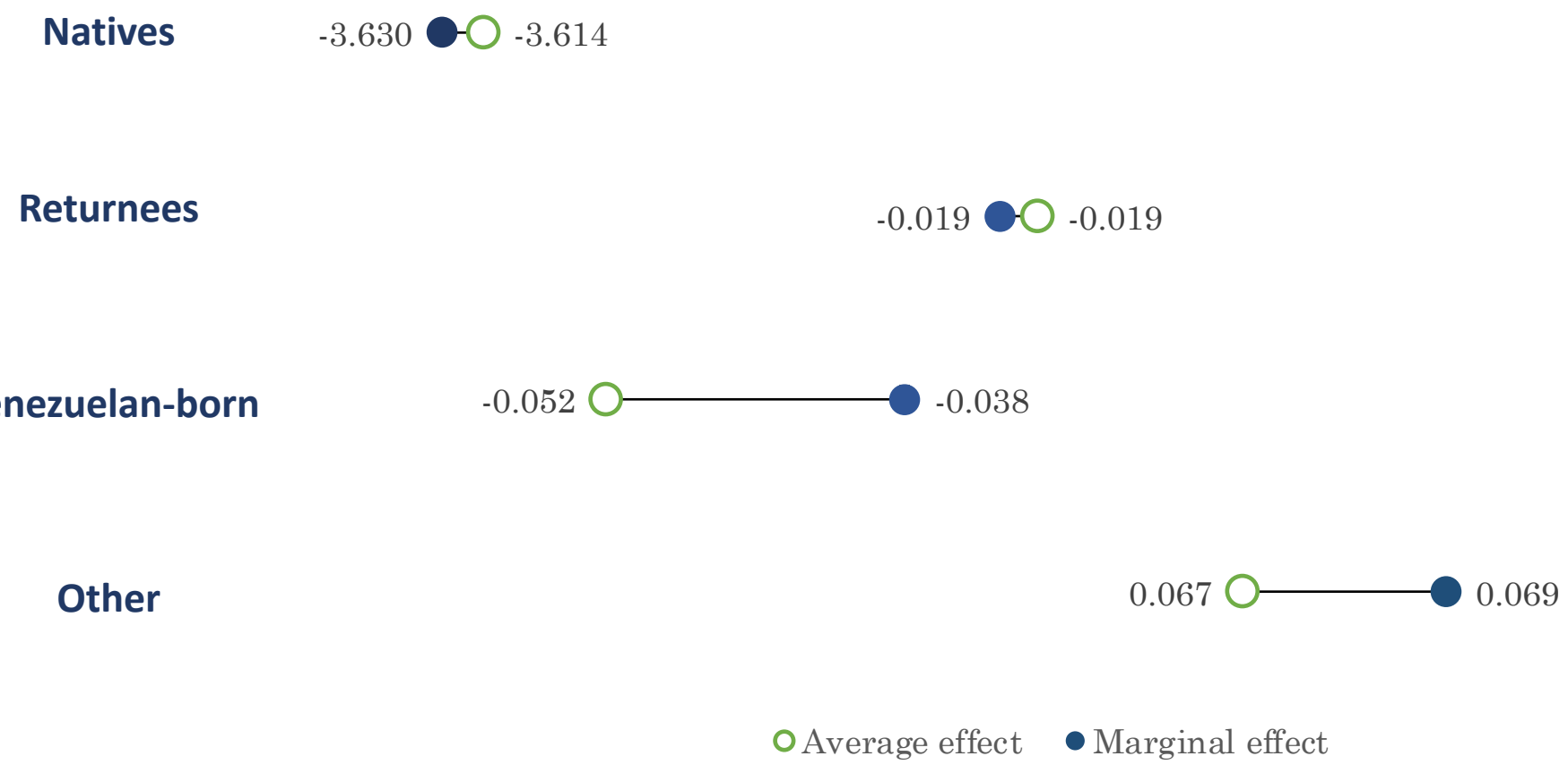
Do immigrants use more welfare than natives?

Welfare Take-up Probability of Migrants vs. Permanent Natives

	Any Welfare	Health Care	Pension	Cash Assistance
Returnees	1.0%	1.6%	-6.7%	-4.7%
Short-term	-39.2%	-38.3%	-8.8%	-4.4%
Mid-term	-25.1%	-24.2%	-7.9%	-3.9%
Long-term	-2.3%	-2.4%	No sig.	-1.0%

Fiscal effect by level of government

- **Measure** → Overall net fiscal contributions (COP$ million, 2018 equivalent) as **% of GDP**



Fiscal effect by level of government

- **Measure** → Revenues/expenditures ratio, **relative to permanent natives**

Average Effect

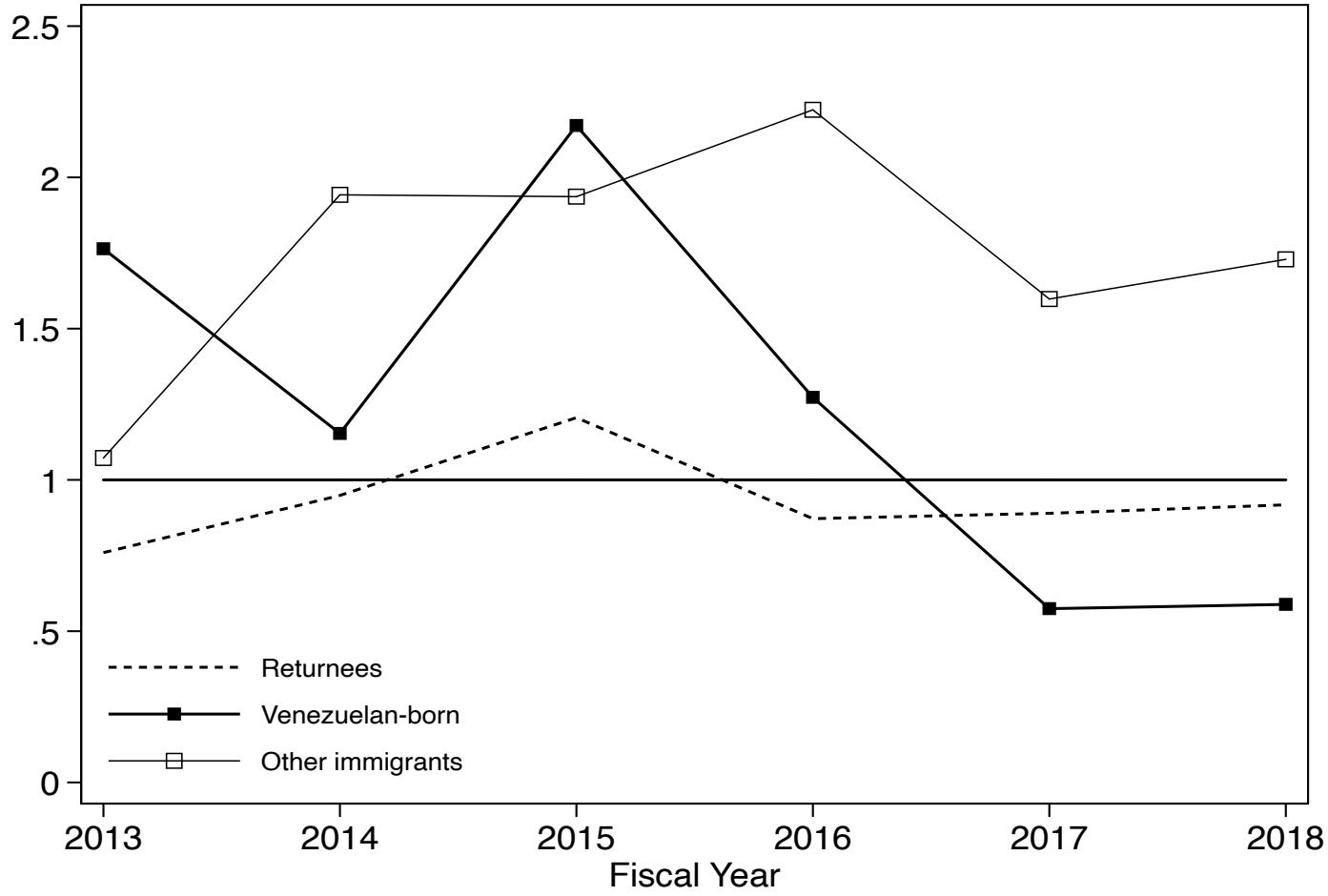
	Returnees	Venzuelan-born	Other
National	0.899	0.922	1.605
Regional and Local	0.887	0.648	2.322
Total	0.916	0.809	1.729

Marginal Effect

	Returnees	Venzuelan-born	Other
National	0.852	0.970	1.652
Regional and Local	0.846	0.668	2.572
Total	0.867	0.844	1.800

Relative net contributions over time

(a) Average effect



Decomposing net contribution differences among groups

- **What is the effect that demographic characteristics play on explaining the differences in the net fiscal contributions among groups?**

  "A group that is concentrated at working ages when tax contributions are high will be more positive than that of a group that is, at that time, either relatively young or elderly or both" (NASEM, 2017)

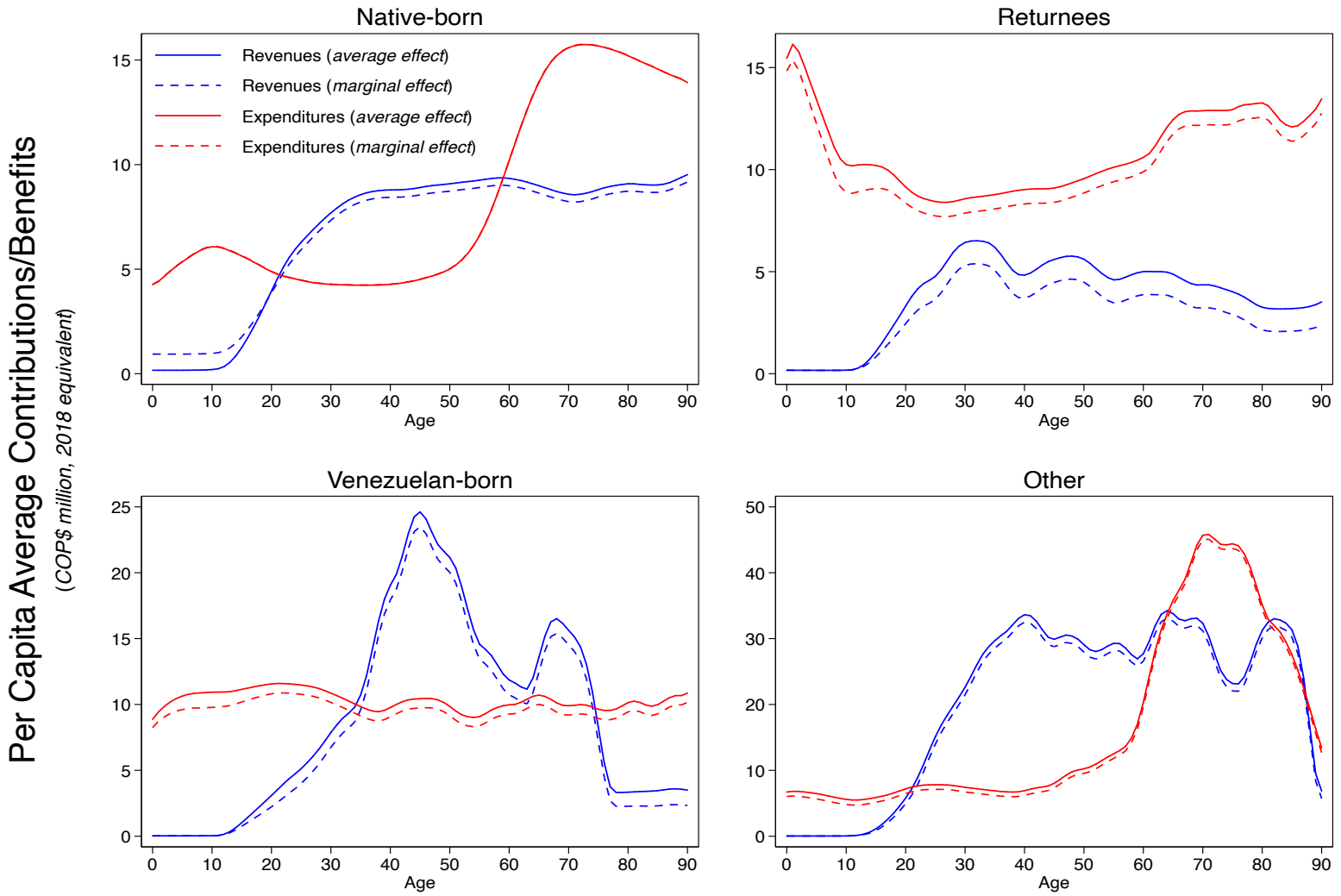
- **Mapping from the budget to individual-level data…**

  We allocate all revenues and expenditures to each observation in the GEIH

  Population-weighted aggregate fiscal flows are consistent with budget estimates

Decomposing net contribution differences among groups

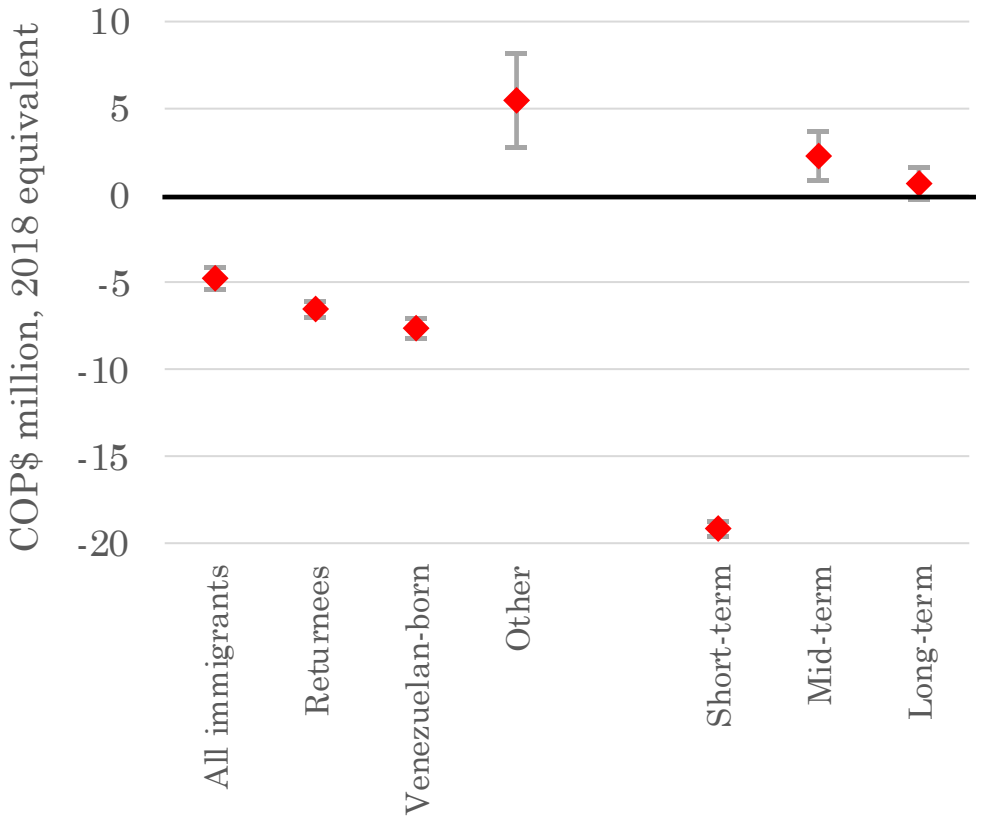
Distribution of Contributions and Benefits by Age and Group, 2013-2018



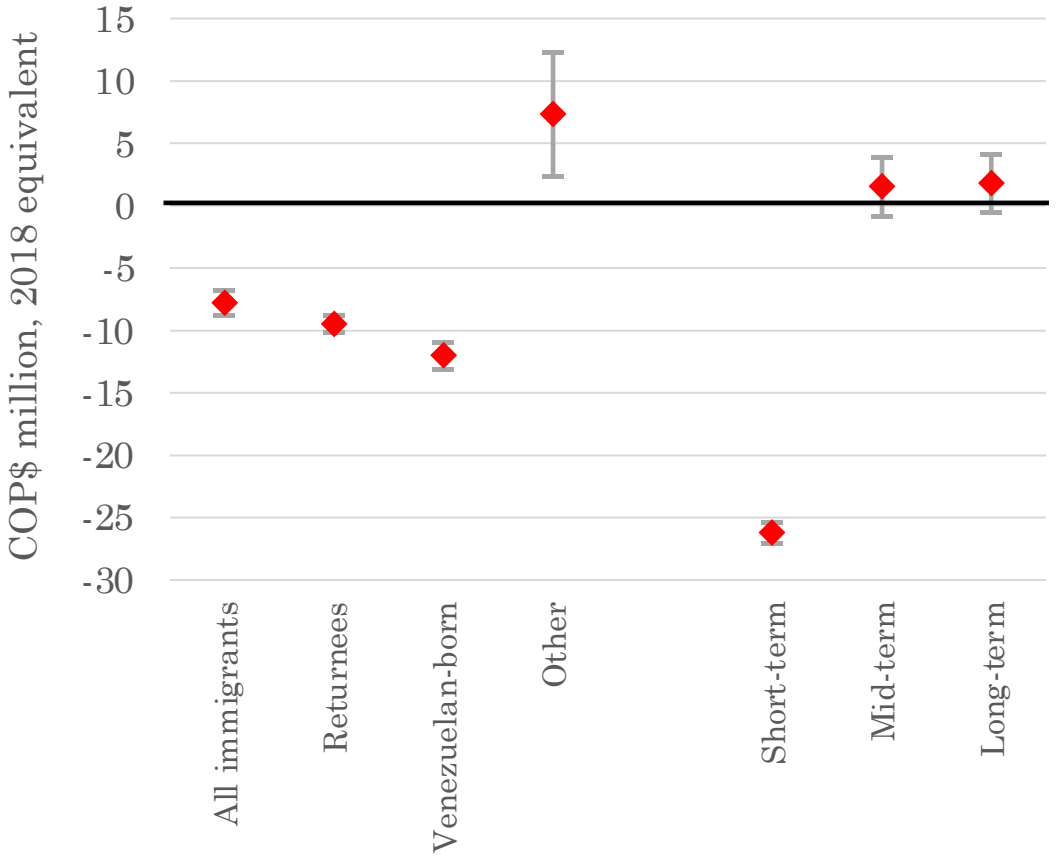
Decomposing net contribution differences among groups

Marginal Per Capita Fiscal Impact by Group and Cohort

All sample*



Independent person unit**



* Controls: age, sex, year.
** Controls: age, sex, year, education group, number of dependents, employment status.

Fiscal effect at the local level

- **Why is it important?**

  Roughly 60% of all Venezuelan immigrants were residing in the 23 main cities/MSAs as of 2018

  Immigrant's direct contributions go largely to the central government, but spending is at the local level

  Local governments differ in their revenue-raising capacities

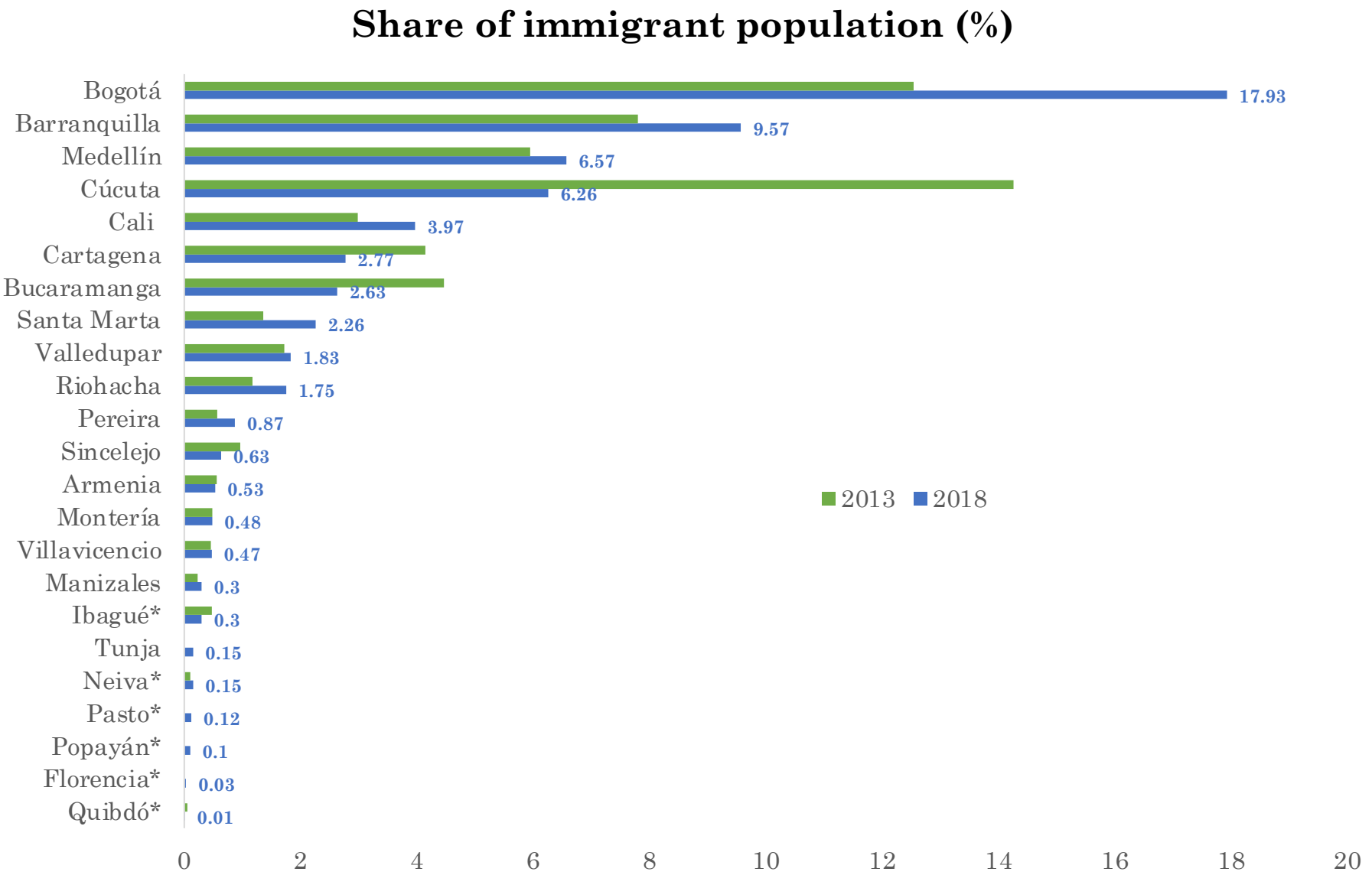
- **Issue: sample size**

  Sample size for groups, particularly for 2013 and 2014, is an issue

  We need to select the years over which we perform our analysis for each city/MSA:

  1. We use information on the stock of immigrants from the 2018 Census to select the reference group
  2. Then, we estimate the stock of immigrants for 2013-2017 using information from *Migración Colombia*
  3. We estimate the minimum sample size required in each year-city using the change in inflows

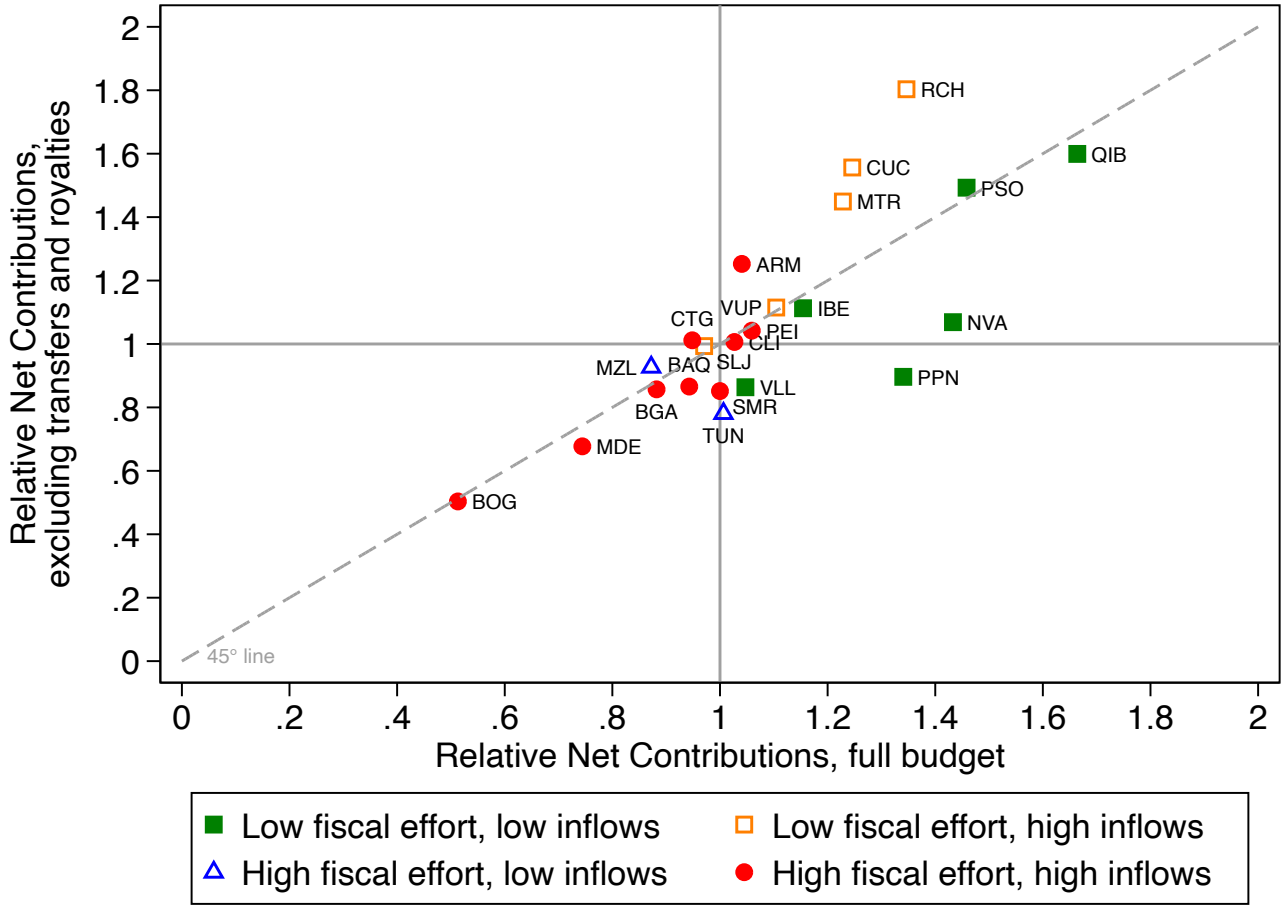
Spatial distribution of Venezuelan immigrants



* Caution should be taken when examining the local-level estimates because of small immigrant population and subsample size.

Fiscal effect at the local level

- **Measure** → Relative Net Contributions (mid-point between *average* vs. *marginal* effect)
- **Sample** → 22 capital cities with their MSAs



1. High fiscal effort: transfers from the national government represent less than 40% of total revenues.
2. High inflows: Venezuelan immigrants represent 2% or more of the MSA population.

Conclusions (Part I)

- **Welfare take-up**

  Immigrants tend to have less access to, and make lower use of, the **welfare** system

- **At the aggregate level**

  No clear evidence of immigrants imposing a higher burden to public finances **relative** to natives

  Overall **net fiscal effect** is small in terms of GDP (≈ **–0.05%** for Venezuelan-born)

  Lower net contributions are driven by the **short-term cohort** (< 1 year in the country)

- **At the local level**

  Heterogenous picture

  - **Forces:** fiscal effort (the ability to raise revenues from their own sources) and share of immigrants
  - **Drivers:** compulsory education for immigrants' dependents + social protection for vulnerable population

Conclusions (Part II)

- **Our results are static in nature**

  There is a need to look at the dynamic effects (life-cycle), which requires further assumptions

- **This is only a snapshot of the issue**

  Further need to update results for 2019-2021, which requires detailed data from the Government

  No effects of policies and shocks: Temporary Legal Status + COVID-19

- **Possible underreporting at the local level**

  Informal conversations suggest that there may be expenditures that are not reported in the FUT

- **We need a better understanding of the role of remittances**

  For other countries this is about 20% of immigrant's income

  For Colombia, new information indicates this could be higher (≈ 40%)

Appendix

Revenues Allocation Criteria

REVENUE GROUP	BASELINE	ALTERNATIVE
Income tax and social insurance	Share of total payments: tax Schedule applied to GEIH earnings	
Corporate and capital taxes	Share of population with individual dividend and interest income, net of nonresident foreign ownership share; national public ownership share is allocated to natives	Share of long-term residents (>5 years) with individual dividend and interest income
Wealth tax	Share of adult (18+) population (firms' contrib.); share of real estate value for property owners in the 90th percentile or above (households' contrib.)	Same as corporate and capital taxes (firms' contributions)
VAT and other indirect taxes	Share of total payments, net of nonresident direct purchases share; effective rates by household income decile from the Online Appendix	Same as baseline, but assuming a 20% reduction in total payment of indirect taxes for immigrants
Motor vehicle tax	Share of motor vehicle ownership in the adult (18+) population	
Property tax	Share of adult (18+) population (firms' contrib.); share of real estate value for property owners (households' contrib.)	Same as corporate and capital taxes (firms' contributions)
Industry and commerce tax	Share of adult (18+) population (firms' contrib.); share of self-employed owning an industrial, commercial, or service business (households' contrib.)	Same as corporate and capital taxes (firms' contributions)

Revenues Allocation Criteria (cont.)

REVENUE GROUP	BASELINE	ALTERNATIVE
Financial transactions tax	Share of adult (18+) population with a savings and/or checking account	
GOS, rents and royalties	Share of adult (18+) population (average contribution) / All to permanent natives (marginal contribution)	
Urban phones tax	Share of adult population (18+) with access to a landline	
Educational services	Share of population in higher education in public establishments	
National Teachers Pension Fund	Share of employees in the education sector classified as government workers	
Immigration Certificates	Share of foreign-born population	
Other	Share of adult (18+) population	

Expenditures Allocation Criteria

REVENUE GROUP	BASELINE	ALTERNATIVE
‘Pure’ public goods	Share of population (*average cost*) / All to permanent natives (*marginal cost*)	
‘Congestible’ public goods	Share of population (*average cost*)	
Law courts and prisons	Share of prison population	
Water supply	Share of population with access to water supply	
Health services	Share of population in age group, and share of total health cost of age group	
Education: compulsory educ.	Share of [3,16] years old pop. attending public institutions (*average cost*) / Excludes pop. with residence < 1 year (*marginal cost*)	
Education: job training	Share of population in job training programs	Share of pop. in job training prog. in public institutions

Expenditures Allocation Criteria (cont.)

REVENUE GROUP	BASELINE	ALTERNATIVE
Education: higher education	Share of population in higher education in public establishments	
SP: sickness and disability	Share of inactive pop. that left their last job within a year due to illness or accident	
SP: pensions	Share of total pension income (includes *Colombia Mayor*)	
SP: family and children	Share of total income received of family-related benefits (*Más Familias en Acción*)	Share of dependent children among family-related benefits claimants
SP: unemployment	Share of unemployment benefit recipients	
SP: housing	Share of housing-related benefits claimants	
SP: vulnerable population	Share of vulnerable population (immigrants, internally displaced, or in poverty)	

Expenditures Allocation Criteria (cont.)

REVENUE GROUP	BASELINE	ALTERNATIVE
Debt service	Share of each group in the total population by year of arrival	