

The Differential Impact of Crime Shocks Across Gender



Lara Molina^{2*}, Noriega^{1*}, Jahani¹, Ricard², and Pentland^{1,2,3}

¹ MIT Media Lab | ² Data-Pop Alliance | ³ Institute for Data, Systems and Society, MIT

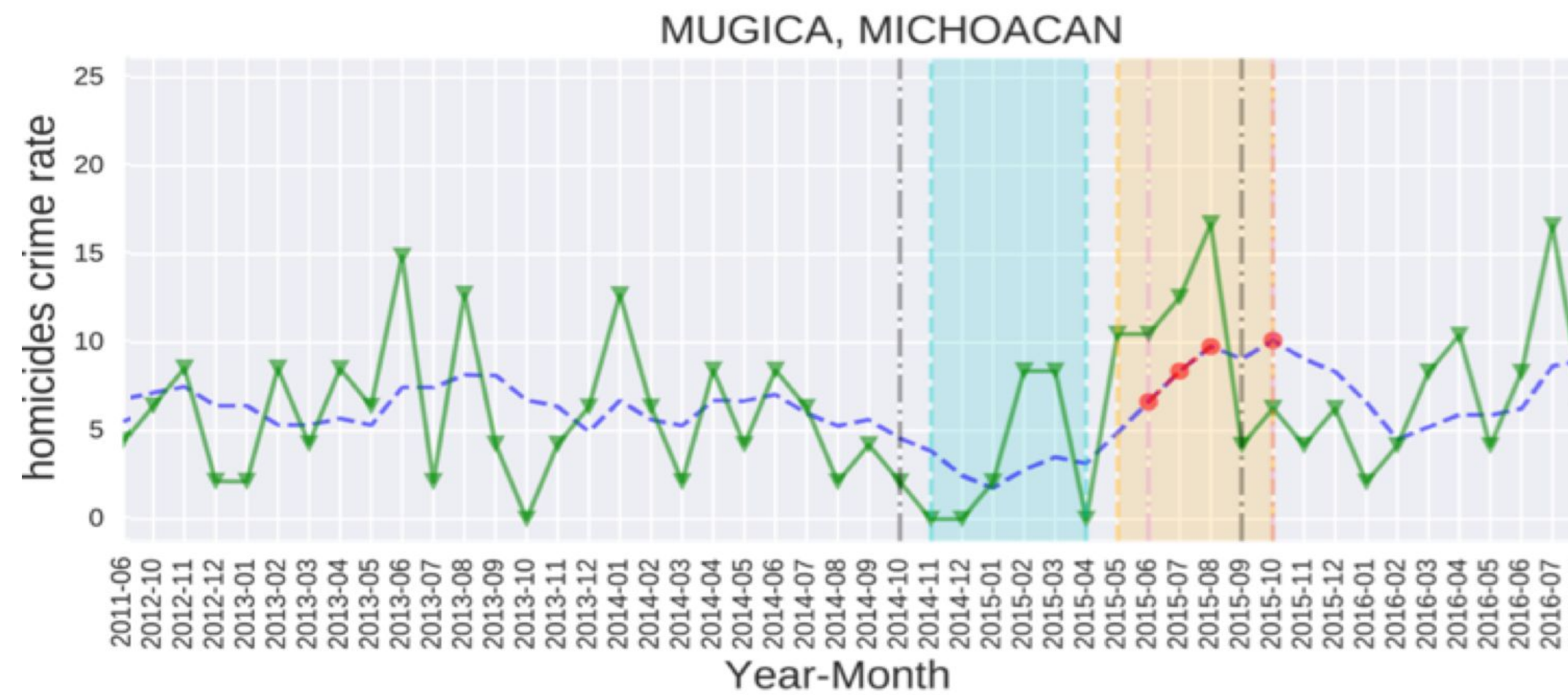
* Authors contributed equally to this work

Urban crime, social cohesion and daily lives in LAC

- In the developing world, as military conflicts have decreased, **murder rates have increased**.
- In Latin America, homicide rates are **four times higher** than the world average.
- Few studies worldwide have explored the disruptive effects of **crime on daily routines**.
- We use bank card transactions' metadata to assess the effect of **crime shocks on daily lives in Mexico**, with a focus on the differential impacts between subgroups, starting by women and men

Empirical strategy

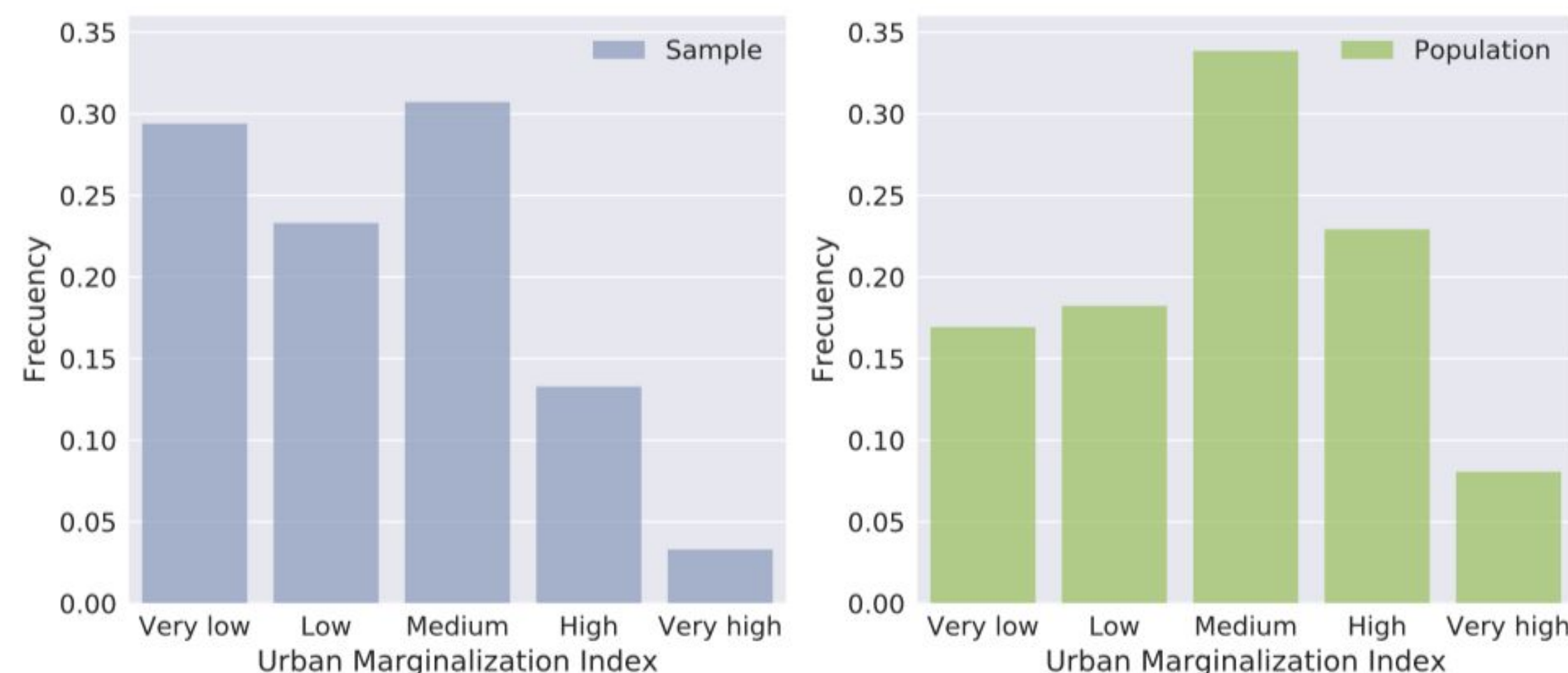
1 Crime shocks: defined as periods of sustained and relatively low homicide rate followed by a period of sustained and relatively high crime rates



2 Behavioral impact : using anonymized and aggregated banking card transaction records to analyze differential impact of crime shocks on economic activity

- **Municipality-level and monthly data across the period of study for all urban areas in the country**
- Exogenous variable = total number and volume of transactions, subdivided per gender (male and female) as a proxy for economic activity

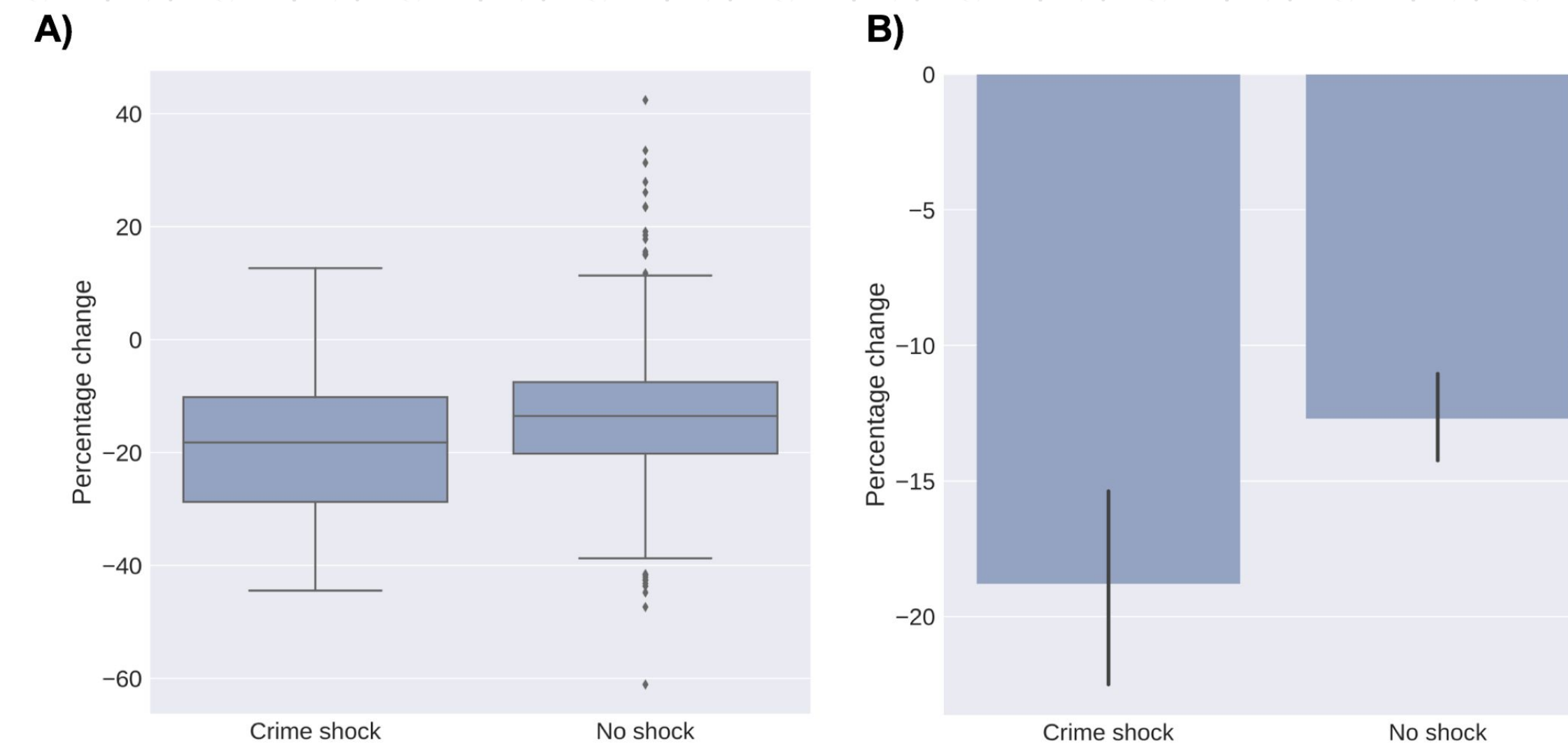
Financial 'Breadcrumbs': Bank Card Transaction Records



Representativity of sample: data sample is likely to differ from of the overall population of the country, as we are restricted to individuals with access to basic financial services.

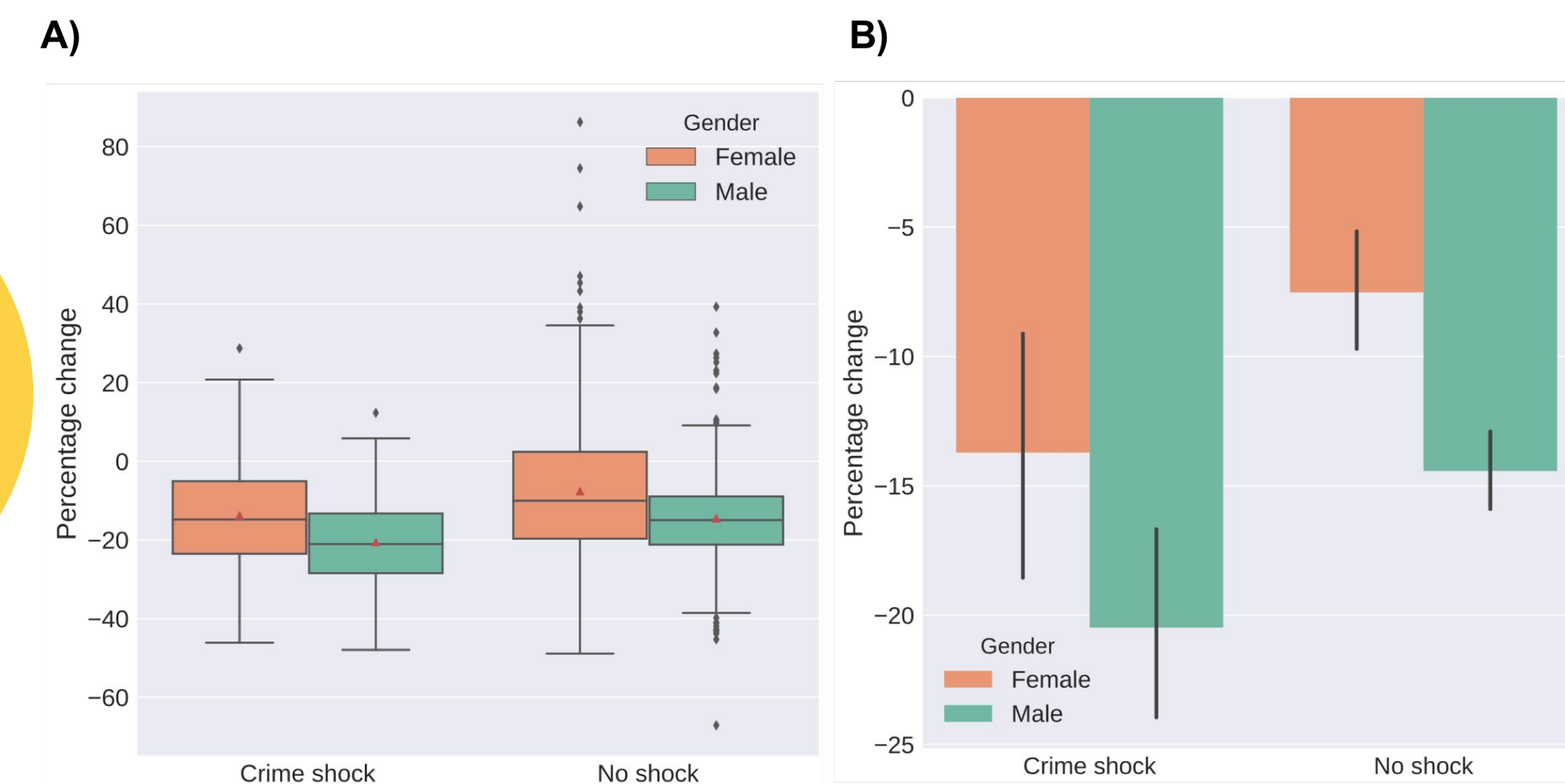
Socioeconomic distribution of consumption data sample vs. the country's population.

Preliminary results



Average effect of crime: dissuading households consumption within their municipality

Differential impact on women and men: crime tends to limit the economic activity of women more than men when compared to the no shock baseline



Future directions

- Extend our analysis to study the changes on **mobility using CDRs**
- Conduct an analysis for population **socio-economic sub-groups**, quantifying disparate effects of crime across them.
- Launch of **DataMex** and collaborative research program "Crime and inequalities" between Data-Pop Alliance and Oxfam México.

MOBILE PHONE METADATA: Call Detail Records

