Pairing Administrative Datasets with Google Trends to Infer Migrant Flows and Sending Country Impacts

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Research Overview

- Are Google Trends data a valid proxy for:
  - migration intensity, and
  - destination specific contract migrant worker flows?

- How do we address this question?
  - Link rich administrative data from the Philippines on contract migration to Google Trends search data

- Why important?
  - Individual micro-level data on migration akin to that in the Philippines is rare; migration data collection can be costly
  - Potentially open up low-cost opportunities for quantitative analysis
  - Enable research on migration questions in under-studied contexts
  - Understand opportunities and limits of google trends as a measurement tool for migration

Philippines Context and Data

- Philippines Migration:
  - Philippines is one of world's largest senders of migrants
  - Wide variety of destinations and occupations

- Rich administrative data available:
  - Individual micro-level data on contract migrants from the Philippines from 1992-2016
  - Data include country of destination and municipality of origin
  - Enables measurement of destination-specific historical migration density by municipality

Google Trends Data

- Extractions
  - Spans time period 2004 – present
  - Available at monthly level in Philippines (aggregate to year)
  - Maximum # searches indexed to 100 → i.e. doesn't provide actual number of searchers but unit of observation with highest search count set to 100; others indexed to the max

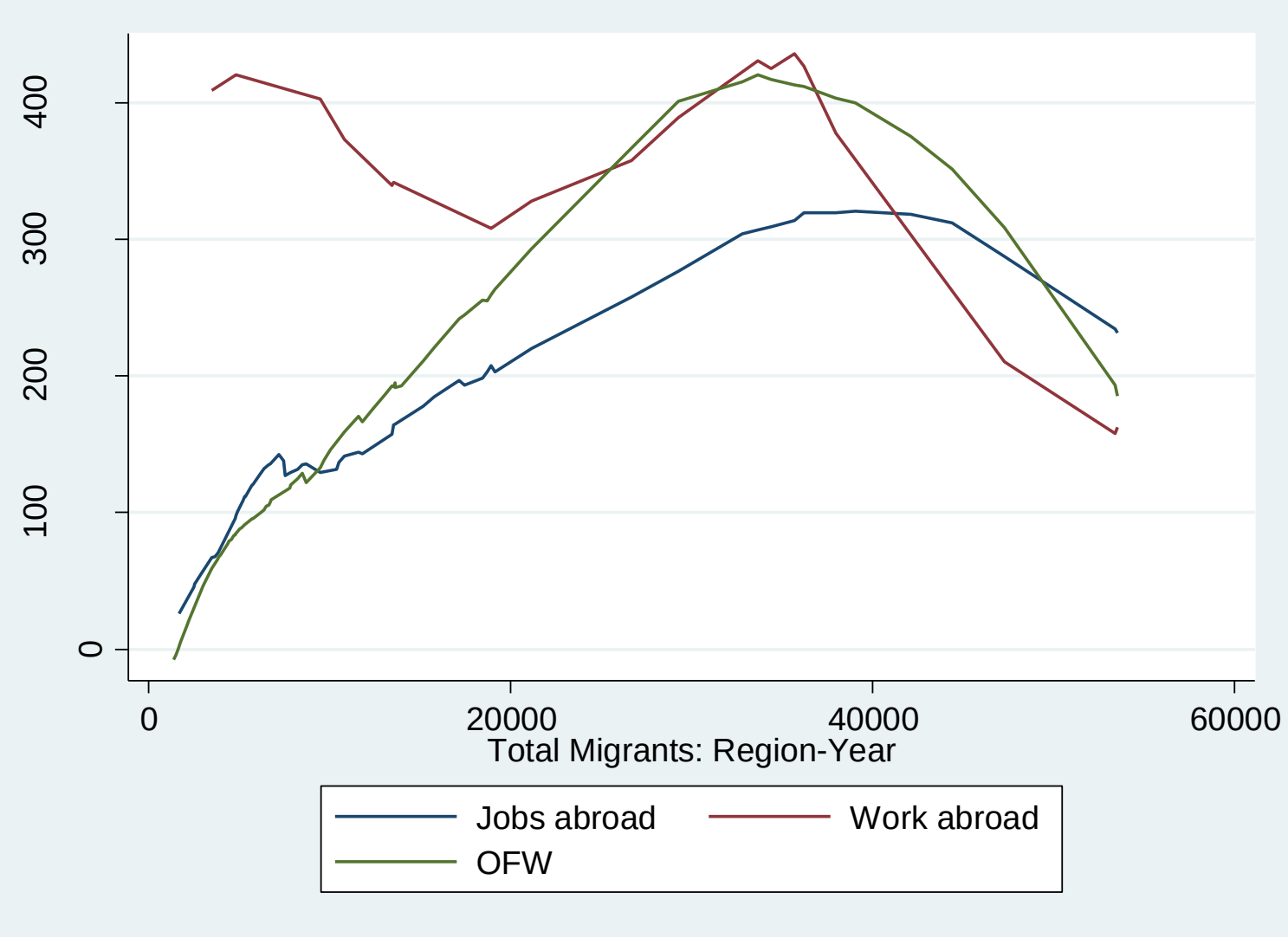
- Two types of extractions:
  - Search for "OFW", "Work abroad" "Jobs abroad" disaggregated by region in the Philippines (i.e. unit = region-month)
  - Search for work abroad by destination country "X" for whole country (i.e. unit = country-month)

Approach

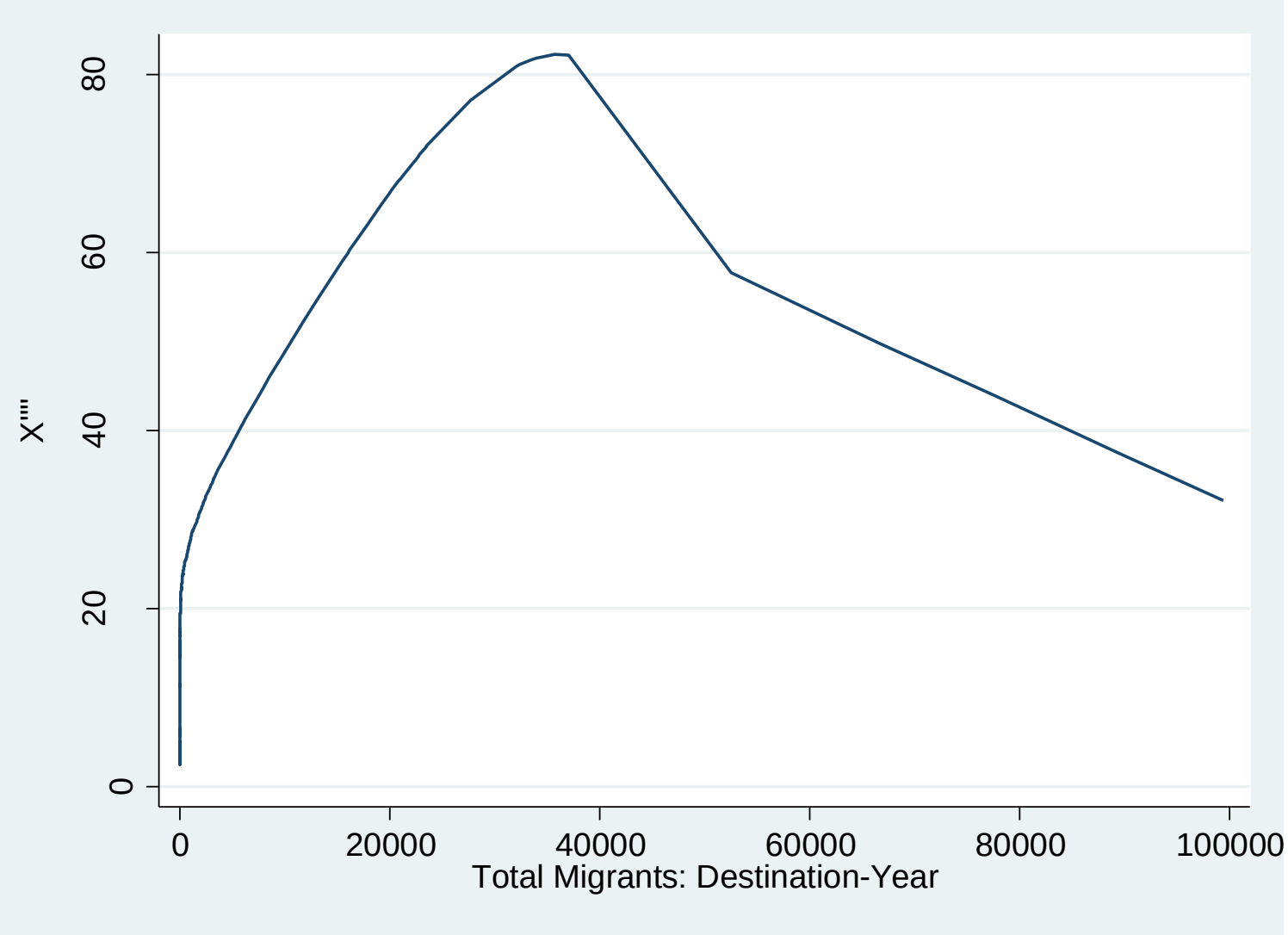
- Compare search index with administrative data to see if searches for migration related terms are a good proxy for
  - Migration intensity by region; and
  - Migration destination flows

- Use non-parametric analysis to compare data sources
  - Migration intensity by region-year: Compare three search terms “OFW,” “jobs abroad,” “work abroad” to actual flows
  - Migrant destination flow by year: Compare “Work in X”

Migration intensity comparison (region-year)



Migrant destination (region-year)



What we learn?

- Opportunities: What we can do with google trends data?
  - Variation in search intensity mimics variation in actual migrant flows

    →research utilizing variation in migrant flows seems plausible

    →mindful of local terminology (variation between OFW vs work abroad)
  - Variation in destination country mimics variation in low to mid-range destinations

    → High destination countries: other sources of information more important (peers, recruiters)

- Limitations: What we cannot do with google trends data?
  - Levels are indexed → can't extract levels of migration
  - Not ideal for capturing high destination country variation; and high migrant intensity locales