The potential of Big Data for statistics on international migration

Regional workshop on strengthening the collection and use of international migration data in the context of the 2030 Agenda for Sustainable Development

Bangkok, 5–8 February 2019
IOM’s Global Migration Data Analysis Centre

Officially launched on 7 September 2015

Part of IOM’s response to growing calls for action to improve data on international migration globally

Part of IOM’s HQ

Based in Berlin at the invitation of the Government of Germany

Team of 20
Data Innovation for Migration: Why?

The Global Data Revolution

The (persistent) paucity of migration data globally

Renewed calls (needs) for evidence on migration (SDGs and GCM)

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Infographic based on Hootsuite and We Are Social, 2018. For sources and further information please see original at: https://wearesocial.com/uk/blog/2018/01/global-digital-report-2018
The potential

- High spatial resolution
- High frequency of update
- Timeliness (virtually real-time)
- Wide coverage (hard-to-reach populations)
- Larger sample size compared to surveys
- Richness of information
- Relatively low cost (depending on...)
Big data for migration: from case-studies to policy support

Most promising application:

*Social media advertising platforms*

Opportunities

- Real time census
- “inexpensive”
- Attributes like country of origin, education, age, sex (self-reported) and interests (likes)

Challenges

- Information reliability (often self-reported by user)
- Definitions (proprietary)
- Aggregations/rounding (proprietary)
- Penetration rate / selection bias (country, sex, age, education, sector, urban/rural…)
- Fake or double accounts
- Assimilation: expats destination or origin penetration rate?
Understanding the bias

Correction bias: a question of penetration rate (popularity and internet access) but also gender gap.
Migration data innovation potential I – Facebook

Latest EU official statistics: 1 – Jan 17

- Jan 2014: 154,343
- Jan 2015: 160,478
- Jan 2016: 173,963
- Jan 2017: 199,380

EUROPEAN STATISTICS - EUROSTAT
Migration data innovation potential I – Facebook

Latest EU official statistics: 1-Jan-17, Spanish Statistical Office: 1-Jan-18
Migration data innovation potential I – Facebook

Latest EU official statistics: 1-Jan-17, Spanish Statistical Office: 1-Jan-18

Facebook Advertising Platform data: high refresh rate – real time census

“Migration Data using Social Media”
Spyratos, S., M. Vespe, F. Natale, I. Weber, E. Zagheni and M. Rango,
doi:10.2760/964282, 2018
Migration data innovation potential II: Characteristics

Syrian users of LinkedIn in Europe: distribution (left) and sector of occupation (below)

... In Germany
Migration data innovation potential III: Granularity (space)

Density of mobile phone traffic with China and areas of highest concentration of Chinese immigrants (2011 Census)

Sources:
- Italian Census Data &
- Call Detail Records, Telecom Italia
Challenges

- Data access/Continuity
- Confidentiality
- Security/Ethical issues
- Methodology (selection bias)
- Reliability
- Definitions
- Fragmentation
Harnessing data innovation for migration: The Big Data for Migration Alliance (BD4M)

- Launched on 25 June 2018 in Brussels
- Convened by the EC KCMD and IOM’s GMDAC
- Aim: Foster data innovation for migration analysis & policymaking through partnerships
Big Data for Migration Alliance (BD4M)

Main areas of work:

a) Awareness-raising and knowledge-sharing
   - Repository of big data & migration projects
   - Organization of regular workshops (Global South)
   - Creation of a network of ‘data stewards’

b) Capacity-building
   - Preparation of guidance and training materials
   - ‘Study visits’ and exchange of experiences across countries

c) Policy-oriented analysis
   - Exploring EU/global frameworks to sponsor applied research (e.g. issuing data challenges)
   - Working paper series
Data innovation and the Global Compact for Migration

- Historic opportunity to make real progress on migration data

- Better data on migration will be essential to designing forward-looking policies and balancing the public debate on migration

- Full awareness of data opportunities and limitations essential to inform policies

- New data sources and innovative methodologies: a potential we cannot ignore
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