

The European Commission's science and knowledge service

Joint Research Centre



Measuring the relation between international mobility and migration through international air passengers' data

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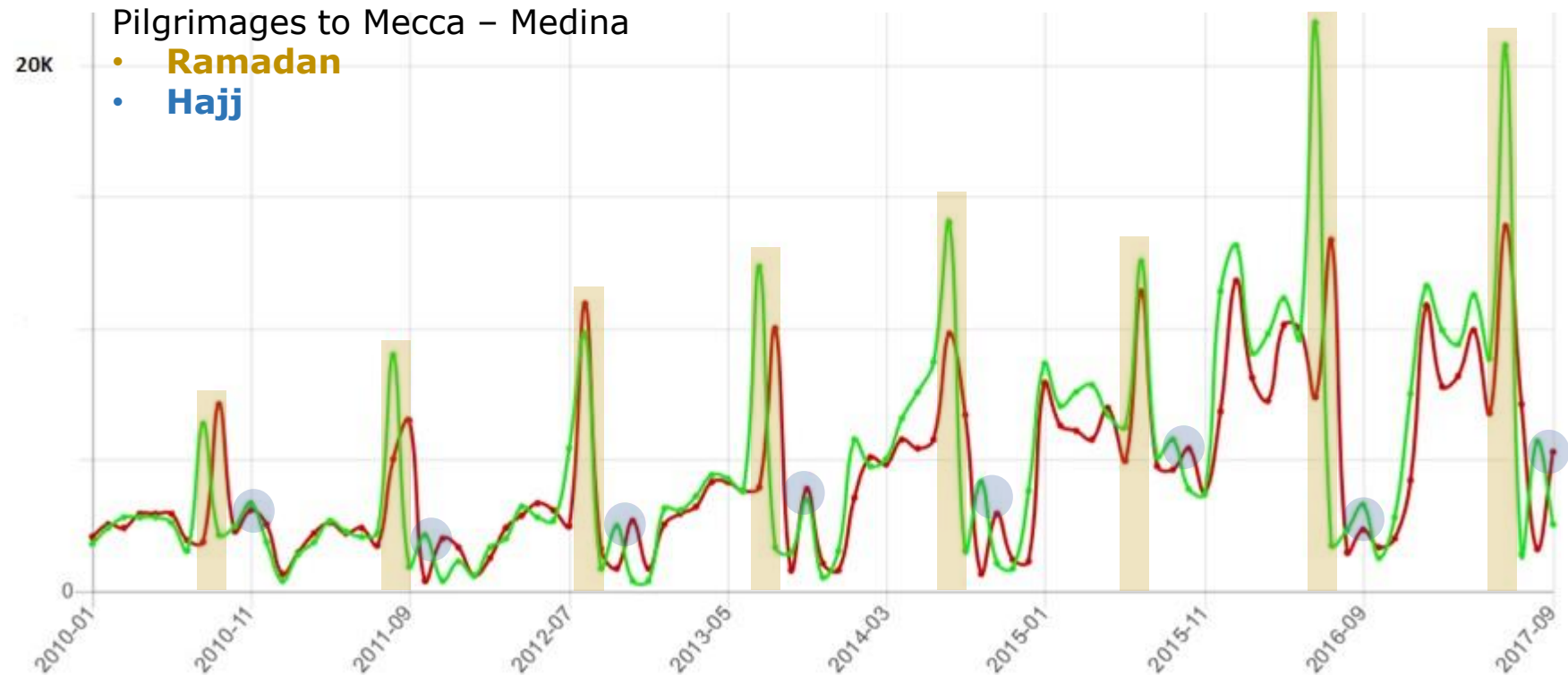
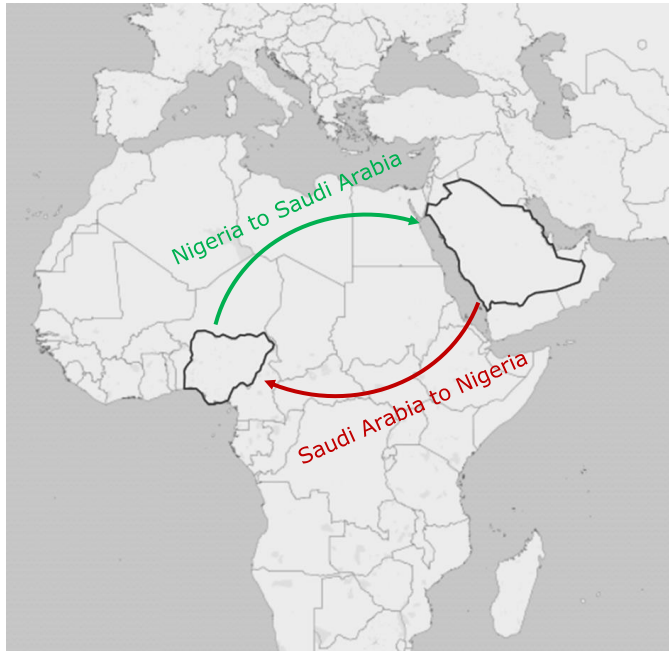
Introduction

Data source: SABRE number of passengers between single airports (true origin and destination) in the world by month and class of travel

Bilateral migration flows are a function of many factors including:

- Diasporas/networks
- GDP differential
- Trade & business
- Geographical distance
- Mobility channels (e.g. visa regimes, transportation links costs)

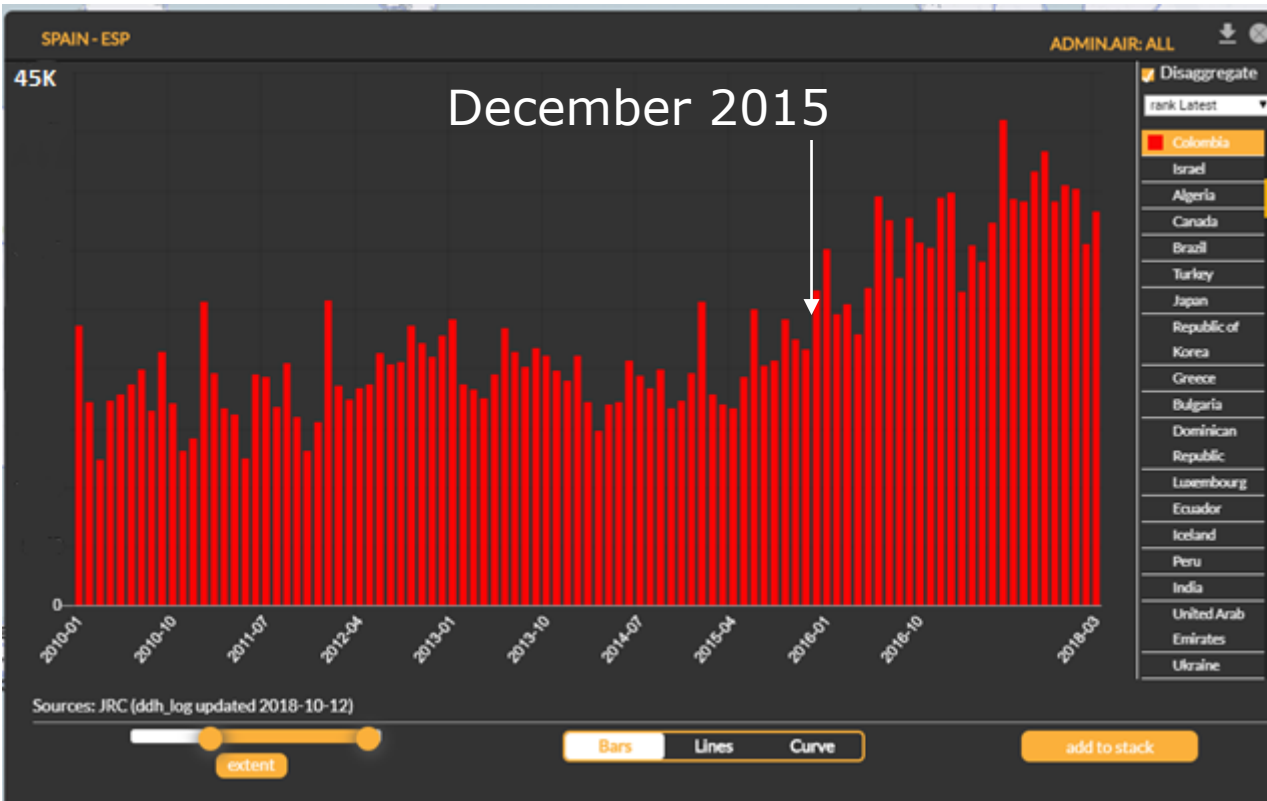
Example of flows between Nigeria and Saudi Arabia linked to pilgrimages



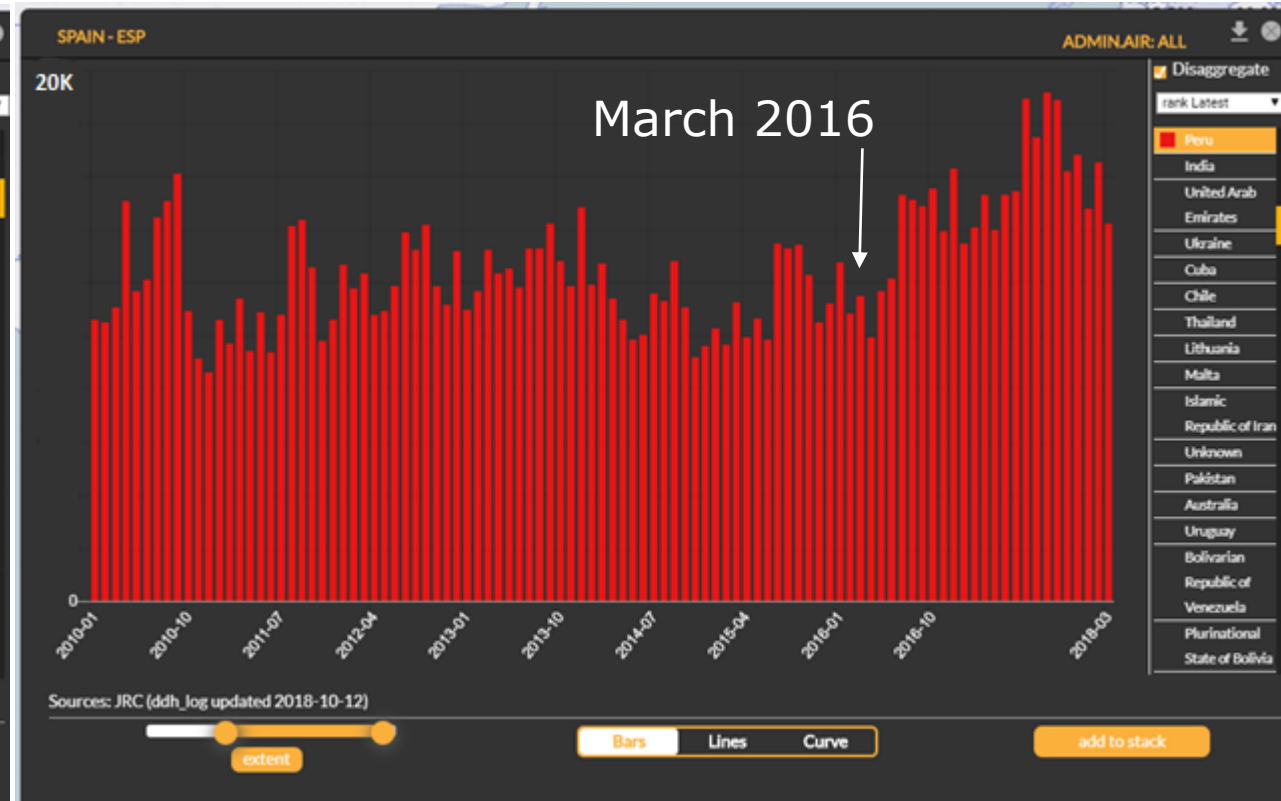
Air passenger data can give indications on short-time global mobility...

Air passengers flows following Visa free agreements from Colombia and Peru to EU in 2015 and 2016

Air passenger traffic, COL→ESP

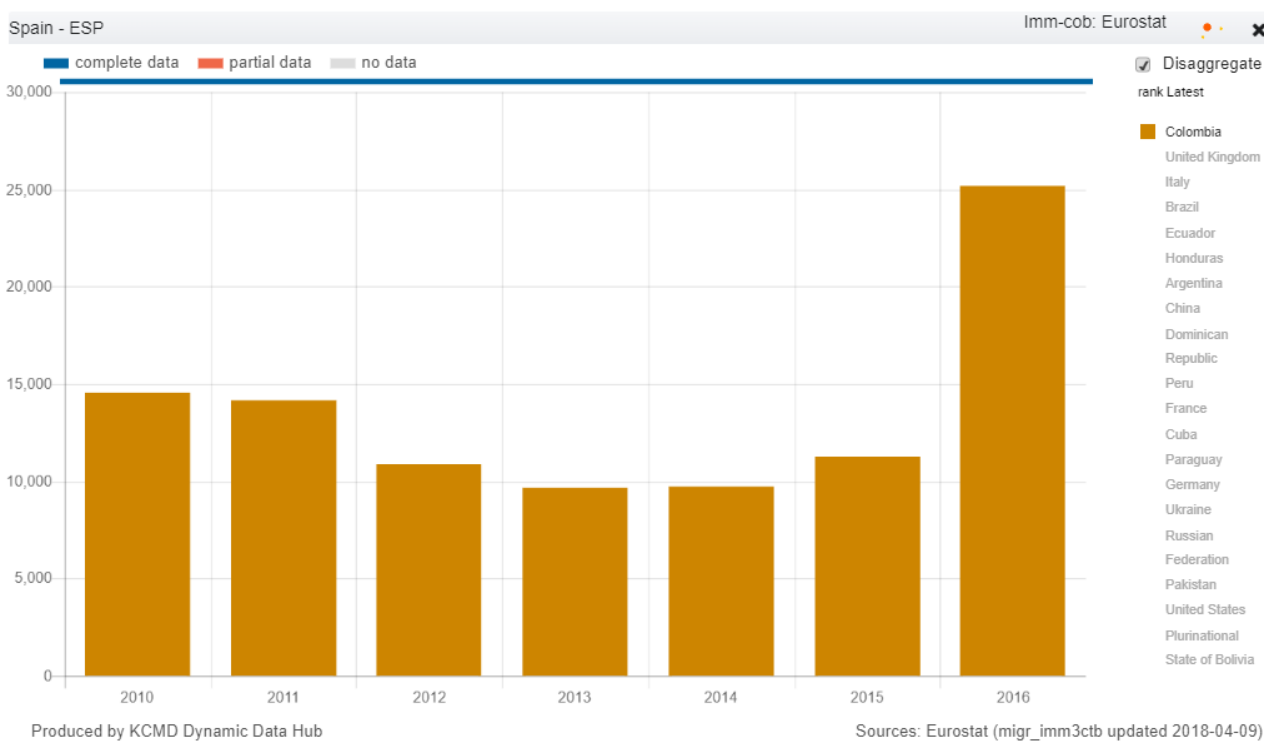


Air passenger traffic, PER→ESP



Migration flows (ESTAT) following Visa free agreements from Colombia and Peru to EU in 12/2015 and 3/2016

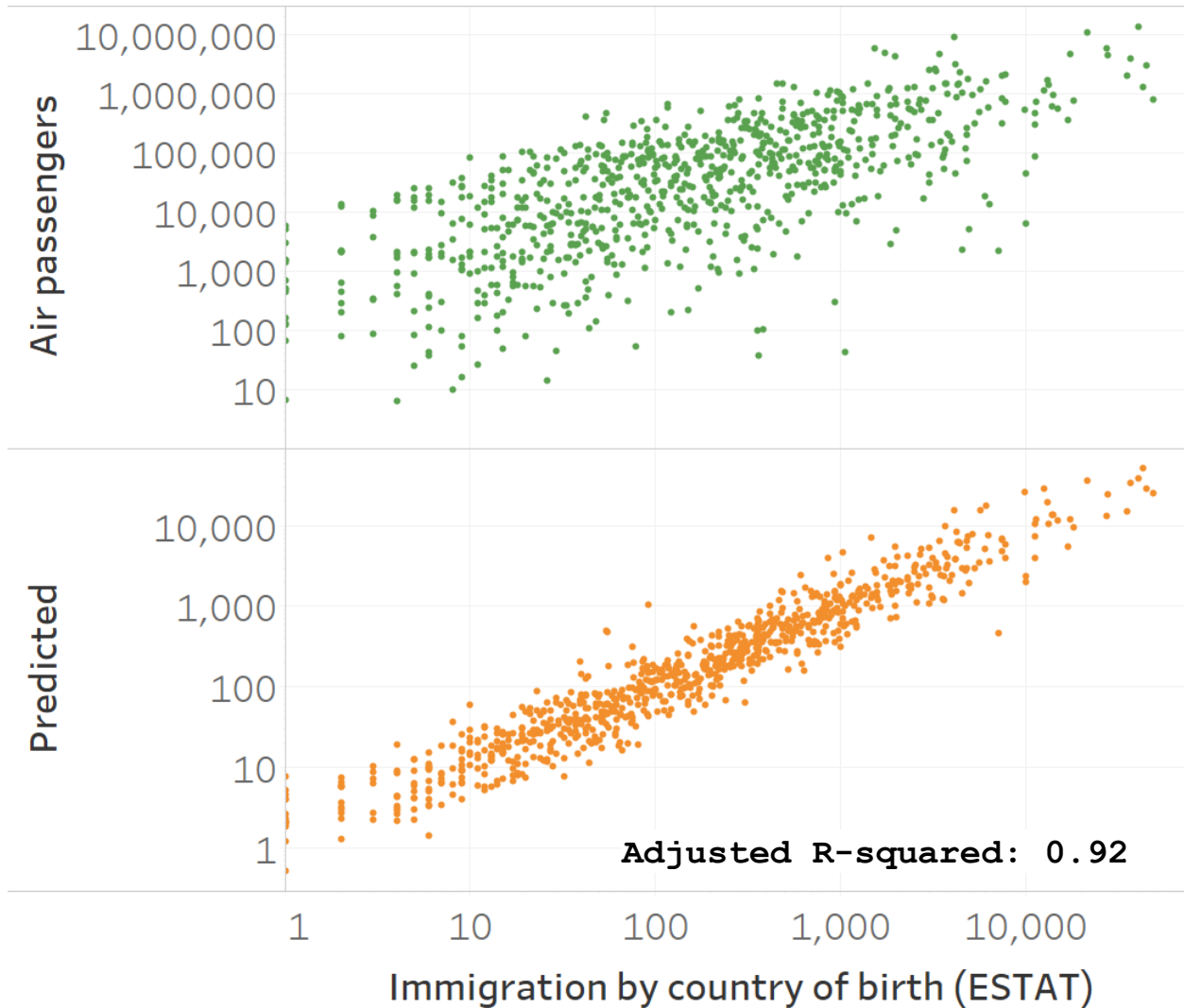
Migration flows, COL→ESP



Migration flows, PER→ESP



ESTAT vs Model's predictions

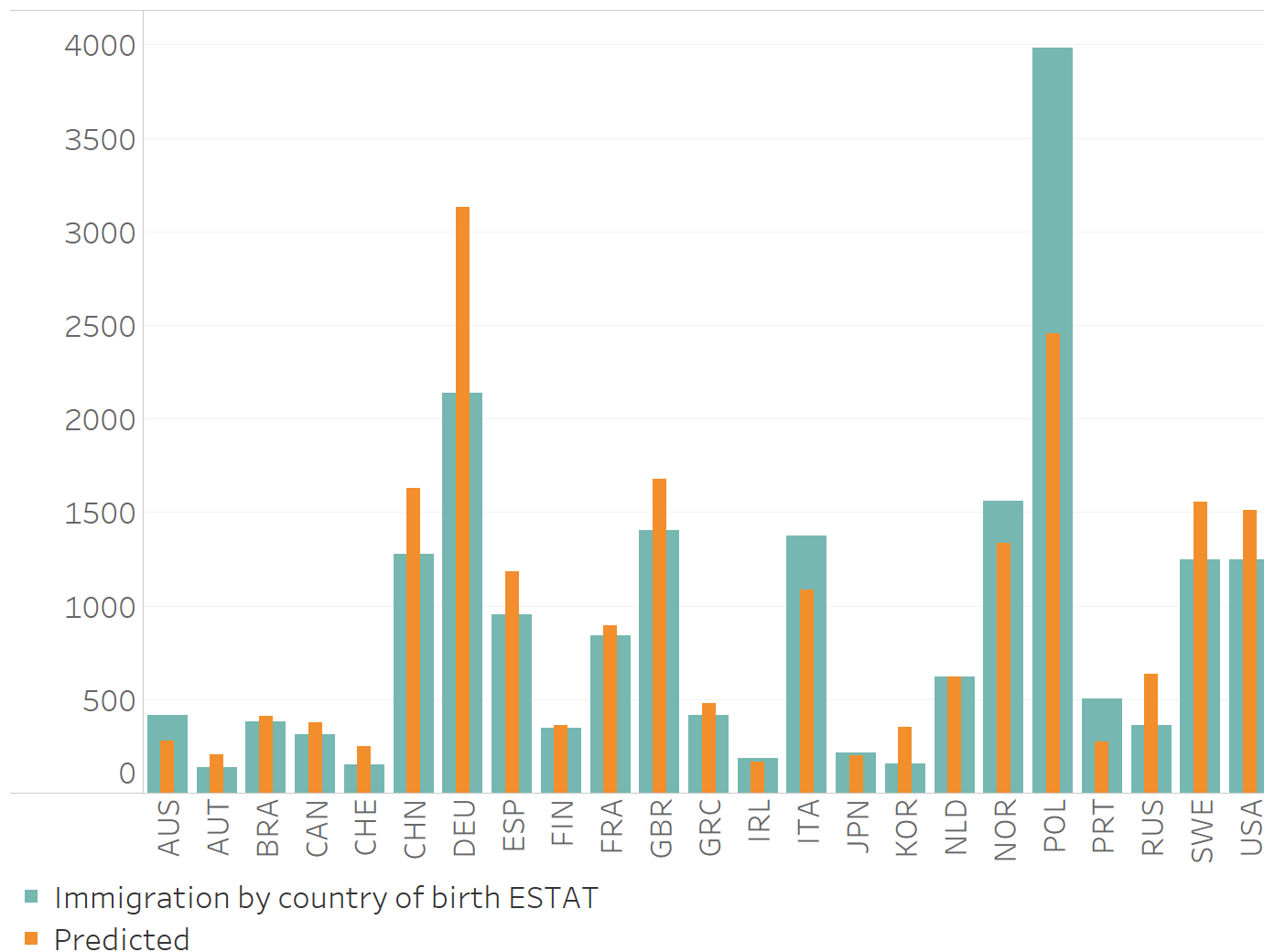


Taking into account:

- Diasporas/networks
- GDP pca differential
- Employment differential
- Flow of tourists
- Flow of students
- Geographical distance
- Air passengers data

Similar model fitted with
OECD data

ESTAT vs Model's predictions



Example showing immigration to Denmark by origin in 2015

Pros and cons

Pros

- Annual prediction
- Global prediction (assuming that the model trained with OECD and ESTAT statistics can be extended to the rest of the world)

Cons

- No historical data
- No breakdown e.g. by age, gender

Conclusions

Not intended to replace official immigration statistics in OECD and ESTAT destination countries

But can complement official statistics:

- for areas of the world not covered (e.g. intra-African movement) and
- By providing signals of emerging trends before the release of updates of official statistics on immigration by OECD and ESTAT
- Some discrepancies in respect of official statistics may be errors of the model but also signals of migration flows not captured in the official data



Any questions?

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