

The European Commission's science and knowledge service

Joint Research Centre



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

UNECE-Eurostat Work Session on Migration Statistics
24 - 26 October 2018
Geneva

Michele Vespe

European Commission, Joint Research Centre, Knowledge Centre for Migration and Demography (KCMD)

Fabrizio Natale

European Commission, Joint Research Centre, Knowledge Centre for Migration and Demography (KCMD)

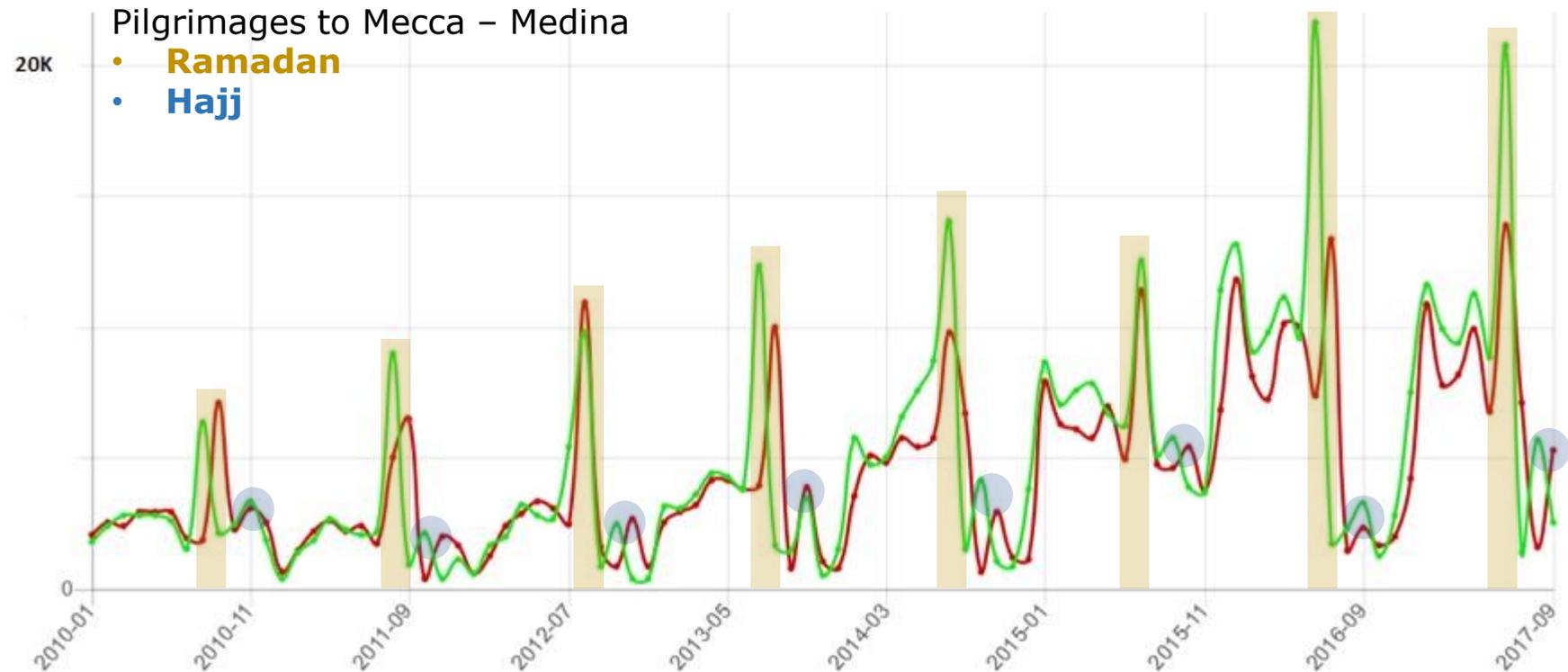
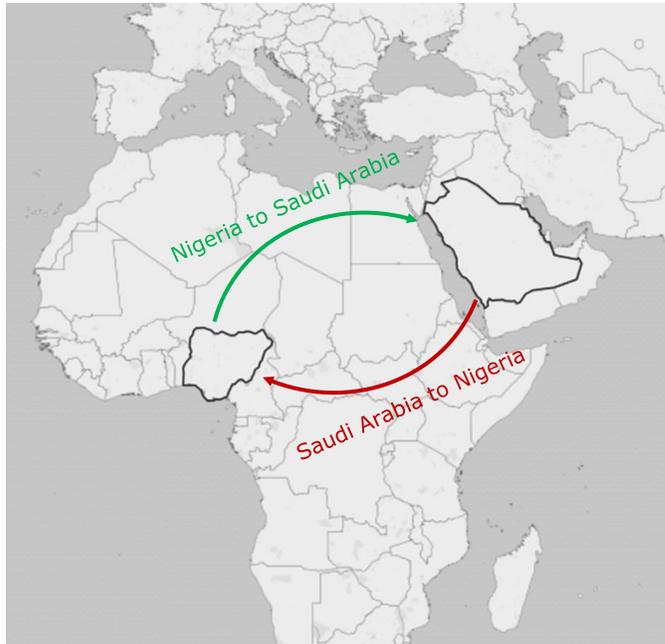
Introduction

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)

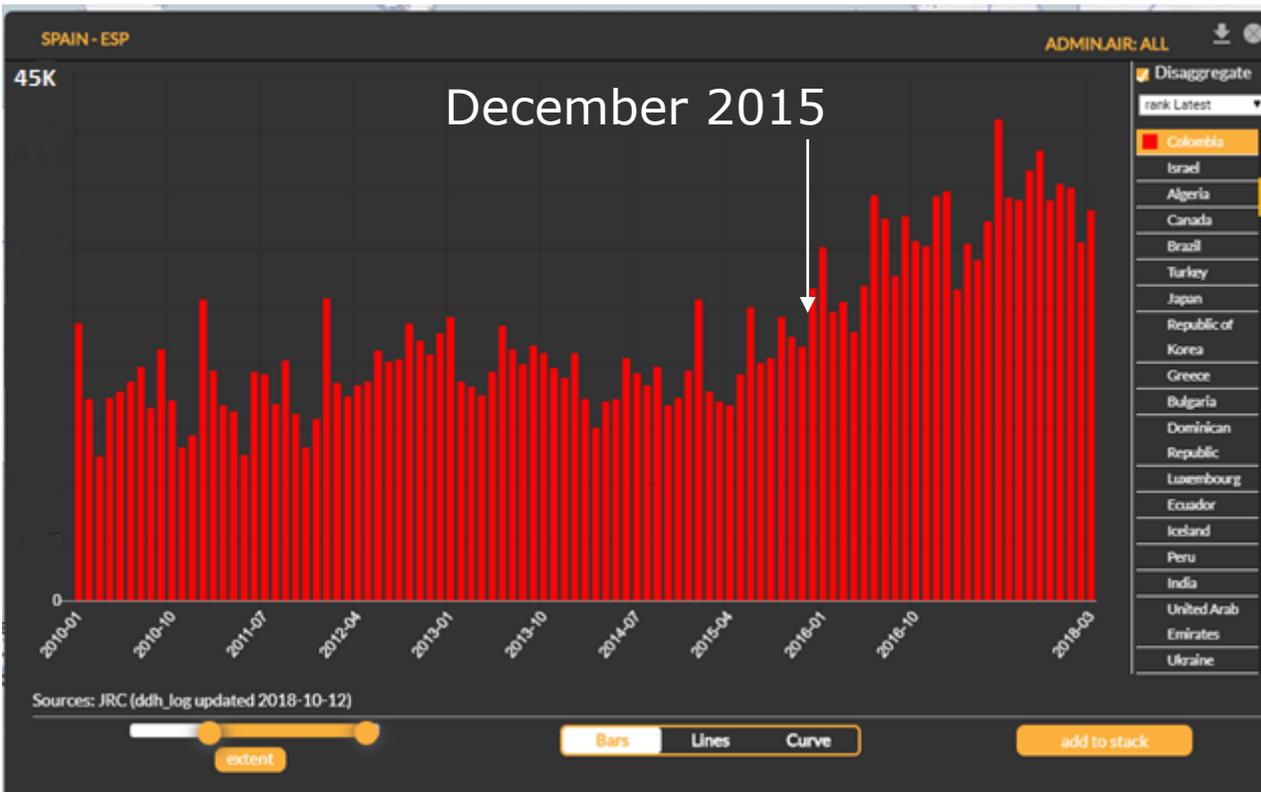
Example of flows between Nigeria and Saudi Arabia linked to pilgrimages



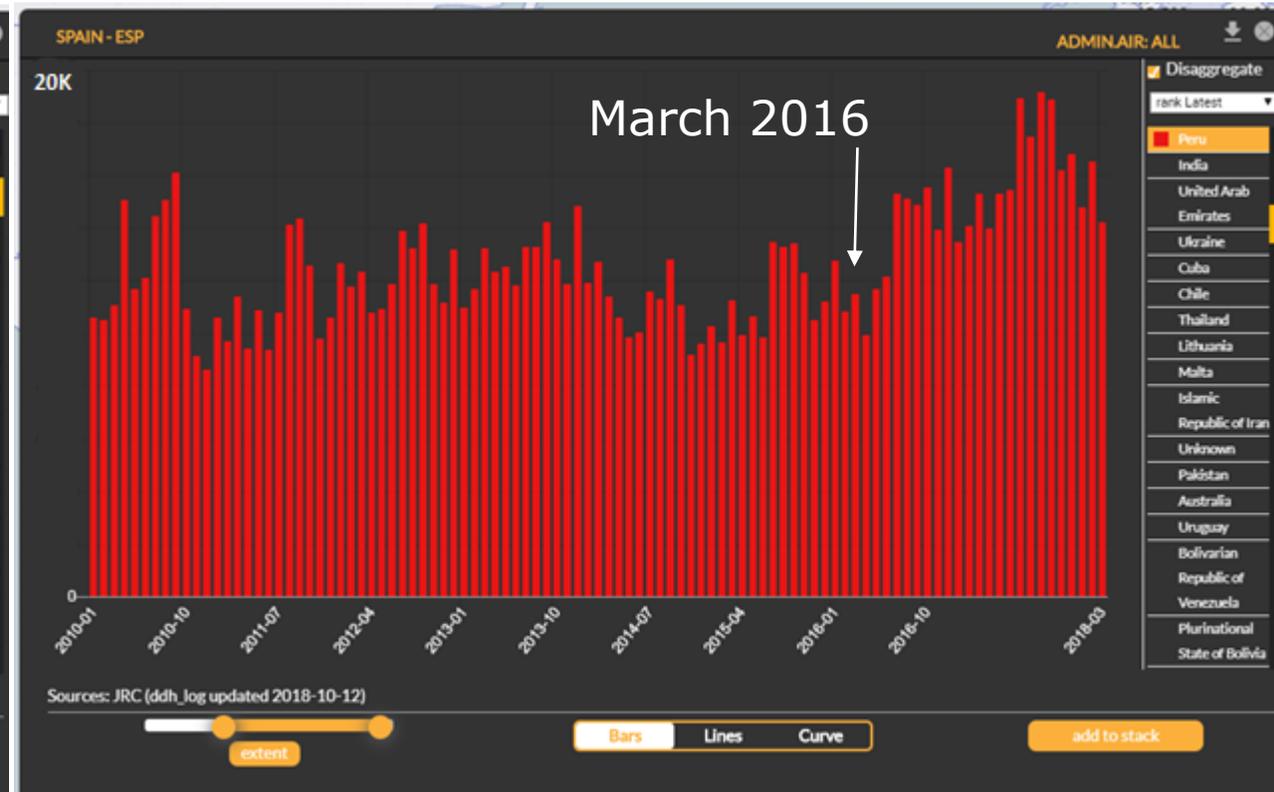
Air passenger data can give indications on short-time global mobility...

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

Air passenger traffic, COL→ESP

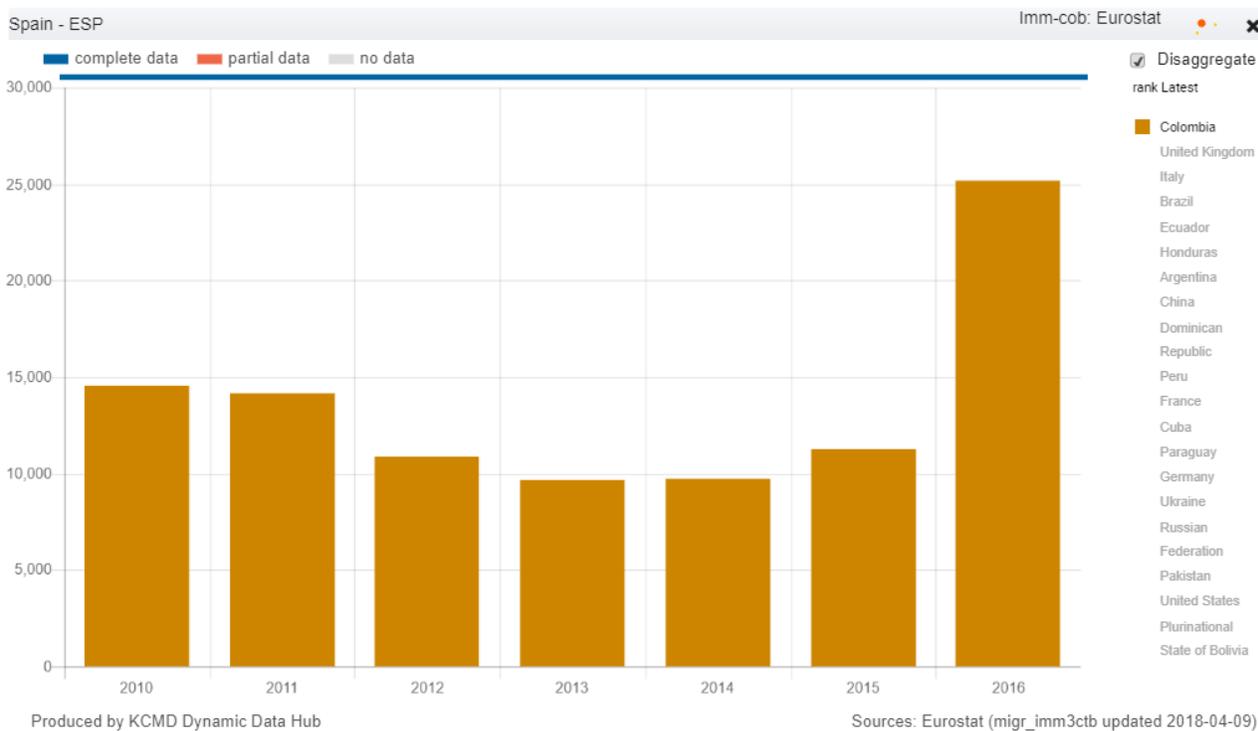


Air passenger traffic, PER→ESP

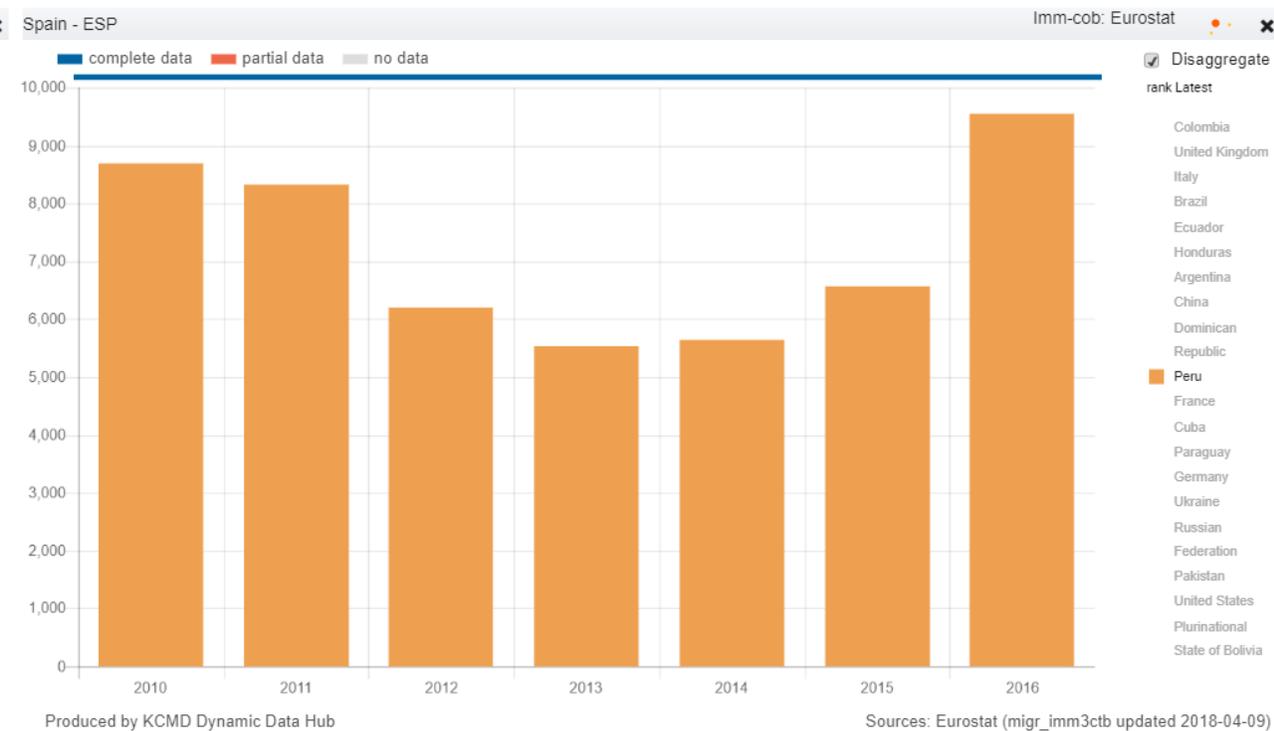


Migration flows (ESTAT) following Visa free agreements from Colombia and Peru to EU in 12/2015 and 3/2016

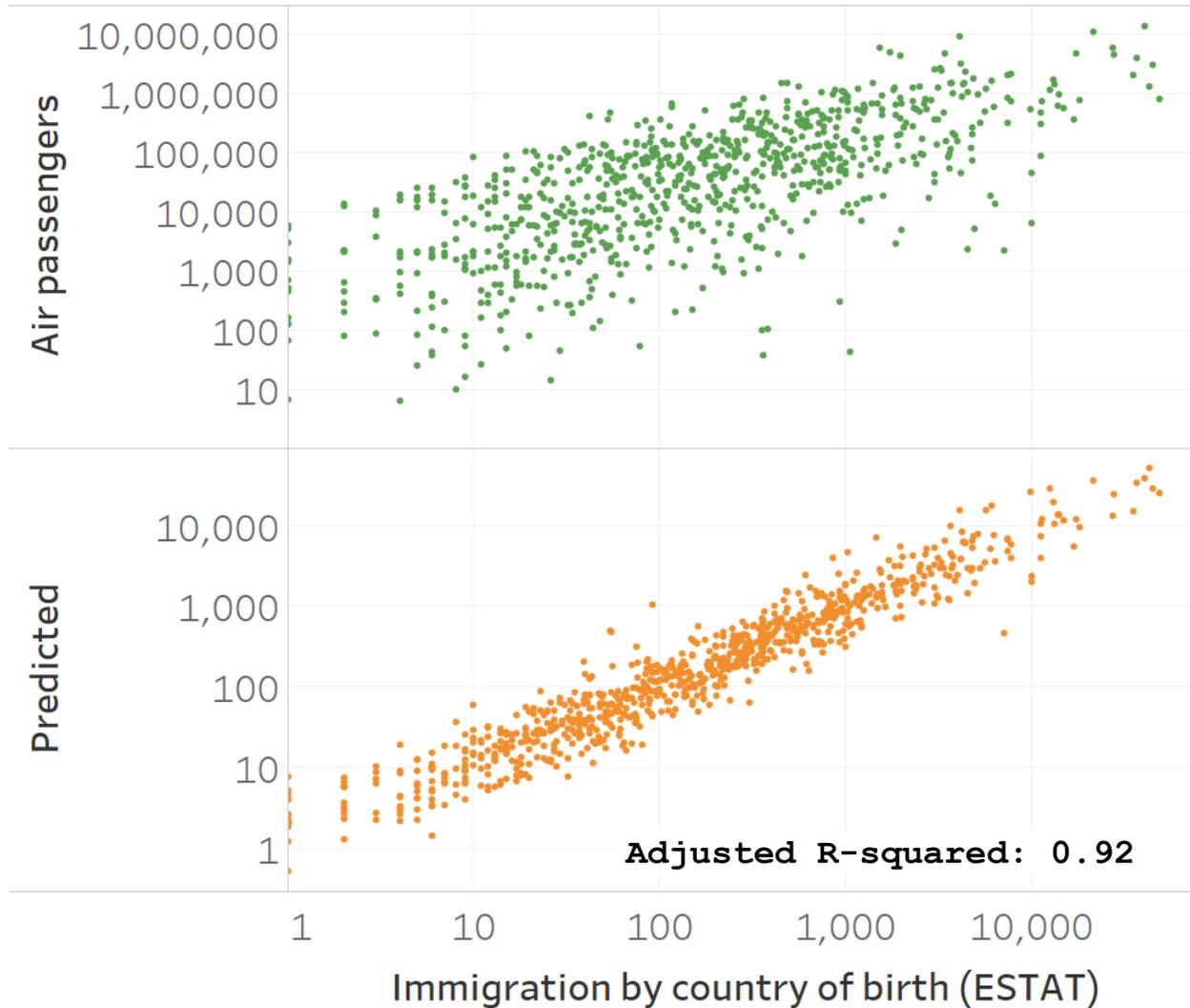
Migration flows, COL→ESP



Migration flows, PER→ESP



ESTAT vs Model's predictions

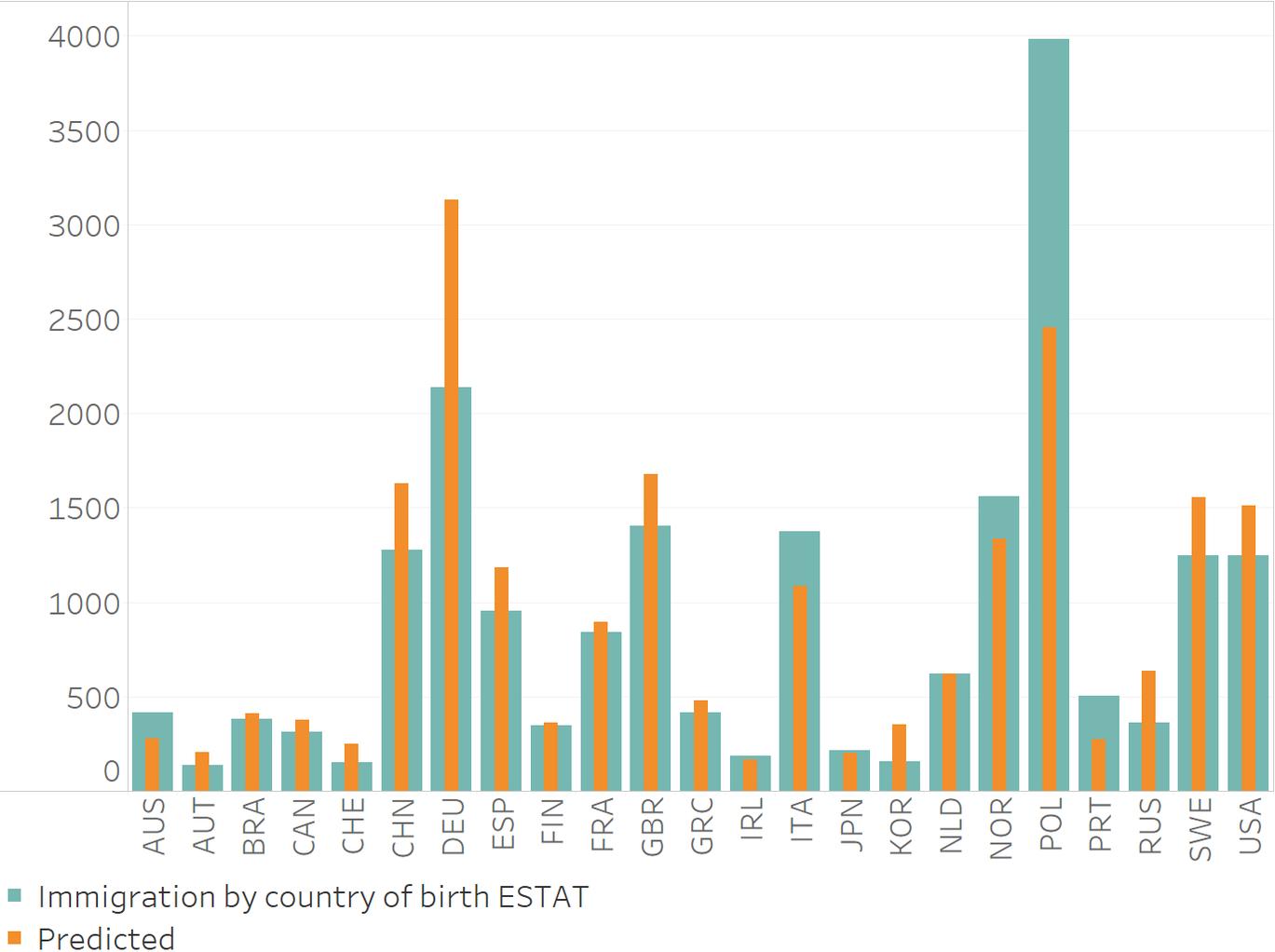


Taking into account:

- 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?

You can find us at [@M_Vespe](#) & michele.vespe@ec.europa.eu
fabrizio.natale@ec.europa.eu