Big Postal Data

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Outline

I. What is the UPU?

II. What big data do we collect and how?

III. How do we access big data and how does it look?

IV. What are the possibilities to exploit big postal data?
I. What is the UPU?

Key facts:
- International organization, UN specialized agency
- Headquarter in Bern, Switzerland (www.upu.int)
- 192 member countries

Main objectives:
- To ensure global interconnectivity of postal networks
- To act as standard setting organization
- To encourage provision of universal postal service
- To collect postal statistics (oldest international statistics and first to work with big data)
II. What big data do we collect and how?

“Small” postal data:

UPU collects data from designated postal operators and postal regulators through annual worldwide surveys (including, employment, financial results, postal infrastructure, volume of letters, express, small packets and parcels).

Big postal data:

UPU’s Postal Technology Center collects Electronic Data Interchange (EDI) messages based on real-time scans for each individual postal exchange between designated operators in more than 150 countries.
II. What big data do we collect and how?

**Big postal data:**

1. Developed to allow for **worldwide track and trace** and to evaluate **real time performance** in terms of volumes, ratios and time. As well as to facilitate coordination with **customs authorities** and **airlines**.

2. **Real-time scans of each postal item** (parcels and express) or **receptacle** (letters and small packets) sent among more than 150 countries.

3. Real-time scans are made available at least at **12 stages**. In one year, over **1 billion** (!) scans are made and stored at the UPU (terabytes of data!).

4. **Caveat:** Data covers substantial part, but **not all international exchanges** of parcels and small packets. **Commercially sensitive**.
II. What big data do we collect and how?

**Big postal data:** Scans are produced in up to 12 stages:

A. Posting/Collection  
B. Arrival at outward office of exchange  
C. Departure from outward office of exchange  
D. Arrival at inward office of exchange  
E. Handed over to Customs  
F. Departure from inward office of exchange  
G. Arrival at delivery office  
H. Unsuccessful delivery  
I. Final delivery  
J. Arrival at transit office of exchange  
K. Departure from transit office of exchange

**PREDES** Items associated with an outbound dispatch
III. How do we access big data and how does it look?
International Postal Traffic: Daily Weight (kg)

- letter-post
- parcel-post
- EMS
- Letter-Post MA
- Letter-Post Trend
- Parcel Post MA
- Parcel Post Trend
- Express MA
- Express Trend
IV. What are the possibilities to exploit big postal data?

- Estimations of intra- and interregional flows
- Identifying barriers to international postal exchanges and their impact over time by continuously analysing millions of data points (similar results as Google, Ebay and European Commission research)
- Replying to specific research questions, such as impact of exchange rate variations on daily international postal flows.
- Nowcasting and forecasting of international postal exchanges
- Basis for lead indicators of international trade / macroeconomic conditions?
Thank you for your attention!

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