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# 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](http://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)**



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## 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?

**QCS** Quality Control System  
International Mail System

mardi 19 février 2013 15:46:32

- Performance
  - Volumes
    - Messages
    - Mails
    - Item events
  - Ratios
    - Item
    - Receptade
  - Times & Transmissions
    - Times
    - Event transmission
  - Track & Trace
    - Items
    - Receptades (bags)
    - Dispatches
    - Consignments
  - Reports
  - Administration

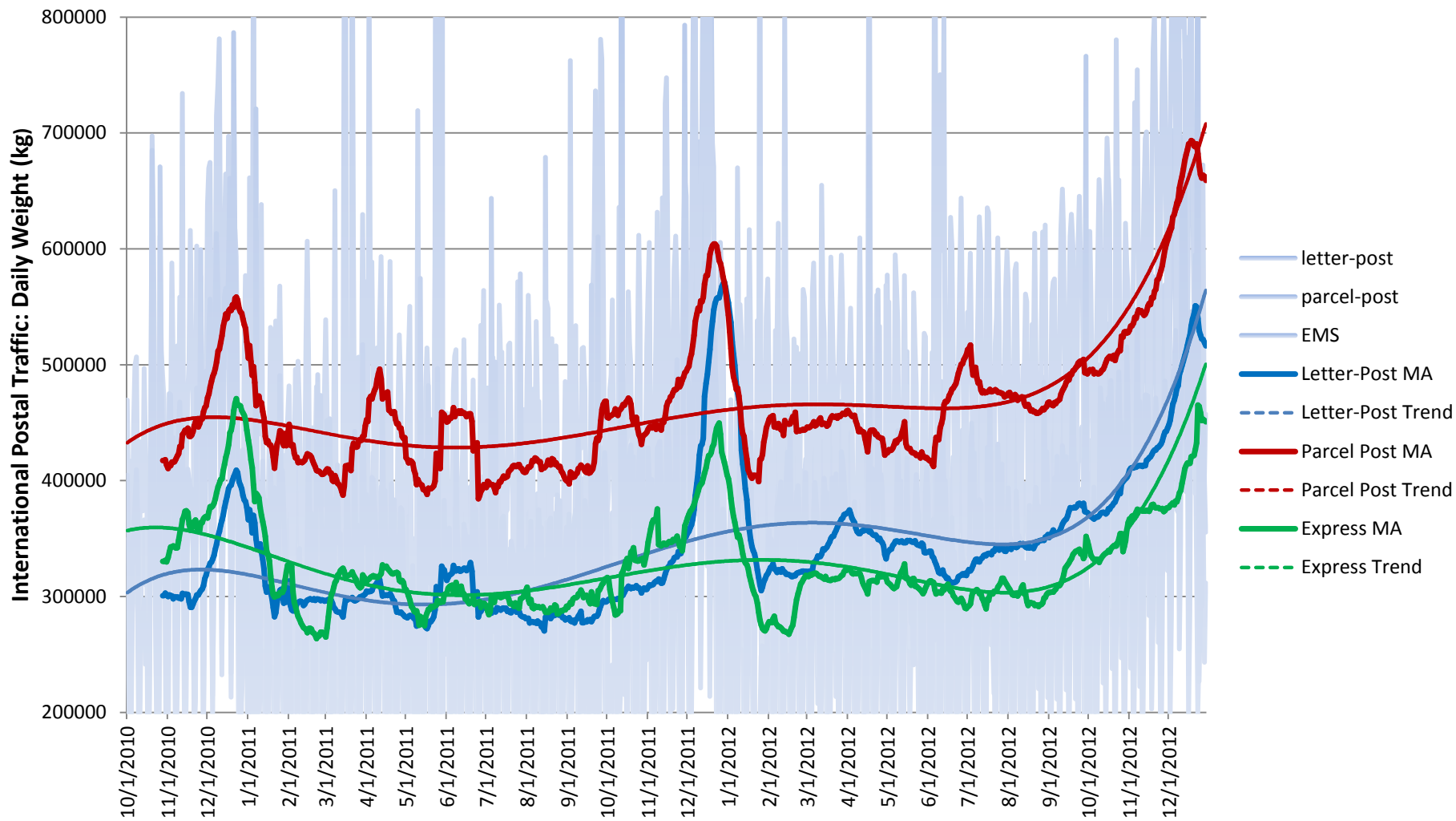
**Times (PR131)**

**Time type**  
Time type: Collection

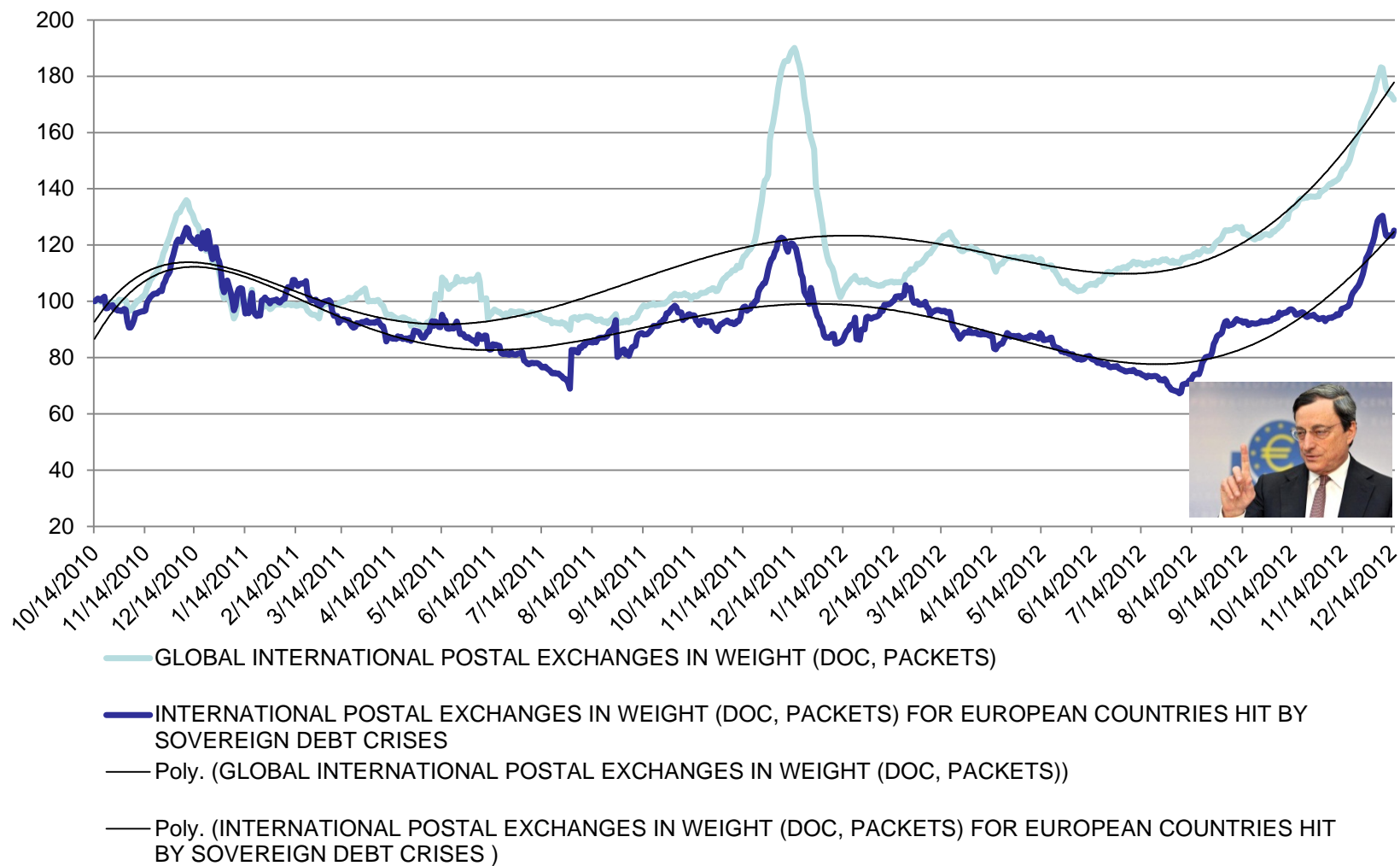
**Criteria**  
From: 2013 Mail class: EMS Test messages:   
To: 2013 Product: (All)  
Operator: JPA - Japan Post  
Office: (All)

Search [pdf] [excel] [CSV]

**Search results**









## 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?**



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*Thank you for your attention!*

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