

# Some further results from the UK on the impact of E-substitution on the demand for mail

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# Research questions

- To what extent the e-substitution is driving down the demand for B2C business mail in the UK?
- How different segments of B2C business mail have been impacted by the process of e-substitution in the UK?

Three segmentations of traffic:

- **Content type** (e.g. bills, invoices, insurance/legal/financial correspondence, financial statements, business letters and other)
- **Sender group** (e.g. banks, government, insurance and other financial companies, retail, utilities and other)
- **Age group** (e.g. 16-34, 35-44, 45-54, 55-64, 65+)

# Methodology

- Time series econometric model (updated version of Veruete-Mc Kay et.al, 2011):
  1. Modelling the demand for business mail to estimate demand elasticities
  2. Use demand price elasticity and time trend coefficients to compute an e-substitution yearly index
  3. Allocate the overall estimate of the e-substitution index across the various segmentations of traffic

# Data

- Time series quarterly data of commercial mail volume from 1980 to 2013 → estimate demand function
- Survey data of mail sent and received by households from 1990 until 2016 → estimate the e-substitution across different traffic segmentations

## Main findings

Between 2001 and 2016:

- **Total Business mail** → 61% of traffic was lost due to e-substitution
- **Content type** → Mail volumes of bills and invoices have decreased more due to e-substitution (-76%) than business letters (-56%) and financial correspondence (-49%)
- **Sender group** → Retail and utilities have been more impacted by e-substitution (-84% and -71%) than the government (-54%) and insurance (-51%)
- **Age group** → E-substitution is more important among younger age groups (-83% and -77% for 16-34 and 35-44 respectively) than across older age groups (-60% for 45-54 and -50% from 55-64)

# Main contributions

## Contribution to the postal economics literature

- Provide updated evidence of differences in the advance of e-substitution across different traffic disaggregations
- Give new insights on the factors explaining senders and recipients' motivations to substitute business mail by electronic communication:
  - Shed light on the importance of the ability and willingness to use e-communication (“acceptance effect”)

# Some remarks

## Motivation

- Make it more explicit
  - Information on the extent and possible future path of e-substitution could help stakeholders:
    - Postal operators → elaborate business plans, decide on diversification, conceive targeted marketing campaigns
    - Government → define policies to foster/slow down e-substitution, decide on regulation
- Justify the choice of B2C business mail

Also:

- Can we infer any policy implications in the UK? (*e.g.* Insights regarding factors within the control of postal operators and policy makers to counter such substitution?)

# Some remarks

## Background

- Add a section presenting the latest trends observed in the UK:
  - Evolution of total and disaggregated traffic volumes
  - Change of explanatory variables: GDP, population, prices, quality of service
- It was a bit difficult to have a complete overview of the paper (econometric model used, assumptions, motivation, background) without reading the 2016 paper (Rodriguez & Soteri) and 2011 paper (Veruete-Mc Kay et.al)

# Some remarks

## Data

- The use of commercial mail time series as a proxy of B2C business mail could, in some way, bias the estimation of the extent e-substitution?
  - It is stated that commercial mail includes small volumes of publishing material and lightweight parcels. How « small »?
- Could the estimation robustness be affected by the fact of using an estimation of elasticity for commercial mail based on survey data which is later allocated across traffic segments also by using another survey data?
  - Veruete-Mc Kay et.al (2011): “[...]the estimated t-statistic for the estimated price elasticity for Commercial mail which is statistically significant using a critical region of around 20%. Given the use of survey data in constructing the data series it is likely that a higher degree of noise is associated with individual parameter estimates [...]”.
  - Rodriguez & Soteri (2018): “Because the data for our analysis were sourced from a survey, they are subject to sampling error and noise and the results reported in the current paper are best viewed as indicative of main trends”.



# Some remarks

## Empirical approach

- Did you take into account the effect of legislative measures that could have impacted the B2C business mail demand?
  - In France, there is an obligation to terminate contracts by letter with signature upon delivery.
- Use a proxy to quantify the impact of willingness to receive e-communication on mail demand volumes
  - Eurostat: Share of population that shopped online
- How the two years of the time trends (2002 and 2010) were identified?
- How did you deal with the potential correlation between the explanatory variables GDP and population?

# Possible extensions

- Undertake the analysis for B2B and C2B business mail
- Study e-substitution at a more disaggregated level (example: sender group by age group)
- Estimate and characterize the « acceptance effect »
- Estimate the net effect for postal services providers of:
  - Electronic communication trend → negative effect on mail volumes
  - Electronic commerce trend → positive effect on parcels shipping volumes