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LE GROUPE LA POSTE



The Transformation of Post Offices in Partner Offices: Analysis of Effects on Demand

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- I - Introduction
- II - Some international comparisons
- III - The French post office network activity
- IV - An econometric model
- V - Some empirical results
- VI - Extensions: toward a structural model

I – Introduction

Last 10/20 years: all postal operators transform their post office network:

- a reduction in the size of the network
- an increase in the number of partnerships, replacing owned post offices

Why? To optimize postal networks in a context of

- decreasing volume of mail
- and market liberalization

Postal activity decline ⇒ infrastructures larger than necessary

⇒ Efforts

- to modernize retail networks
- to adapt retail networks to customers' needs

In France: transformation of the postal network since 2002

→ No reduction in network size but owned post offices transformed into partner points

→ This paper: to analyze the impact of the transformation on postal activities

- a decrease ? an increase ? no impact on the demand for postal services (on activity level)

- *Question:* what is the impact on the activity of a transformation of an owned post office into a partner ?

→ Econometric study at the micro level (history of the activity of post offices).

II – Some international comparisons

➡ financial reasons & adaptation to customers' needs:
modernization of their network

several tools:

- Modernizing branches and making them more relevant for customers: reducing queues, extending opening hours, improving customer service
- Reducing/optimizing the size of the network
- Transforming branches into partner points
- Offering new products and developing online services and multi-channel solutions

- Reduction of the size of the network?
- Developments of partnerships?
- Or both?

➡ Various strategies within European countries...

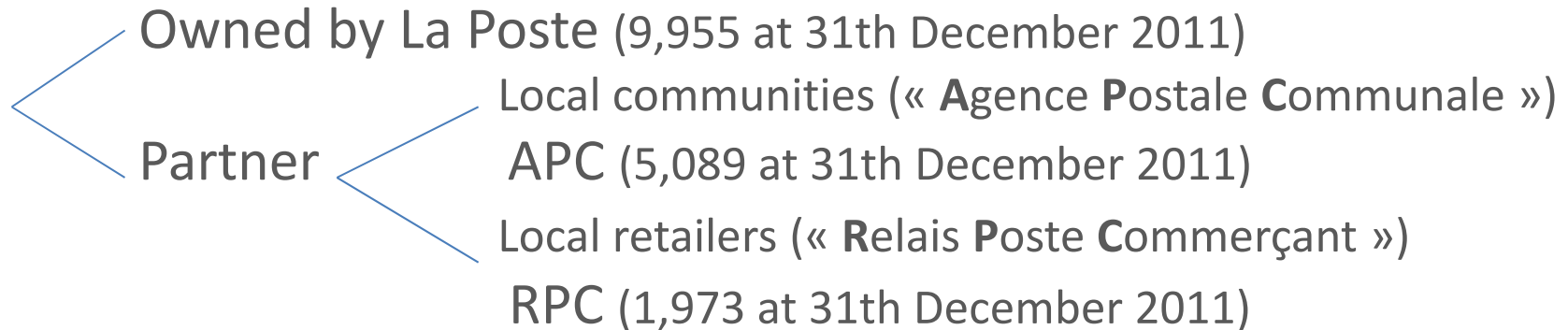
Table 1. Postal networks in 2010

Source: UPU Statistical Database, January 2012.

	<i>Post-owned offices</i>		<i>Partners points</i>		<i>Total</i>
	<i>number</i>	<i>%</i>	<i>number</i>	<i>%</i>	
<i>Austria</i>	733	39,6%	1117	60,4%	1850
<i>Denmark</i>	98	12,0%	718	88,0%	816
<i>Finland</i>	142	13,3%	923	86,7%	1065
<i>France</i>	10213	59,8%	6866	40,2%	17079
<i>Germany</i>	300	2,1%	13750	97,9%	14050
<i>Greece</i>	840	53,6%	726	46,4%	1566
<i>Ireland</i>	57	4,9%	1107	95,1%	1164
<i>Italy</i>	13978	100,0%	0	0,0%	13978
<i>Luxembourg</i>	99	85,3%	17	14,7%	116
<i>Netherlands</i>	296	13,5%	1900	86,5%	2196
<i>Norway</i>	179	12,5%	1255	87,5%	1434
<i>Portugal</i>	877	30,3%	2013	69,7%	2890
<i>Spain</i>	3183	100,0%	0	0,0%	3183
<i>Sweden</i>	310	16,5%	1570	83,5%	1880
<i>Switzerland</i>	1950	84,5%	358	15,5%	2308
<i>United Kingdom</i>	355	3,0%	11465	97,0%	11820
<i>United States</i>	27077	88,0%	3694	12,0%	30771

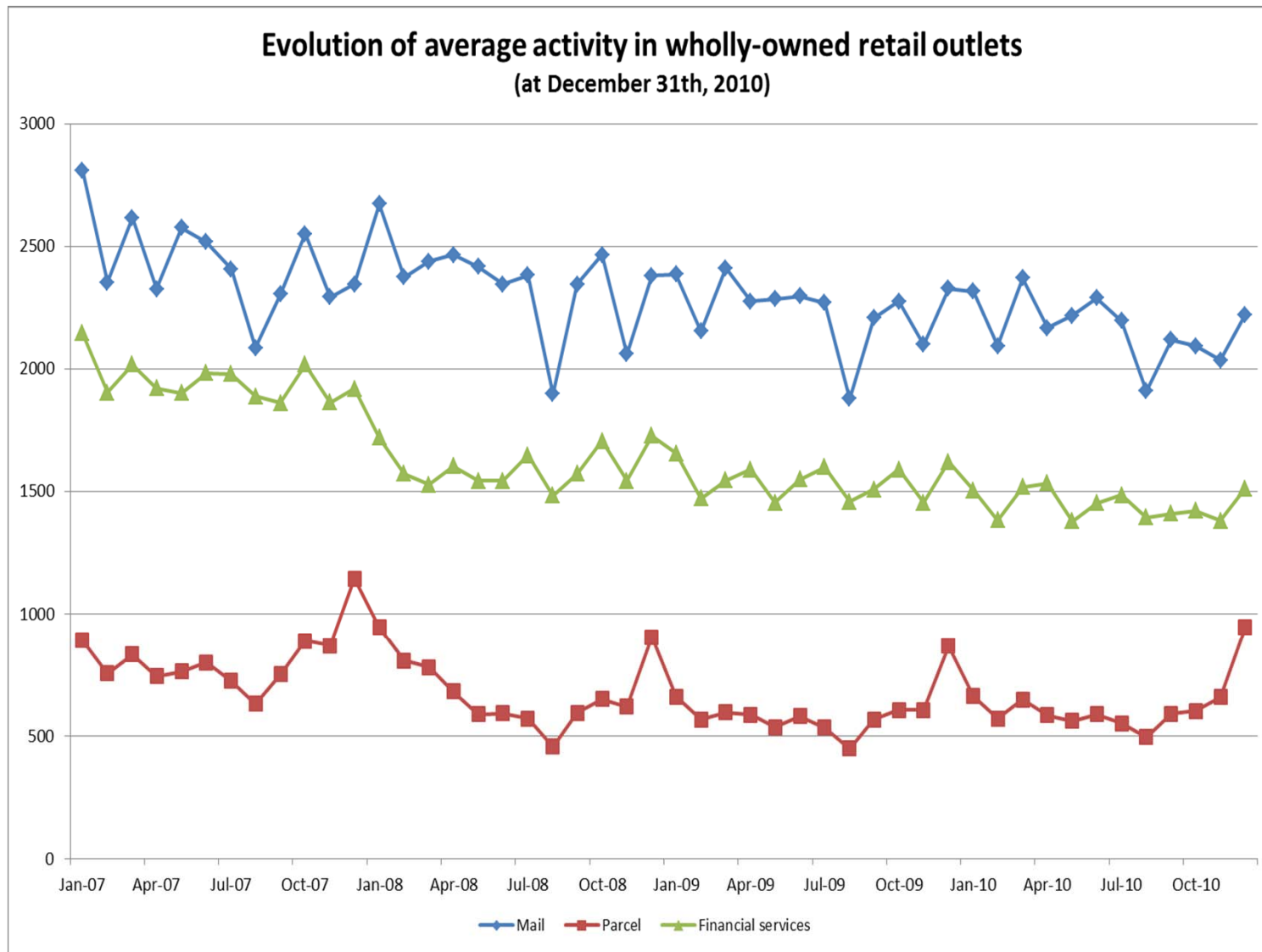
III – The French post office network and its activity

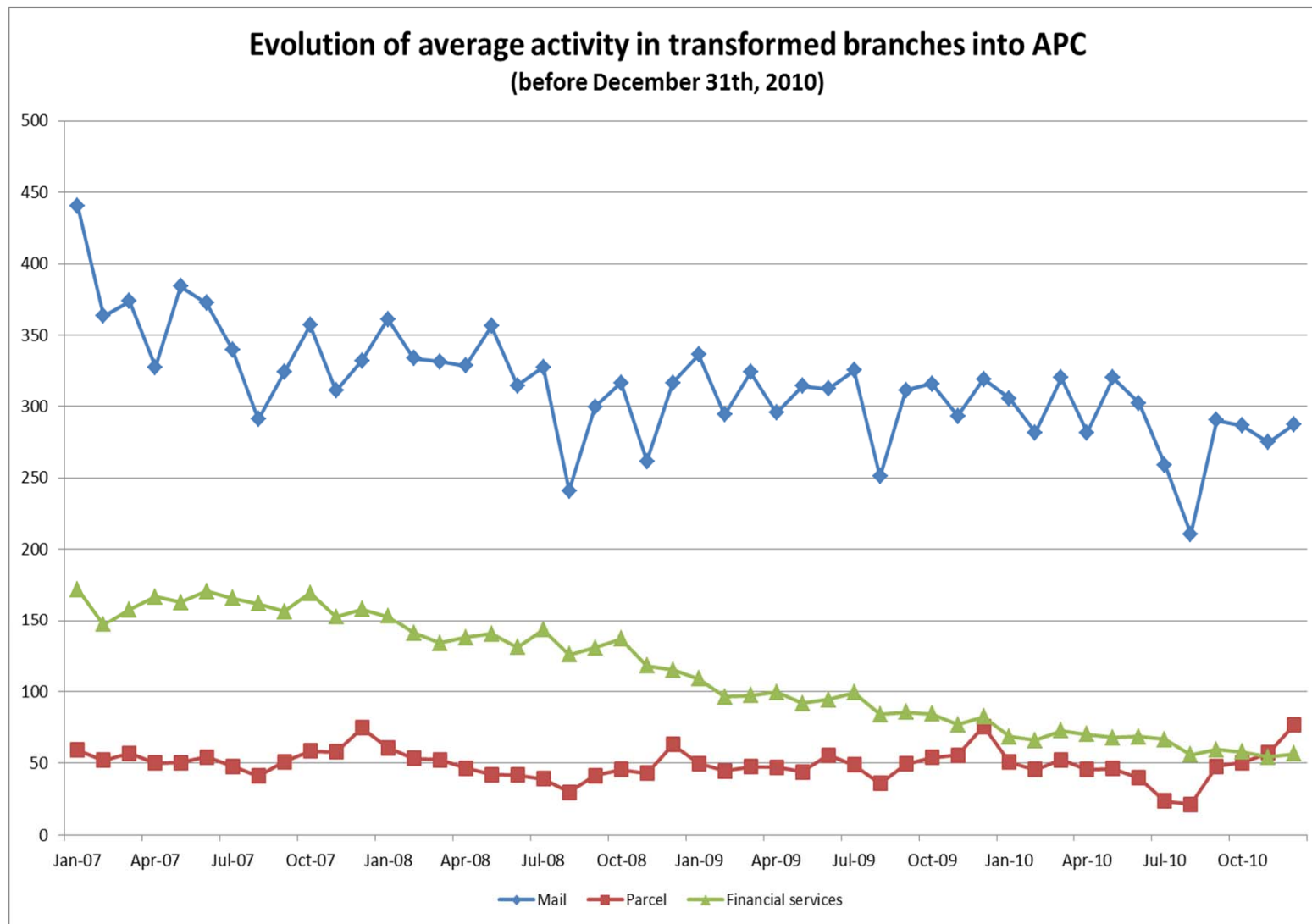
- 17,000 « points de contact » (legal obligation)



- Two services of general economic interest (SGEI)
 - Accessibility related to universal service
 - Regional planning mission
- Partner points contribute to the regional planning mission:
 - First consideration when establishing a partnership: to fulfill the SGEI in “the best economic and social efficiency” conditions (not to simply maximize profits in purely commercial conditions).


- Collect data on post offices transformed into “Agence Postale Communale” (APC) between January 2007 and December 2010.
- Offices transformed in RPC: no comparable data due to different processes. This type of partners were eliminated from the sample (problem of selection bias – to be analyzed).
- General evolution of the activity in the two categories of post offices:
 - 2 graphs
 - Wholly-owned post offices (over the whole studied period)
 - Post offices transformed into APC over the period

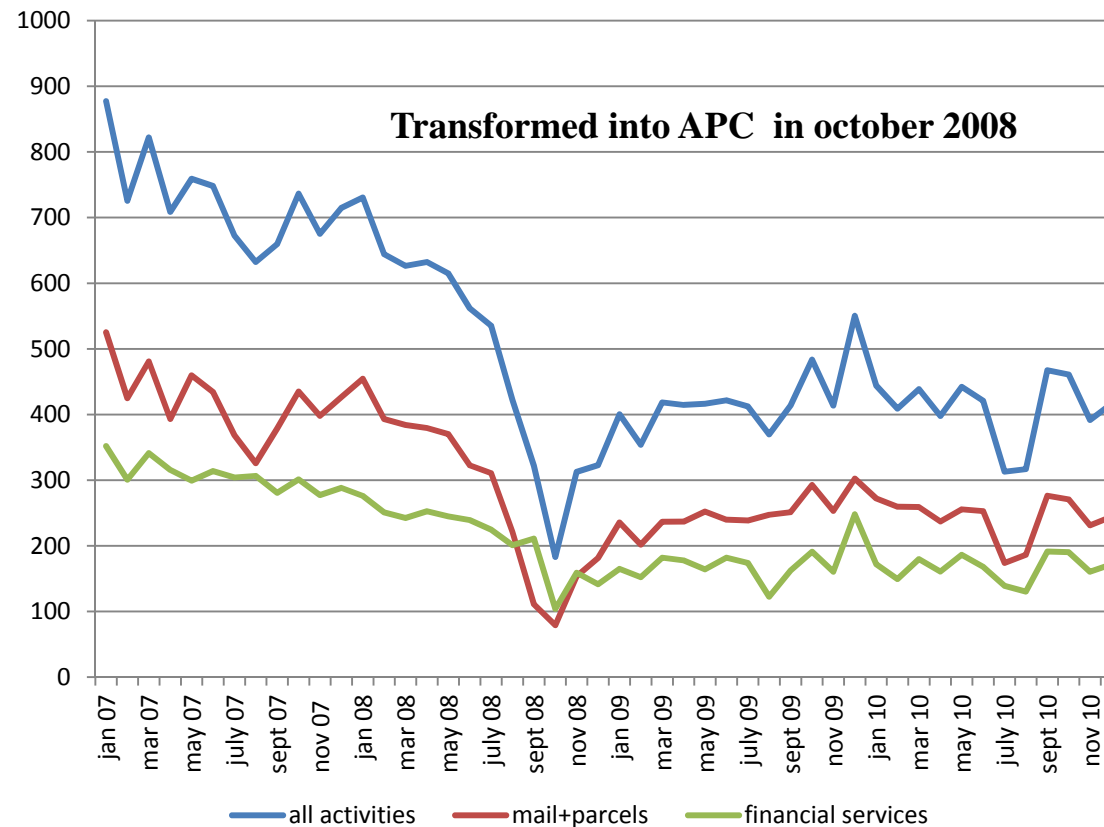




- General reduction of mail activity and financial activity in wholly owned post offices.
- More stability in the parcel activity.
- Observe a *stronger* reduction in % in transformed offices.

Some explanations ?

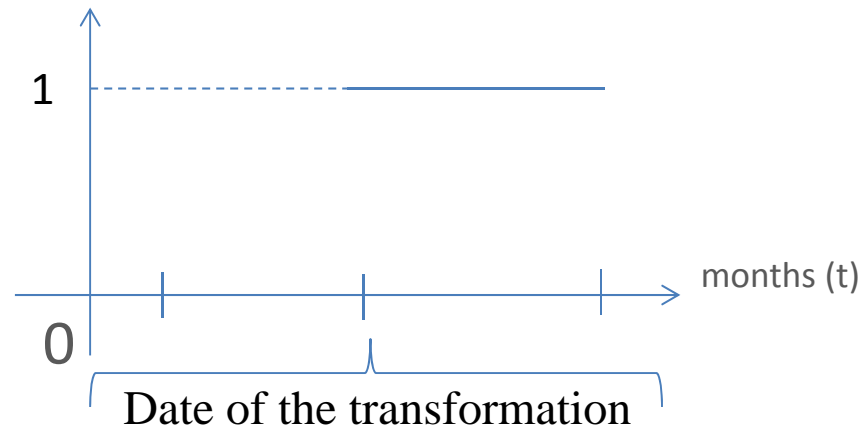
- transformation strategy applied to the smallest offices in terms of activity (number of operations a month)
- or with a decreasing trend in activity
 Selection bias
- effect of the transformation itself



➡ Econometric model: to determine if the transformation negatively impacted on demand or not

IV – An econometric model

- Y_{ti} activity of office i at time t
 $t = \text{month (4 years of observations)}$
- Set of observations : the set of offices owned by La Poste at the beginning of the period (01/2007) at risk for a transformation into an APC (“small” post offices)
- Explanatory variables : N_{ti} (counting process / “jump”)



- N_{ti} may be 0 for some i during all the period (right censoring).
- Model :
$$Y_{ti} = \alpha + \beta Y_{t-1i} + aN_{ti} + b(N_{ti} - N_{t-1i}) + U_{t-i}$$

a « permanent » effect. b « instantaneous » effect.

Long term permanent effect: $\frac{a}{1-\beta}$

Long term instantaneous effect: $\frac{b}{1-\beta}$

- Two analysis

- N_{ti} exogenous – usual OLS estimation
- N_{ti} endogenous – Instrumental variable estimation

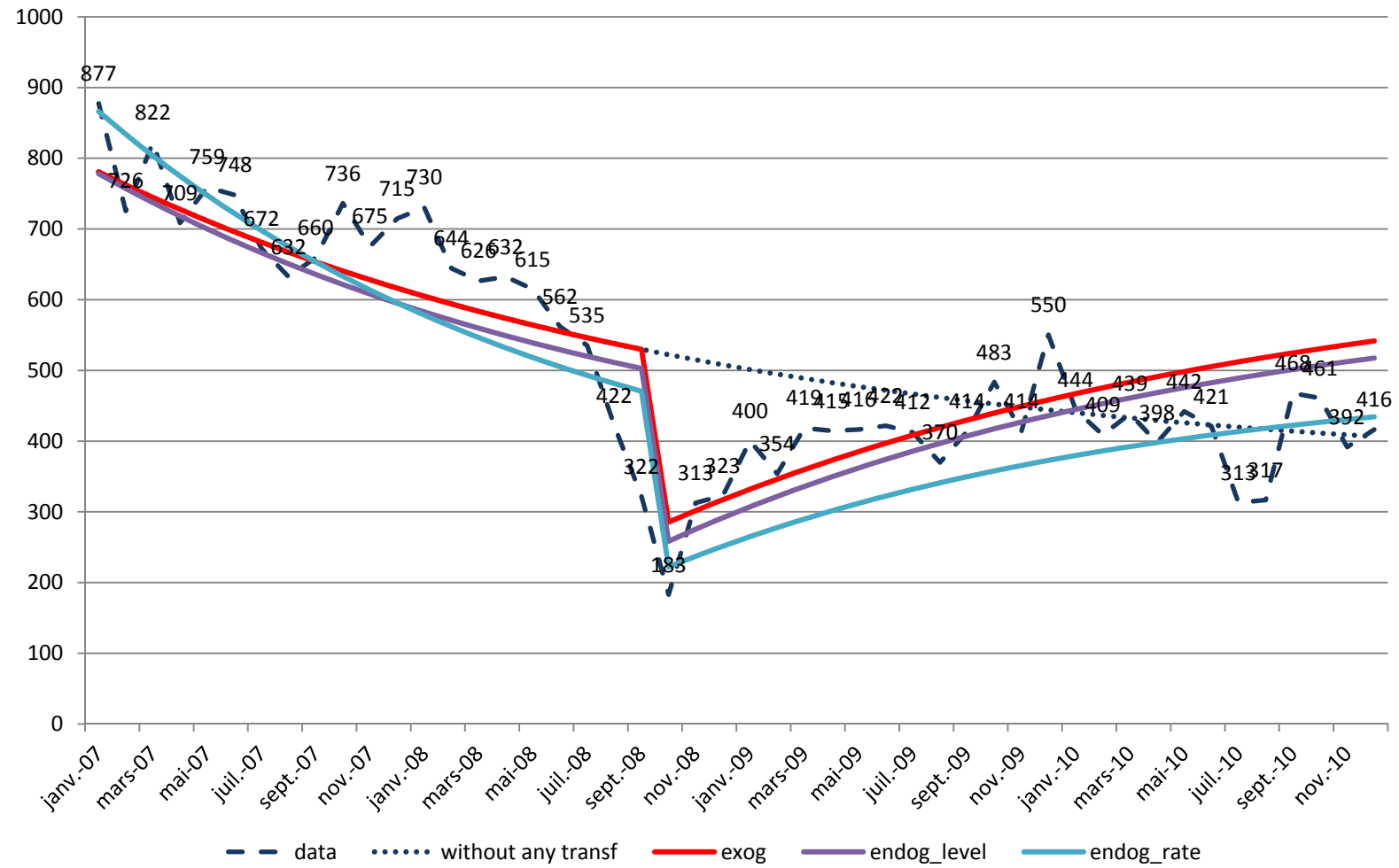
Instruments : - the activity at the beginning of the period
(mean of the activity of the office)
- the growth rate of the activity of the office

N_{ti} replaced by its expectation $E(N_{ti} | N_{t-1i}, \dots, N_{1i}, Y_{1i})$

$$Y_{ti} = \alpha + \beta E(Y_{t-1i} | Wt) + aE(N_{ti} | Wt) + bE(N_{ti} - N_{t-1i}, | Wt) + Ut$$

➡ evaluated using a Cox proportional hazard model.

Transformed into APC in october 2008 (total activity)



- ➡ Important shock at the date of the transformation.
To be interpreted : behavior of the consumers?
Data collection ?
- ➡ Shock disappears in the long term (1/2 years).
- ➡ Very simple model relevant for the analysis of the impact of the transformation.
Not for long term predictions.

VI - *forthcoming*: Toward a structural model

➡ Relation between La Poste and local public authorities (mayors) considered in a principal / agent framework with adverse selection and moral hazard.

➡ Introduction of two non observable variables:

- heterogeneity of the post office district
- effort of the city administration to maintain & develop the postal activity (opening hours, welcome....)

➡ endogeneity of the choice of transformation or not

➡ endogeneity of the impact of the transformation

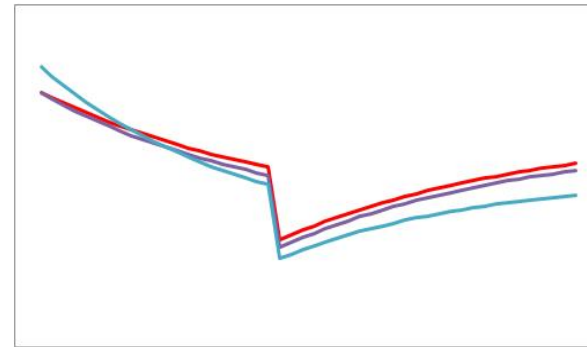
La Poste
1 office

decision N_t (a date for a transformation or $+\infty$)

gain: \rightarrow cost reduction – amount paid to local partner
 $\rightarrow - (Y_t^{NT} - Y_t^T)$

\rightarrow function of an heterogeneity element (unknown from La Poste):
is this a sensitive office?

{ asymptotic level of the gap
speed of catch-up



\rightarrow effort of the municipality (reducing queues, extending opening hours, improving customer service....)

Municipality: determines the effort

knows heterogeneity component

{ cost / benefit
effort function