

# **How the Covid-19 crisis is impacting postal markets? – A new assessment one year later**

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# Agenda

1. **The impact of the pandemic on postal markets**
2. **Econometric analysis of the impact of the health crisis on mail and parcel volumes**

# The impact of the pandemic on postal markets

# The decline in mail volumes accelerated due to the health crisis

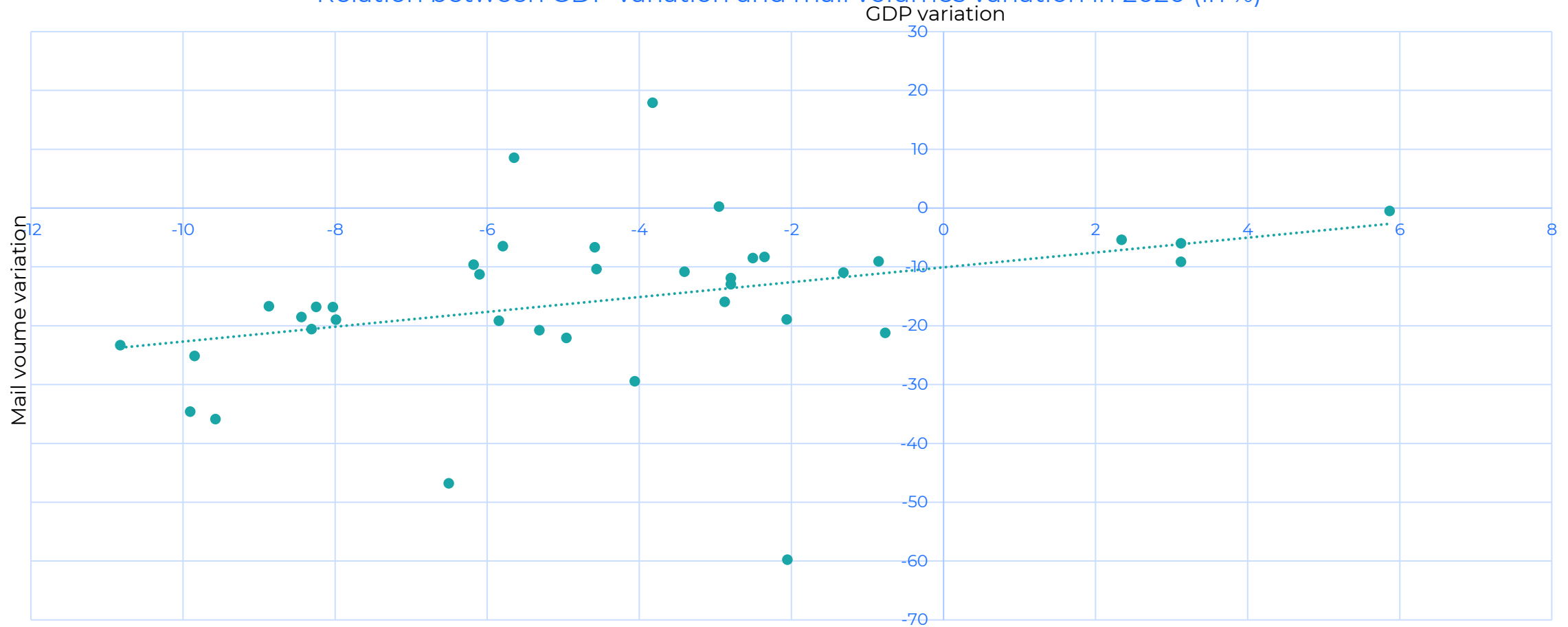
- Operators' mail volumes for panel of 53 postal operators decreased by an average of 15.9 percent in 2020 (IPC, 2021)
- In 2018 and 2019 mail volumes for all operators had decreased by 6.3 percent and 7.6 percent respectively.
- In 2020 the decline in mail volumes ranges from 0.5 percent for operator An Post to 59.8 percent for New Zealand Post.
- Total mail segment revenue of all operators decreased by an average of 4.9% in 2020 (compared to 0.6% in 2018 and 1.2% in 2019)

# Parcel volumes have risen sharply particularly during periods when stores were closed

- As citizens were stranded in their homes and many retail businesses were forced to close global e-commerce revenue grew by 25% in 2020.
- Parcel volumes carried by the sampled postal operators grew by an average of 15.3% in 2020 compared to only 4.9% in 2019.
- With the increase in delivery demands parcel segment revenue growth accelerated to 21% on average for all operators in 2020 (up from 7.1% in 2019).
- Postal operators' parcel segment revenue growth is driven by growth in parcel volumes as well as increased acquisitions of alternative operators (allowing incumbent postal operators to expand their markets).

# Relation between GDP variation and mail volumes variation

Relation between GDP variation and mail volumes variation in 2020 (in %)



# The pandemic seems to have generated a decline in mail volumes that exceeded the trend decline and an increase of parcel volumes that exceeded the increasing trend

	Mail volumes			Parcels volumes		
	Average annual growth rate 2015 - 2019	Annual growth rate 2019 - 2020	Annual growth rate 2020 - 2021	Average annual growth rate 2015 - 2019	Annual growth rate 2019 - 2020	Annual growth rate 2020 - 2021
<b>CTT Portugal Post</b>	-3,0%	-18,5%	0,6%	7,3%	41,0%	38,4%
<b>Deutsche Post DHL</b>	-4,7%	-10,4%	-0,3%	7,2%	14,1%	11,4%
<b>La Poste Groupe</b>	-6,8%	-21,7%	-2,4%	10,4%	30,8%	10,7%
<b>Österreichische Post</b>	-2,3%	-9,6%	-3,1%	1,6%	76,9%	58,3%
<b>Posti</b>	-27,2%	-15,9%	-7,2%	11,6%	27,4%	10,9%
<b>PostNL</b>	-7,7%	17,9%	-0,3%	16,1%	19,1%	13,9%
<b>PostNord</b>	-9,2%	-12,9%	-9,6%	7,2%	13,8%	14,1%
<b>Royal Mail</b>	-4,8%	-25,1%	-3,7%	6,1%	30,0%	3,6%
<b>Swiss Post</b>	-4,2%	-8,5%	-0,5%	6,3%	23,3%	9,6%
<b>USPS</b>	-2,3%	-10,8%	-0,1%	8,0%	18,8%	3,5%

*Table 1: Average annual growth rate 2015 – 2019, annual growth rate 2019 – 2020 and annual growth rate 2020 – 2021 for mail and parcel volumes for 10 postal operators*

# Econometric analysis of the impact of the health crisis on mail and parcel volumes



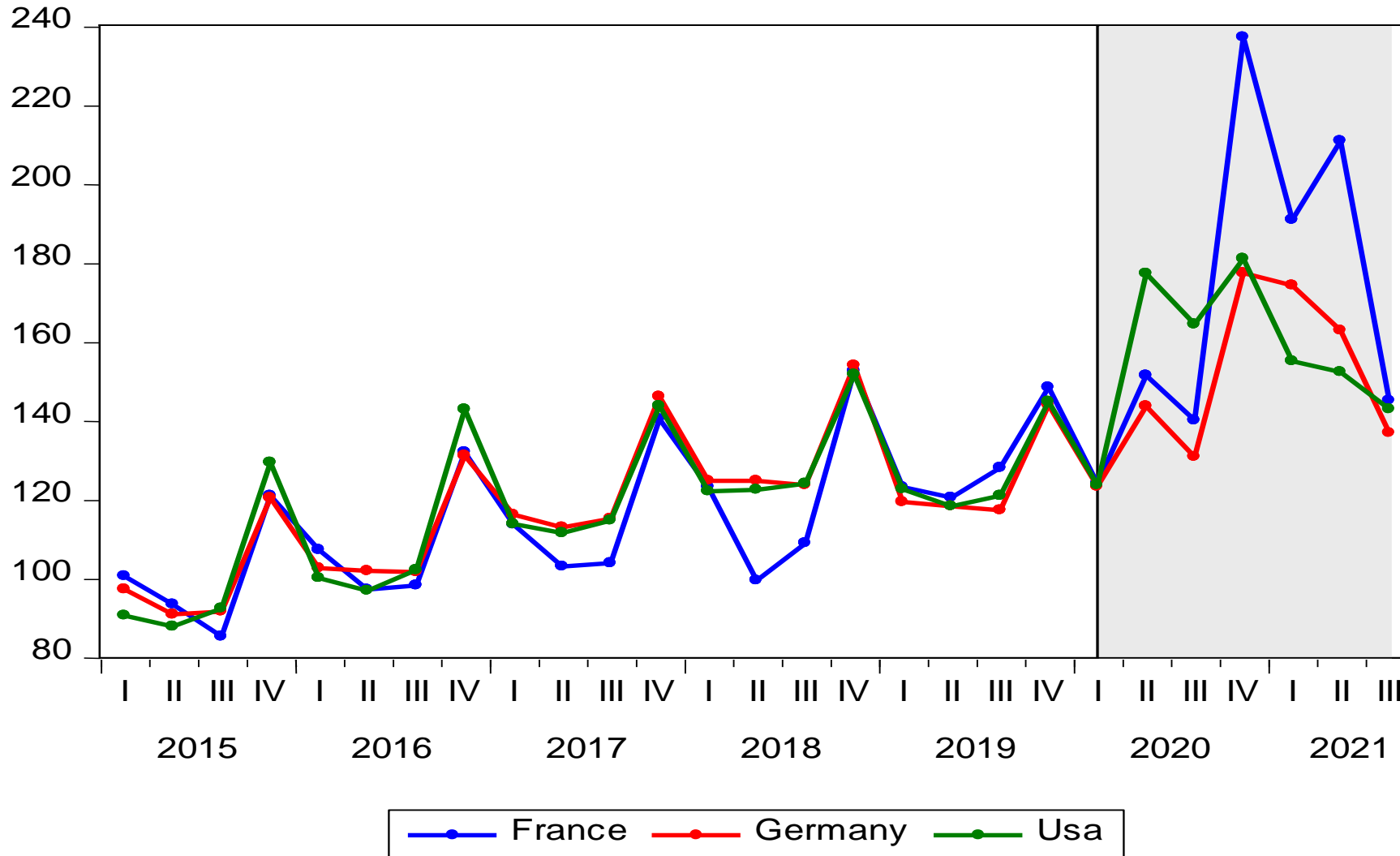
# Model for parcel volumes

- The data used in our econometric analysis are quarterly data for 3 countries (France, Germany and the United States).
- All variables in index form, 2015=base 100
- The general form of models we consider is as follows to explain the impact of the health crisis on parcel volumes is :

$$\ln V_{parcel_t} = \alpha + \beta_1 \ln GDP_t + \beta_2 Covid_t * \ln GDP_t + \delta_1 \ln Ecom_t + \delta_2 Covid_t * \ln Ecom_t + \theta_1 Q_{1t} + \theta_2 Q_{2t} + \theta_3 Q_{3t} + \varepsilon_t,$$

- *Vparcel*: parcel volumes
- *GDP*: GDP per capita
- *Ecom*: retail e-commerce sales
- *Covid* : dichotomous variable equal to 1 from 2020Q1 (Covid-19 period) and zero otherwise
- Q1, Q2, Q3 : dummies for quarters

## Parcel volume index from 2015q1 (2015=base 100)



# Model for mail volumes

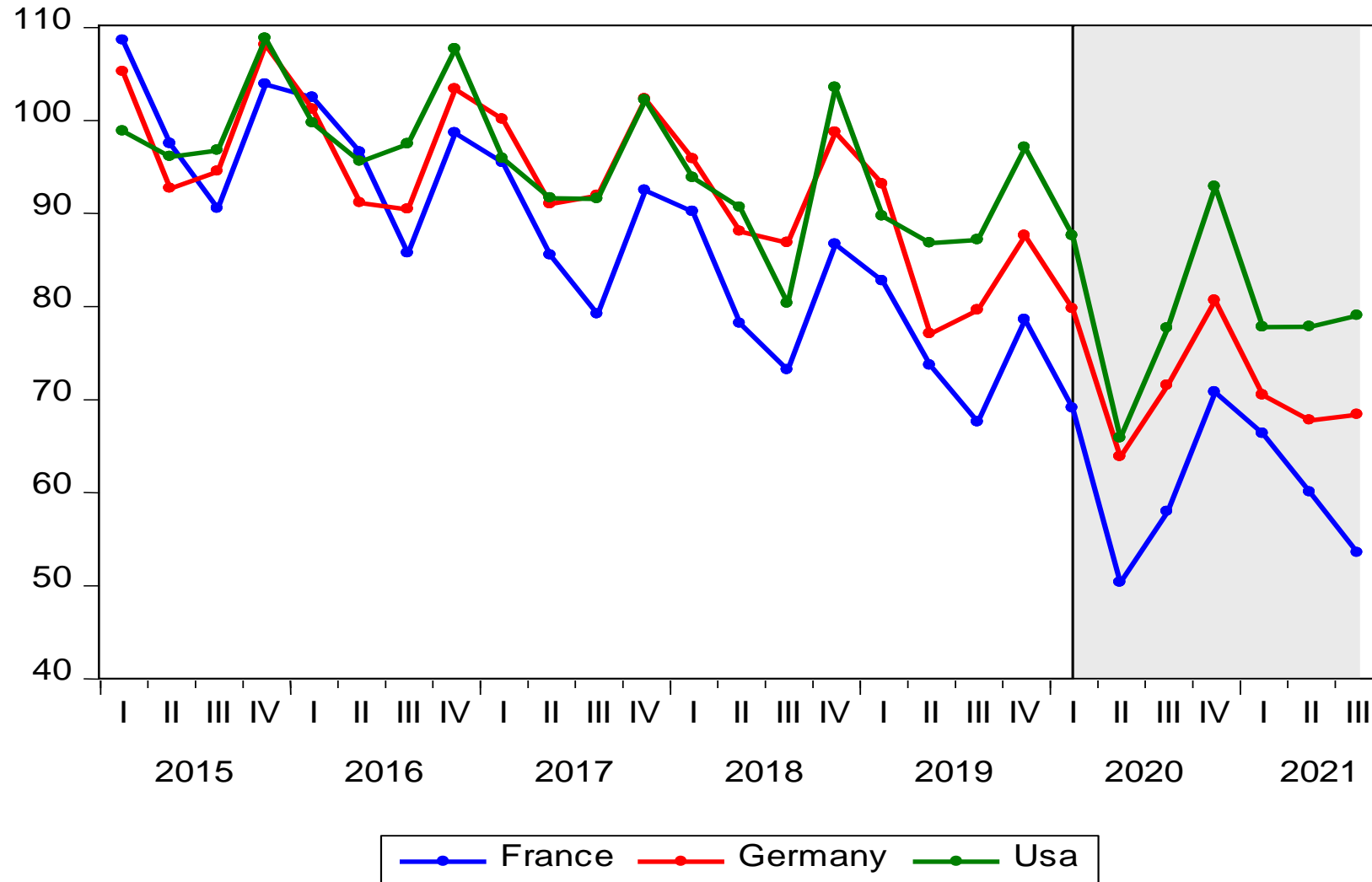
- The general form of models we consider is as follows to explain the impact of the health crisis on mail volumes is :

$$\ln Vmail_t = \alpha + \beta_1 \ln GDP_t + \beta_2 Covid_t * \ln GDP_t + \delta_1 t + \delta_2 t * Covid_t + \theta_1 Q_{1t} + \theta_2 Q_{2t} + \theta_3 Q_{3t} + \varepsilon_t,$$

All variables in index form, 2015=base 100

- *Vmail*: mail volumes
- *GDP*: GDP per capita
- *t* is a time trend variable used as a proxy for e-substitution

## Mail volume index from 2015q1 (2015=base 100)



# Estimation results

## Parcels

Variable	France		Germany		USA	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Ln(GDP)	0.866	0.454	1.470	0.305	-0.919°	1.415
Covid*Ln(GDP)	-1.077	0.237	-0.588	0.202	-0.030°	0.585
Ln(Ecom)	0.184	0.071	0.458	0.052	1.026	0.173
Covid*Ln(Ecom)	1.036	0.214	0.535	0.181	-0.017°	0.525
Q1	-0.102	0.031	-0.052	0.025	-0.007°	0.072
Q2	-0.194	0.031	-0.090	0.025	-0.036°	0.060
Q3	-0.211	0.032	-0.133	0.025	-0.008°	0.061
Const	-0.020°	1.858	-4.168	1.213	4.166°	5.790
R2	0.935		0.976		0.939	
Observation period	2009Q1-2021Q3		2009Q1-2021Q3		2009Q1-2021Q3	

° : non significant at level 10%

# Estimation results

## Mail

Variable	France		Germany		USA	
	Coeff.	Std. Error	Coeff.	Std. Error	Coeff.	Std. Error
Ln(GDP)	0.702	0.270	0.703	0.245	1.698	0.359
Q1	0.036	0.019	-0.026°	0.016	-0.024°	0.021
Q2	-0.073	0.020	-0.127	0.017	-0.096	0.017
Q3	-0.128	0.021	-0.131	0.015	-0.100	0.014
Ln(GDP)*Covid	0.060°	0.192	-0.034°	0.098	0.128°	0.139
Const	2.397	1.217	1.798°	1.094	-2.410°	1.580
t*Covid	-0.005°	0.011	0.001°	0.008	-0.007°	0.008
t	-0.016	0.001	-0.010	0.001	-0.012	0.001
R2	0.987		0.969		0.958	
Observation period	2009Q1-2021Q3		2009Q1-2021Q3		2009Q1-2021Q3	

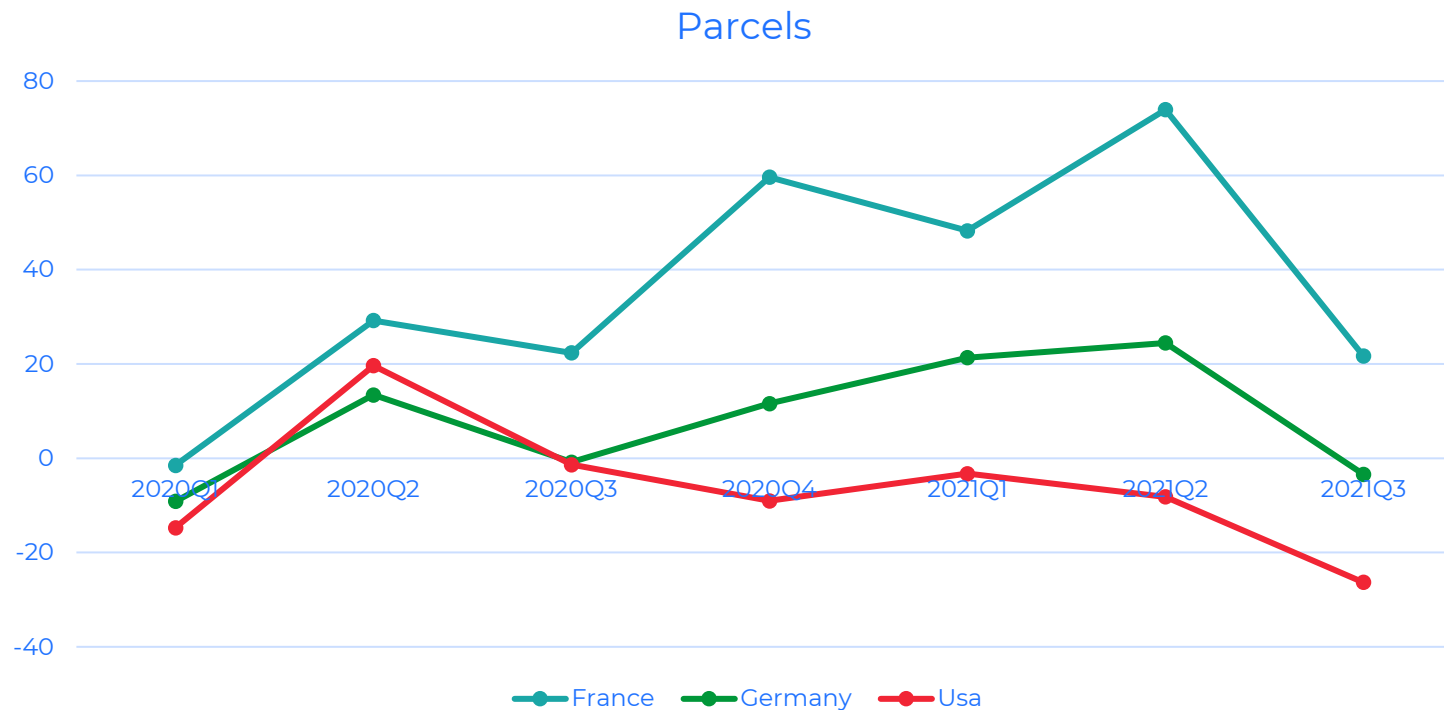
° : non significant at level 10%

## And if no Covid ?

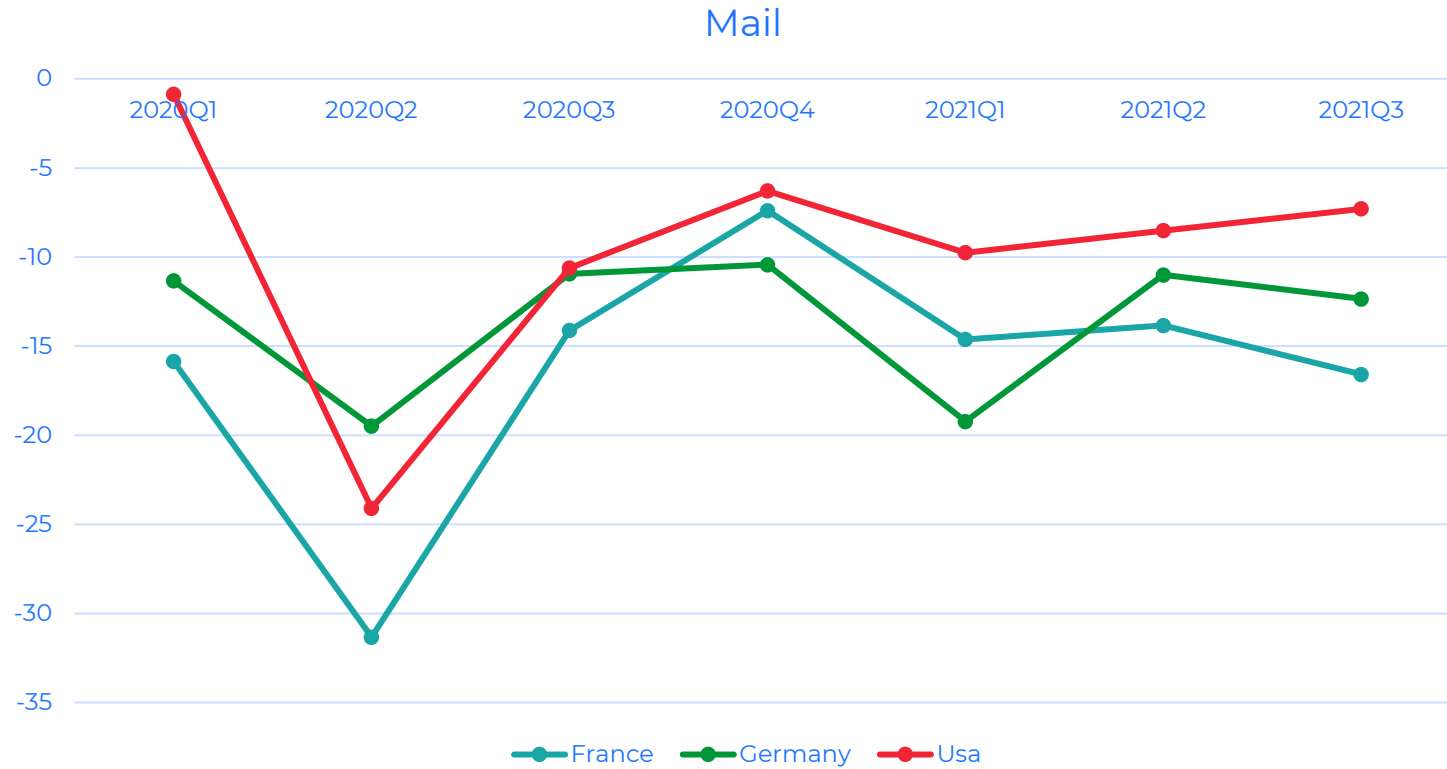
Models used to predict a « no Covid » situation

From 2020: GDP and Ecom assumed to evolve at the same rate as between 2018 and 2019

**Parcels** : difference « observed vs no Covid » in %



## Mail : difference « observed vs no Covid » in %





**Thanks for your attention**