

# Tracking the COVID-19 crisis through the lens of 1.4 billion transactions

Individual transaction-level data can be used to map the changes in consumer behaviour in response to the Covid-19 lockdown measures. This column exploits data from BBVA to analyse the nature of the impact in Spain, **writes Vasco Carvalho, Juan Ramón García, Stephen Hansen, Alvaro Ortiz, Tomasa Rodrigo, José V. Rodríguez Mora, Pep Ruiz for VoxEU**



Berlin's main shopping streets are virtually deserted

## Introduction

Naturally occurring data held by commercial banks is rich, plentiful, granular, and directly connected to economic behaviour. This makes it uniquely suited to the real-time tracking of economic activity. This not only renders it a means for providing a backward-looking account of how Covid-19 has impacted the economy, but also provides a way to assess the effect of policies with minimal delay.

Since the outset of the crisis, there has been a surge of research on these issues. It is feared that the disruption induced by the pandemic (and the lockdown) will cause an extremely severe recession (Baldwin and Weder di Mauro 2020a, 2020b). There have also been first attempts at

assessing the effect of mobility restrictions induced by the lockdown measures (Monras 2020). The most complementary papers are Baker et al. (2020), which uses a sample of financial transaction data from a personal finance application to study spending patterns in the US during March 2020, and Andersen et al. (2020), which uses credit card consumption data from a Danish bank to track the impact of the lockdown in Denmark.

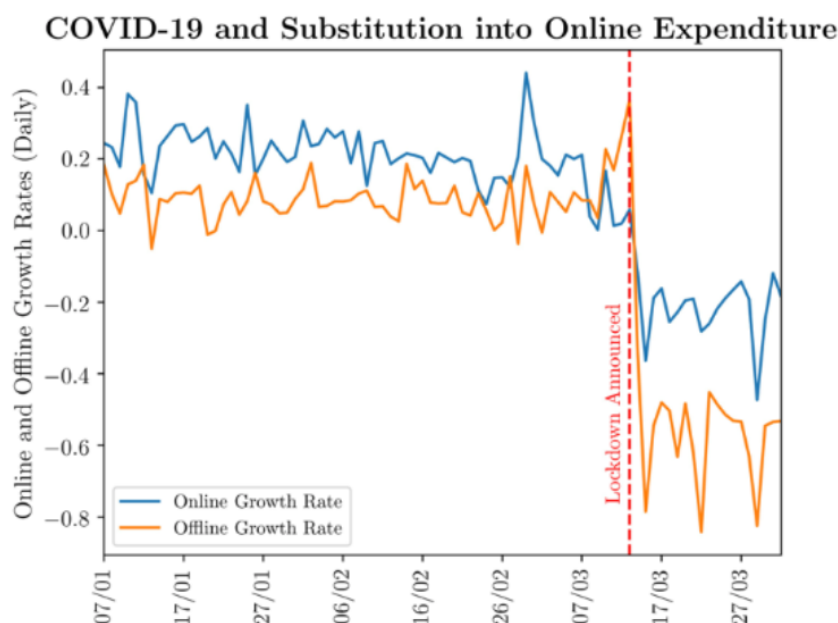
In a recent paper (Carvalho et al. 2020), we use the universe of transactions mediated by Banco Bilbao Vizcaya Argentaria, S.A (BBVA) to build a daily expenditure measure, assessing the ability of transaction data to capture the recent economic dynamics in Spain. Spain has been hit particularly hard by the Covid-19 pandemic. The first confirmed case was seen on 31 January 2020, which was then followed by a gradual diffusion of the disease during February and March, reaching 200,210 confirmed cases and 20,852 confirmed deaths by 20 April 2020. On 31 March 2020, a strict lockdown policy was announced across the whole country and imposed immediately after. We aim to accurately evaluate the effect of these events on expenditure across sectors and geographic areas.

Our main dataset builds up from 1.4 billion individual card transactions. The 'universe' of BBVA transactions (be it from the cards issued via the bank, or the Points of Sales terminals it operates) provides a daily account of expenditures. As we document in Carvalho et al. (2020), the long-run time series of expenditures of BBVA accurately tracks private consumption in Spain. Given the metadata associated with each transaction, we are also able to disaggregate the high-frequency national level expenditures data into geographical, sectoral, and online/offline daily expenditures, providing more micro-detail on the unfolding of the crisis in Spain.

## A key quote from the article

*There is also evidence for stockpiling behaviour in the days immediately preceding the lockdown. During this brief period, at its maximum, year-on-year daily expenditure growth was 20 percentage points above of the mean growth observed in the first two months of 2020. Neither the massive spending fall nor the stockpiling behaviour happen uniformly across sectors, forms of trade, or even geographic units. We also find considerable substitution from offline to online purchases after the lockdown. Figure 2a shows that both online and offline expenditures fell, but online ones substantially less, resulting in a large and stable increase in the market share of online expenditure, which grew by about 50%.*

You can read the original full article on VoxEU [here](#).



Source: Carvalho et al. 2020

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