

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.

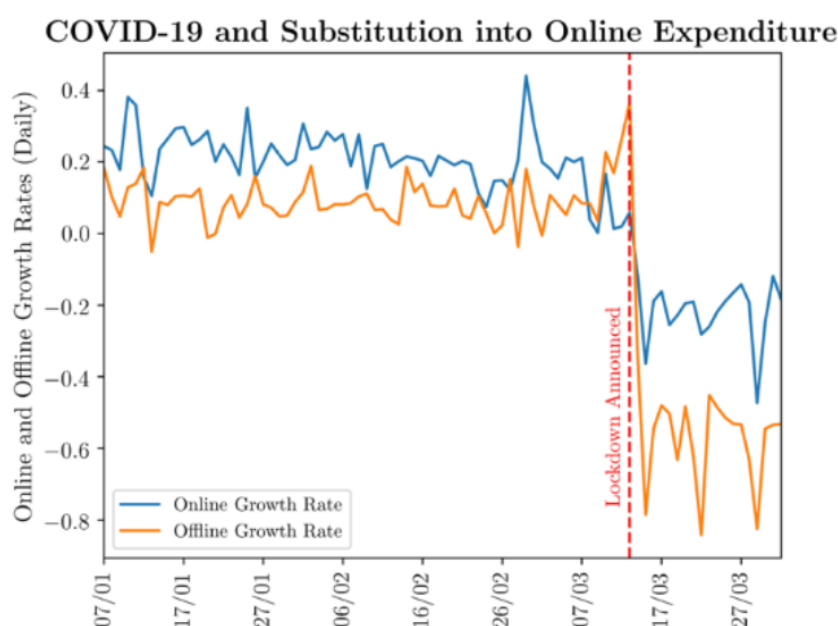
In a recent paper (Carvalho et al. 2020), we use the universe of transactions mediated by Banco Bilbao Vizcaya Argentaria, S.A (BBVA) to build a daily expenditure measure, assessing the ability of transaction data to capture the recent economic dynamics in Spain. Spain has been hit particularly hard 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

Author

Amrita Naik Nimbalkar

Junior Economist, Global Macro

amrita.naik.nimbalkar@ing.com

Mateusz Sutowicz

Senior Economist, Poland

mateusz.sutowicz@ing.pl

Alissa Lefebvre

Economist

alissa.lefebvre@ing.com

Deepali Bhargava

Regional Head of Research, Asia-Pacific

Deepali.Bhargava@ing.com

Ruben Dewitte

Economist

+32495364780

ruben.dewitte@ing.com

Kinga Havasi

Economic research trainee

kinga.havasi@ing.com

Marten van Garderen

Consumer Economist, Netherlands

marten.van.garderen@ing.com

David Havrlant

Chief Economist, Czech Republic

420 770 321 486

david.havrlant@ing.com

Sander Burgers

Senior Economist, Dutch Housing

sander.burgers@ing.com

Lynn Song

Chief Economist, Greater China

lynn.song@asia.ing.com

Michiel Tukker

Senior European Rates Strategist

michiel.tukker@ing.com

Michal Rubaszek

Senior Economist, Poland

michal.rubaszek@ing.pl

This is a test author

Stefan Posea

Economist, Romania

tiberiu-stefan.posea@ing.com

Marine Leleux

Sector Strategist, Financials

marine.leleux2@ing.com

Jesse Norcross

Senior Sector Strategist, Real Estate
jesse.norcross@ing.com

Teise Stellema
Research Assistant, Energy Transition
teise.stellema@ing.com

Diederik Stadig
Sector Economist, TMT & Healthcare
diederik.stadig@ing.com

Diogo Gouveia
Sector Economist
diogo.duarte.vieira.de.gouveia@ing.com

Marine Leleux
Sector Strategist, Financials
marine.leleux2@ing.com

Ewa Manthey
Commodities Strategist
ewa.manthey@ing.com

ING Analysts

James Wilson
EM Sovereign Strategist
James.wilson@ing.com

Sophie Smith
Digital Editor
sophie.smith@ing.com

Frantisek Taborsky
EMEA FX & FI Strategist
frantisek.taborsky@ing.com

Adam Antoniak
Senior Economist, Poland
adam.antoniak@ing.pl

Min Joo Kang
Senior Economist, South Korea and Japan
min.joo.kang@asia.ing.com

Coco Zhang
ESG Research

coco.zhang@ing.com

Jan Frederik Slijkerman

Senior Sector Strategist, TMT

jan.frederik.slijkerman@ing.com

Katinka Jongkind

Senior Economist, Services and Leisure

Katinka.Jongkind@ing.com

Marina Le Blanc

Sector Strategist, Financials

Marina.Le.Blanc@ing.com

Samuel Abettan

Junior Economist

samuel.abettan@ing.com

Franziska Biehl

Senior Economist, Germany

Franziska.Marie.Biehl@ing.de

Rebecca Byrne

Senior Editor and Supervisory Analyst

rebecca.byrne@ing.com

Mirjam Bani

Sector Economist, Commercial Real Estate & Public Sector (Netherlands)

mirjam.bani@ing.com

Timothy Rahill

Credit Strategist

timothy.rahill@ing.com

Leszek Kasek

Senior Economist, Poland

leszek.kasek@ing.pl

Oleksiy Soroka, CFA

Senior High Yield Credit Strategist

oleksiy.soroka@ing.com

Antoine Bouvet

Head of European Rates Strategy

antoine.bouvet@ing.com

Jeroen van den Broek

Global Head of Sector Research

jeroen.van.den.broek@ing.com

Edse Dantuma

Senior Sector Economist, Industry and Healthcare

edse.dantuma@ing.com

Francesco Pesole

FX Strategist

francesco.pesole@ing.com

Rico Luman

Senior Sector Economist, Transport and Logistics

Rico.Luman@ing.com

Jurjen Witteveen

Sector Economist

jurjen.witteveen@ing.com

Dmitry Dolgin

Chief Economist, CIS

dmitry.dolgin@ing.de

Nicholas Mapa

Senior Economist, Philippines

nicholas.antonio.mapa@asia.ing.com

Egor Fedorov

Senior Credit Analyst

egor.fedorov@ing.com

Sebastian Franke

Consumer Economist

sebastian.franke@ing.de

Gerben Hieminga

Senior Sector Economist, Energy

gerben.hieminga@ing.com

Nadège Tillier

Head of Corporates Sector Strategy

nadege.tillier@ing.com

Charlotte de Montpellier

Senior Economist, France and Switzerland

charlotte.de.montpellier@ing.com

Laura Straeter

Behavioural Scientist

+31(0)611172684

laura.Straeter@ing.com

Valentin Tataru

Chief Economist, Romania

valentin.tataru@ing.com

James Smith

Developed Markets Economist, UK

james.smith@ing.com

Suvi Platerink Kosonen

Senior Sector Strategist, Financials

suvi.platerink-kosonen@ing.com

Thijs Geijer

Senior Sector Economist, Food & Agri

thijs.geijer@ing.com

Maurice van Sante

Senior Economist Construction & Team Lead Sectors

maurice.van.sante@ing.com

Marcel Klok

Senior Economist, Netherlands

marcel.klok@ing.com

Piotr Poplawski

Senior Economist, Poland

piotr.poplawski@ing.pl

Paolo Pizzoli

Senior Economist, Italy, Greece

paolo.pizzoli@ing.com

Marieke Blom

Chief Economist and Global Head of Research

marieke.blom@ing.com

Raoul Leering

Senior Macro Economist

raoul.leering@ing.com

Maarten Leen

Head of Global IFRS9 ME Scenarios

maarten.leen@ing.com

Maureen Schuller

Head of Financials Sector Strategy
Maureen.Schuller@ing.com

Warren Patterson
Head of Commodities Strategy
Warren.Patterson@asia.ing.com

Rafal Benecki
Chief Economist, Poland
rafal.benecki@ing.pl

Philippe Ledent
Senior Economist, Belgium, Luxembourg
philippe.ledent@ing.com

Peter Virovacz
Senior Economist, Hungary
peter.virovacz@ing.com

Inga Fechner
Senior Economist, Germany, Global Trade
inga.fechner@ing.de

Dimitry Fleming
Senior Data Analyst, Netherlands
Dimitry.Fleming@ing.com

Ciprian Dascalu
Chief Economist, Romania
+40 31 406 8990
ciprian.dascalu@ing.com

Muhammet Mercan
Chief Economist, Turkey
muhammet.mercan@ingbank.com.tr

Iris Pang
Chief Economist, Greater China
iris.pang@asia.ing.com

Sophie Freeman
Writer, Group Research
+44 20 7767 6209
Sophie.Freeman@uk.ing.com

Padhraic Garvey, CFA
Regional Head of Research, Americas
padhraic.garvey@ing.com

James Knightley

Chief International Economist, US

james.knightley@ing.com

Tim Condon

Asia Chief Economist

+65 6232-6020

Martin van Vliet

Senior Interest Rate Strategist

+31 20 563 8801

martin.van.vliet@ing.com

Karol Pogorzelski

Senior Economist, Poland

Karol.Pogorzelski@ing.pl

Carsten Brzeski

Global Head of Macro

carsten.brzeski@ing.de

Viraj Patel

Foreign Exchange Strategist

+44 20 7767 6405

viraj.patel@ing.com

Owen Thomas

Global Head of Editorial Content

+44 (0) 207 767 5331

owen.thomas@ing.com

Bert Colijn

Chief Economist, Netherlands

bert.colijn@ing.com

Peter Vanden Houte

Chief Economist, Belgium, Luxembourg, Eurozone

peter.vandenhoute@ing.com

Benjamin Schroeder

Senior Rates Strategist

benjamin.schroeder@ing.com

Chris Turner

Global Head of Markets and Regional Head of Research for UK & CEE

chris.turner@ing.com

Gustavo Rangel

Chief Economist, LATAM

+1 646 424 6464

gustavo.rangel@ing.com

Carlo Cocuzzo

Economist, Digital Finance

+44 20 7767 5306

carlo.cocuzzo@ing.com