

# Tracking the COVID-19 Crisis with High-Resolution Transaction Data

## Abstract

Financial and payments systems throughout the world generate a vast amount of naturally occurring, and digitally recorded, transaction data, but national statistical agencies mainly rely on surveys of much smaller scale for constructing official economic series. This paper considers billions of transactions from credit- and debit-card data from BBVA, one of the largest banks in the world, as an alternative source of information for measuring consumption, a key component of GDP. We show, through extensive validation exercises against official consumption measures, that transaction data can usefully complement slow-moving national accounts and consumption surveys. We show that this holds (i) over time, as a high frequency consumption proxy both at national and subnational levels; (ii) over consumption categories, rendering it a naturally occurring consumption survey and (iii) over space, as a covariate-rich mobility dataset. We use these features to analyze the impact of the arrival of COVID-19 in Spain and the first national lockdown, and document three results of broad policy relevance for managing lockdowns: (1) strong consumption responses to shop closing and opening, but more muted effects for capacity restrictions; (2) a decline in spending for residents of high-income neighborhoods; (3) higher mobility during the workweek for residents of lower-income neighborhoods, which correlates with increased disease incidence.

The paper is joint work with Vasco M. Carvalho, Juan R. Garcia, Stephen Hansen, Álvaro Ortiz, Tomasa Rodrigo, Pep Ruiz

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