

NBER Fall 2022
Innovative Data in Household Finance:
Opportunities and Challenges

New Frontiers in Transaction Data

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BBVA Research

Boston, 9th December 2022

BBVA: One of the largest banks in the world present in 25 countries

Cash & Individual-to-Firm Card transactions

Data on amount of Cash Withdrawals,
Cards MCC & COICOP & channel (online, physical).

Individual-to-Firm Direct Debit

Data on amount, MCC and COICOP, date, type of transfer, involved parties.

Individual-to-Firm & Firm-to-Firm Transfers

Data on amount, MCC and COICOP, date, type of transfer, involved parties. Data on NACE Code for Firm-to-Firm

Individual & Firm Income and Wealth

Data on payrolls, subsidies and unemployment benefits for individuals and balance sheets for companies.

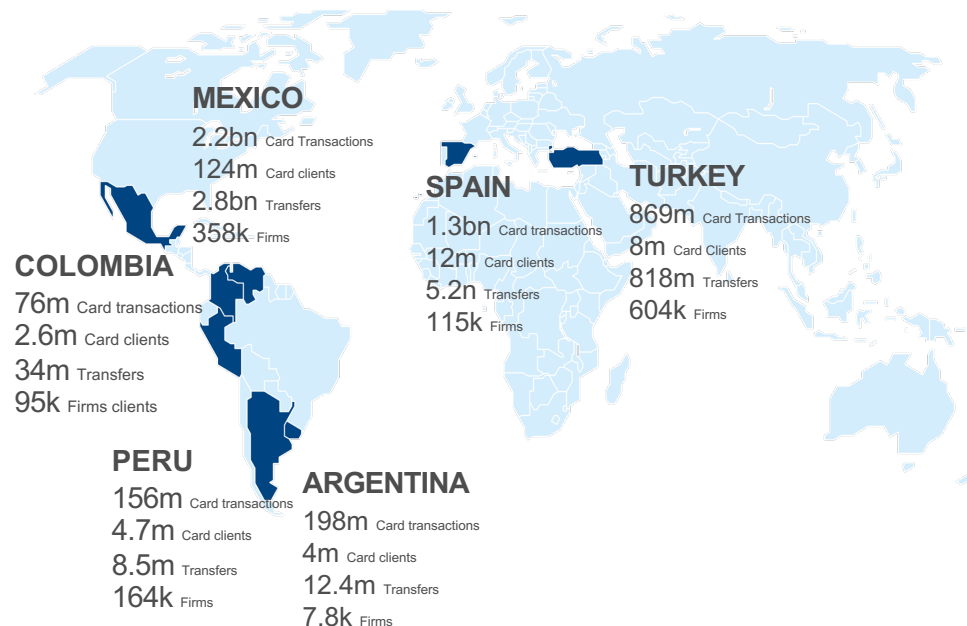
Individual & Firms Financial

Data on deposits, mortgages, loans, other fin products & risk assessment for individuals and companies.

Demographics Individual & Firms

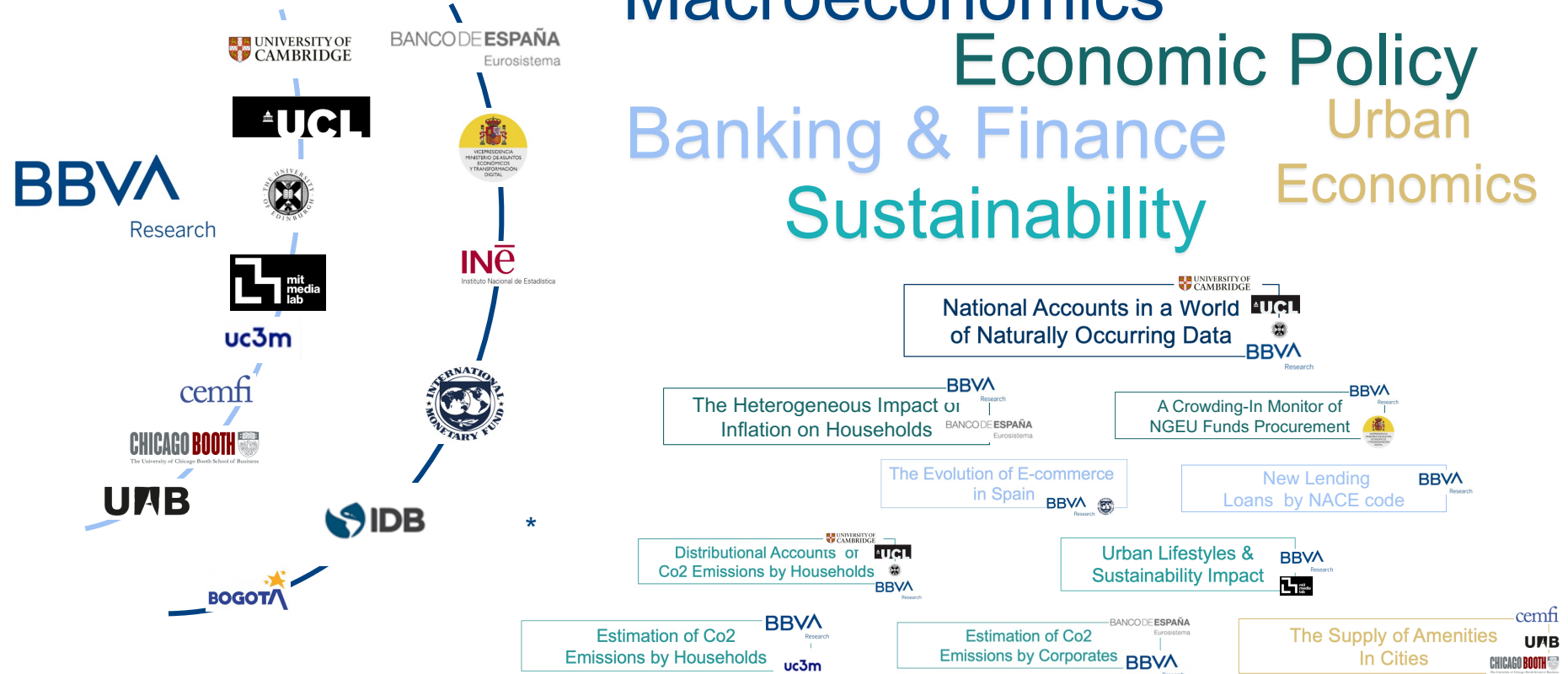
Data on Date, client age, gender, postal code, marital status, education for individuals. Firm Sector (NACE), size, postal code, fiscal data for Firms

BBVA worldwide data in 2021 and type of data



How do we work: The BBVA Research Model & Topics

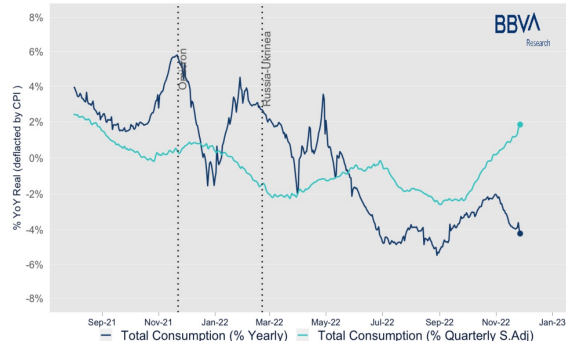
Macroeconomics
Economic Policy
Banking & Finance
Sustainability
Urban Economics



Naturally Occurring Data for Real Time & HD Economics...

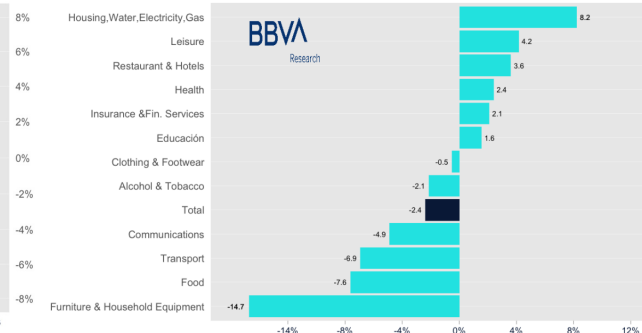
Spain: BigData Total Consumption (BBVA Research)

(Real deflated by CPI, Cum 28D % Yearly & Cum 90D % QoQ Sadj)



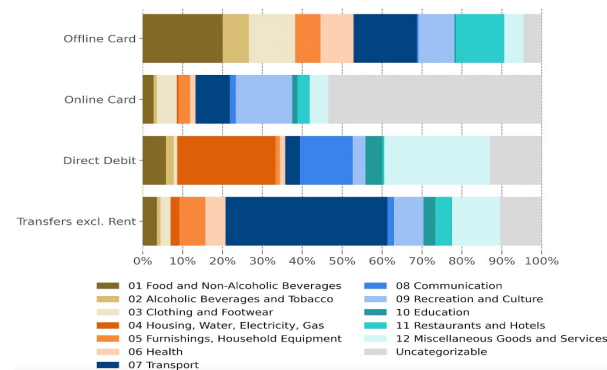
Consumption by Categories (BBVA Research)

(Real deflated by individuals CPI Coicops, Cum 28D % Yearly)



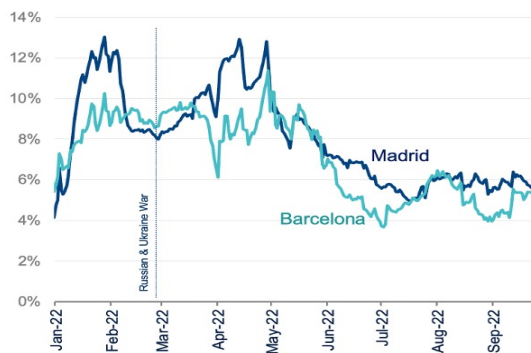
Share of Spending in COICOP by Means of Payment

(distribution of COICOP Expenditure by Mean of Payment)



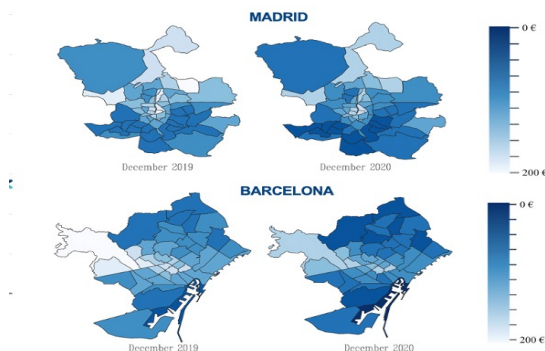
Urban Big Data Consumption: Barcelona & Madrid

(Moving Average 28D, YoY Nominal)



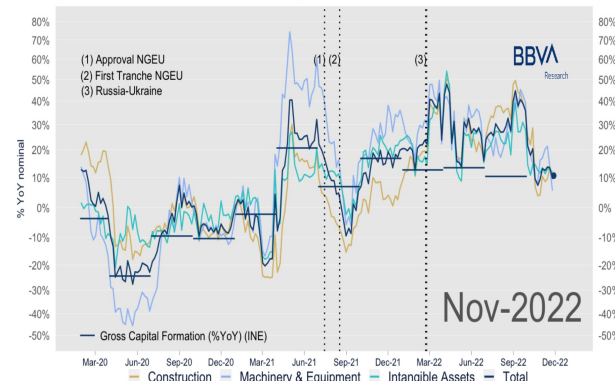
Consumption in Restaurants & Hotels in 2020

(Avg Consumption per person December 2020 & December 2019, %)



Spain: Big Data Investment Index (BBVA Research)

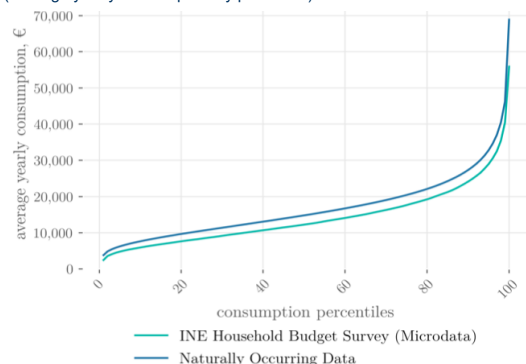
(Nominal, % YoY, cumulative 28D - Fecha:22-11)



...and Economic Analysis: Macro Consistent Distributional Accounts & IO Tables

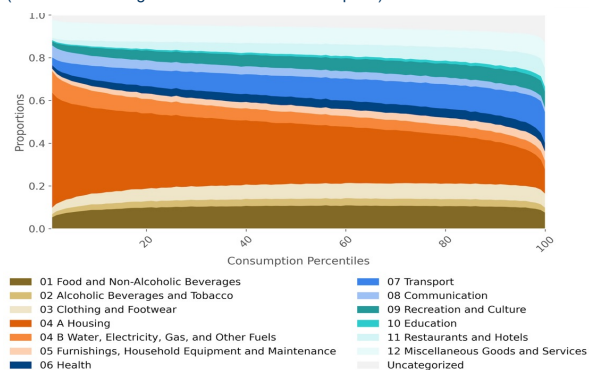
Consumption Inequality: Big data vs Official

(Average yearly consumption by percentile)

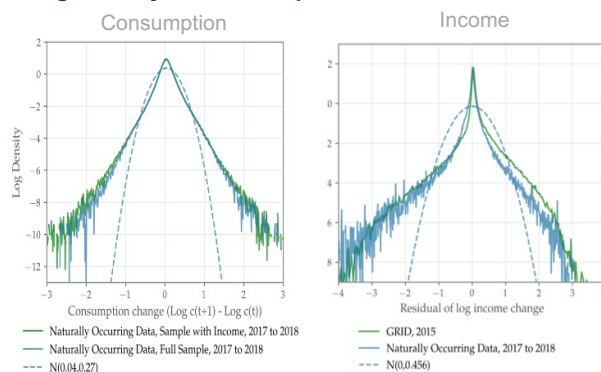


Consumption Distribution by Categories 2017

(Percentile & Categories as % of Total Consumption)

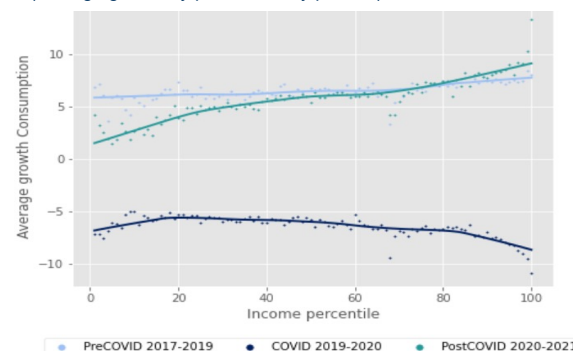


Log Density of Consumption & Income Growth



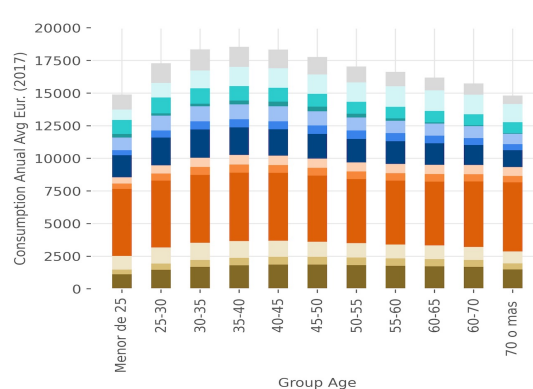
Consumption Growth by Income percentiles

(average growth by percentiles by periods)



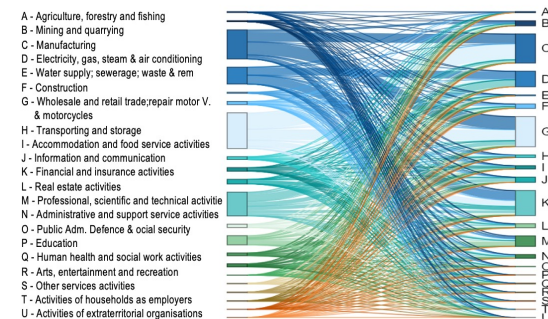
Spain: Consumption by Category & Age 2017

(Categories and Age. Avg annual Eur)



Financial Firm-to-Firm Transactions IO Table

(BBVA Intra sector Firm-to-firm Transactions)



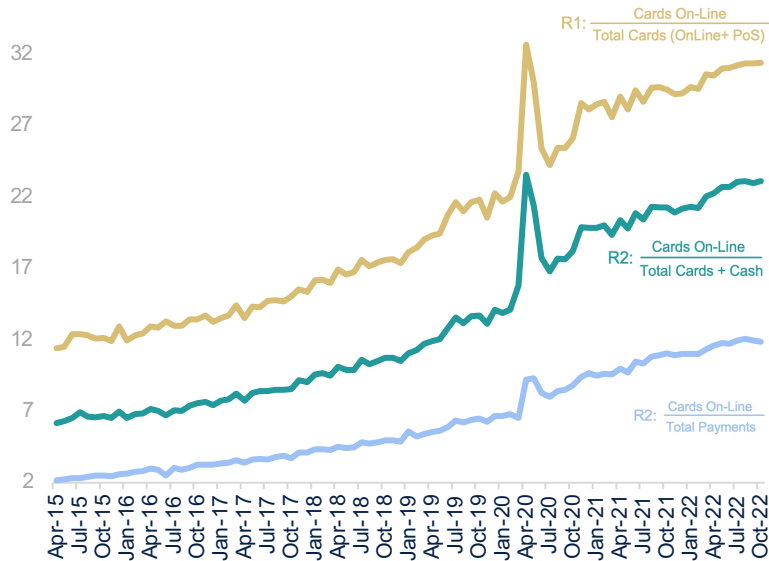
Banking Analysis: E-Commerce & Highly Definition New Lending

The Evolution of E-commerce in Spain



Spain: The E-Commerce relative to other payments

(Cards On-Line expenditure relative to other Payments. Alternative ratios in %)



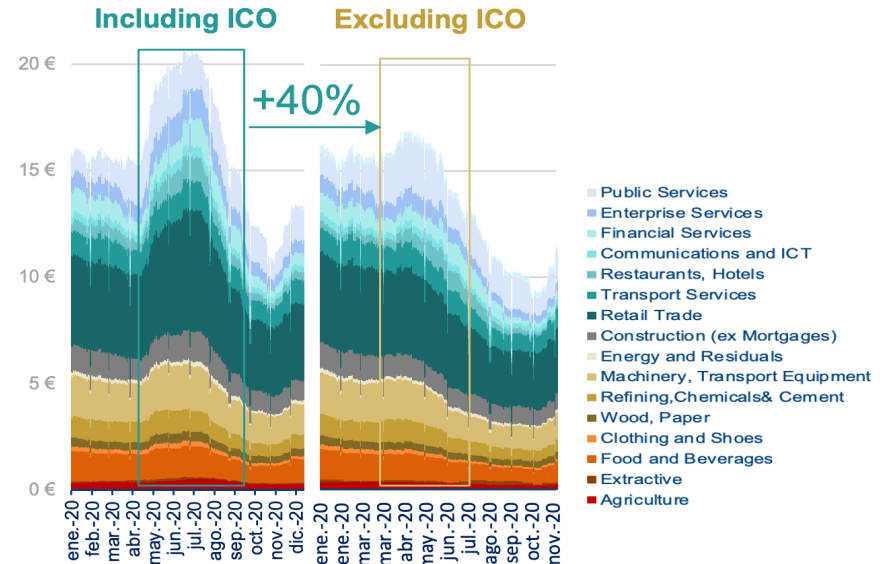
Source: BBVA Research & IMF (forthcoming)

New Lending Loans by NACE code



Spain: New Loans & Credit Supporting Scheme ICO

(in Eur Bn. Cumulative 90 days New Lending Operations by NACE Code)



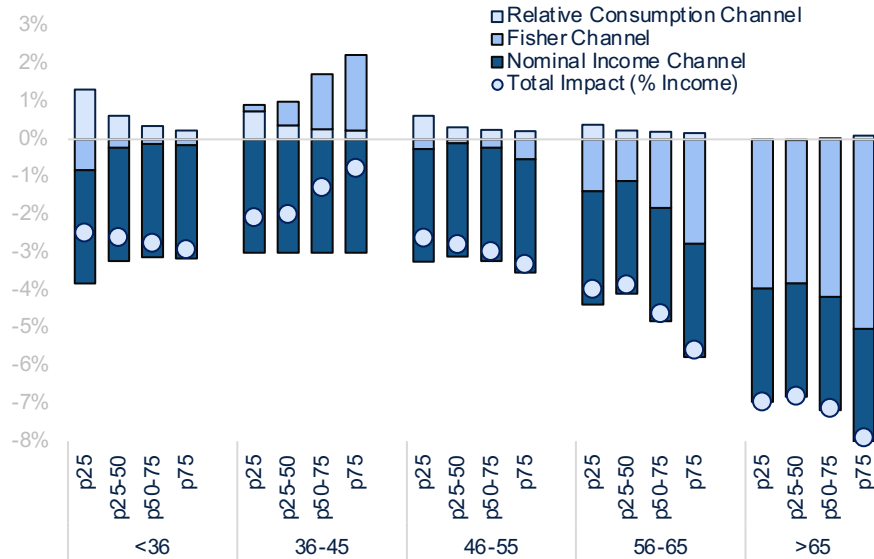
Source: BBVA Research

Economic Policy: Big Data for Monetary & Fiscal Policies

The Heterogeneous Impact of Inflation on Households

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Research
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Eurosisistema

Effect of “Inflation Shock” on Household by Income & Age
(Unexpected Inflation Shock by Age & Percentiles of Income. in % of Income)

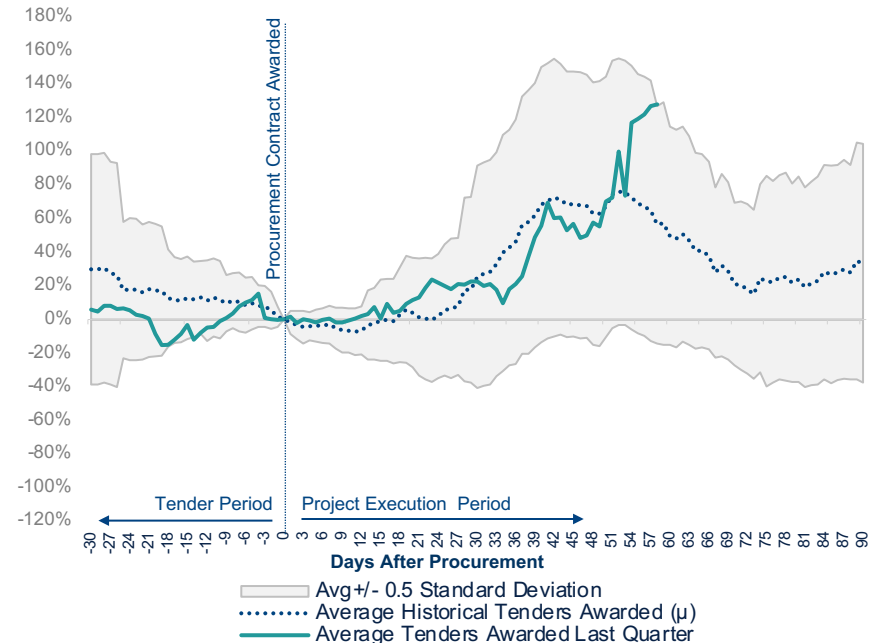


Source: Forthcoming by Cardoso et al (BBVA Research and Bank of Spain)

A Crowding-In Monitor of NGEU Funds Procurement

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Eurosisistema

Impact of NGEU Funds on New Loans: Construction Sector
(Loans Awarded vs Non-Awarded ratio evolution. Procurement Award Day= 0)



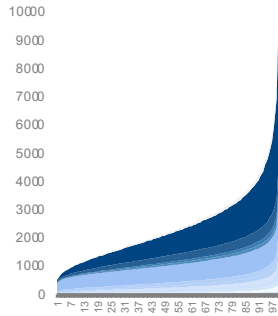
Source: Forthcoming by BBVA Research & Spanish Ministry of Economics

Sustainability: Distributional Co2 Emissions & Sustainable Life-Styles

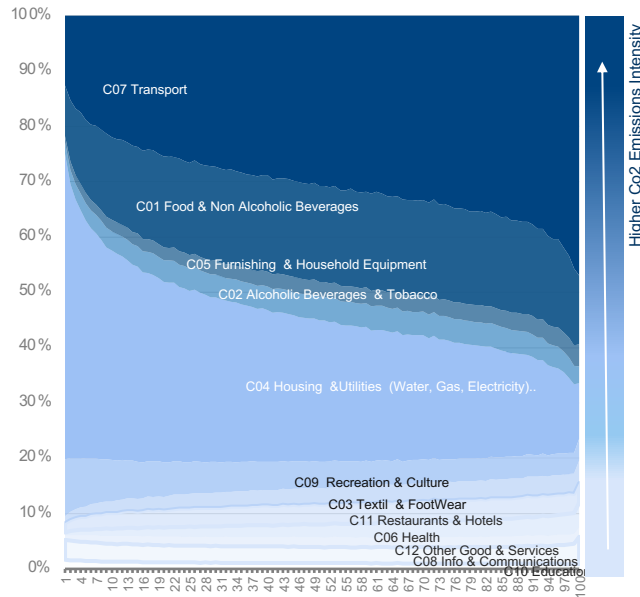
Distributional Accounts of Co2 Emissions by Households



Households Co2 Emissions
(000 Tonnes)



Households Co2 Emissions by Consumption Category
(% of total Emissions)



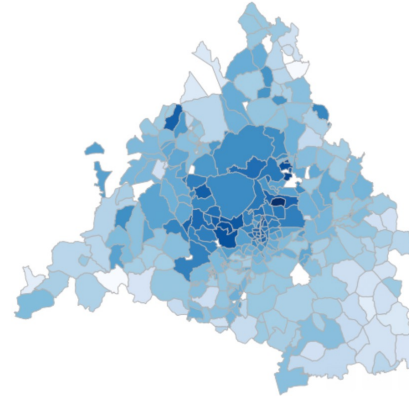
Source: BBVA Research (forthcoming)

Urban Life-Styles and Sustainability

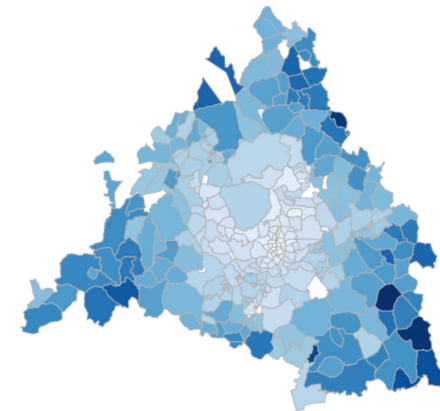


Madrid Lifestyles: Inner vs Outer Lifestyles Madrid Region
(Average Lifestyle intensity by zip-code)

Go Bars & Restaurants



Car Trips



Source: BBVA Research & Esteban Moro MIT Media Lab (forthcoming)