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Innovative Data in Household Finance: Opportunities and Challenges

New Frontiers in Transaction Data

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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
How do we work: The BBVA Research Model & Topics

Macroeconomics
Economic Policy
Banking & Finance
Sustainability

- National Accounts in a World of Naturally Occurring Data
- The Heterogeneous Impact of Inflation on Households
- Distributional Accounts of Co2 Emissions by Households
- Estimation of Co2 Emissions by Households
- Estimation of Co2 Emissions by Corporates
- A Crowding-In Monitor of NGEU Funds Procurement
- New Lending Loans by NACE code
- The Evolution of E-commerce in Spain
- Urban Lifestyles & Sustainability Impact
- The Supply of Amenities In Cities

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

Spain: Big Data Total Consumption (BBVA Research)
(Real deflated by CPI, Cum 28D % Yearly & Cum 90D % QoQ Sadj)
...and Economic Analysis: Macro Consistent Distributional Accounts & IO Tables

**Consumption Inequality: Big data vs Official**
(Average yearly consumption by percentile)

**Log Density of Consumption & Income Growth**

**Consumption Growth by Income percentiles**
(average growth by percentiles by periods)

**Consumption Distribution by Categories 2017**
(Percentile & Categories as % of Total Consumption)

**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)

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Source: Buda et al & BBVA Research

Source: BBVA Research
Banking Analysis: E-Commerce & Highly Definition New Lending

Spain: The E-Commerce relative to other payments
(Cards On-Line expenditure relative to other Payments. Alternative ratios in %)

Spain: New Loans & Credit Supporting Scheme ICO
(in Eur Bn. Cumulative 90 days New Lending Operations by NACE Code)

Source: BBVA Research & IMF (forthcoming)

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

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

Source: Forthcoming by Cardoso et al (BBVA Research and Bank of Spain)
Sustainability: Distributional Co2 Emissions & Sustainable Life-Styles

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

- C07 Transport
- C01 Food & Non Alcoholic Beverages
- C05 Furnishing & Household Equipment
- C02 Alcoholic Beverages & Tobacco
- C04 Housing & Utilities (Water, Gas, Electricity)
- C09 Recreation & Culture
- C03 Textil & FootWear
- C11 Restaurants & Hotels
- C06 Health
- C12 Other Good & Services
- C08 Info & Communications
- C10 Education

Households Co2 Emissions by Households

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

Go Bars & Restaurants

Car Trips

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