

BBVA Research

WebSite de BBVA Research Big Data & IA

Methodology

A real-time and HD view of the economy

**A high-frequency, high-definition (HD) snapshot of economic, geopolitical and social developments
(Transactions and Text)**

Daily Data

Robustness and Validation

High quality

Leading signals

Differential Analysis

Interactive and customizable website

Frontier use of Big Data & AI

Economic indicators using BBVA data

What transformations they undergo and how to interpret them

Methodology and transformation

- **Indicators constructed from Financial Transaction data** (card payments, account movements, cash withdrawals, etc.) operated by BBVA.
- **Filters and definitions similar to those used by official sources (INE)** are applied for the construction of each indicator.
- Biases related to market share are corrected, and the **information** is scaled up to the national level.
- **Annual growth in %.** Data is presented as a 28-day moving average.
- **Data is shown in nominal and real terms** (adjusted for inflation).

Interpretation and usage guidelines

- **Qualitative interpretation:** A positive variation indicates that activity is above the level of the same period of the previous year, while a negative variation indicates a decline compared to one year ago.
- **High frequency + smoothing:** The 28-day moving average smooths the evolution of the indicators and captures monthly inertia.
- **The indicators show trend signals, not official statistics.**
- **Different Methodologies:**
 - **INE:** Data from official Surveys
 - **AEAT:** Records based on VAT filings
 - **BBVA:** Data sourced from financial transactions

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Consumption

- BBVA's consumption indicator is produced in accordance with the national accounts consumption methodology, using BBVA's transaction map from individual customers to merchants.
- All means of payment are taken into account in its construction: cards (physical and online), cash, account transfers, and direct debits. In addition, each customer is assigned a household-level consumption value that we call "imputed rents".
- The data are scaled up to the level of the Spanish population in order to minimize selection biases.
- Based on this, we develop a set of real-time, high-definition consumption indicators at the national, regional, provincial, and urban levels, as well as for the different consumption categories defined in the national accounts.
- Real-time, high-definition information provides a solid foundation to improve diagnostic assessments and paves the way for the application of smart policies ("Smart Policies").

For more details on the methodology, refer to the working paper [National Accounts in a World of Naturally Occurring Data: A Proof of Concept for Consumption](#).

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Investment

- The indicators approximate investment through the monetary transfers made by firms and individuals (in the case of residential investment) to the companies that produce fixed investment assets. The assumption is that these monetary transfers take place in exchange for the investment goods produced in the economy and therefore reflect investment demand.
- Companies are classified according to their corresponding CNAE codes to identify their sector of economic activity. Using these CNAE codes, we identify the transactions between firms, or between individuals and firms, involving those companies that produce the different fixed investment assets according to the national accounts, in order to classify investment by sector of activity.
- These indicators are broken down into three major components: Machinery and equipment (industrial machinery, productive transport equipment, computers, servers, medical or telecommunications equipment), construction (new housing, factories, offices, roads, bridges, electricity grids) and intangibles (R&D, software and databases, artistic or entertainment originals, etc.)

For more details on the methodology, see Appendix A.3 in the following working paper [The Short Lags of Monetary Policy](#).

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Sectoral Activity

- The indicators are constructed from monetary transfers to companies as a proxy for their total sales, including all revenues received minus intermediate consumption by a firm. Companies are classified according to their corresponding CNAE codes to produce sectoral indicators of business activity.

External Sector

- **Exports:** The indicator is generated as the aggregated sum of all transfers received by BBVA corporate clients from originating accounts located abroad.
- **Imports:** The indicator is generated as the aggregated sum of all transfers sent by BBVA corporate clients to beneficiary accounts located abroad.

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