

## Real-time economics: the new portal by CaixaBank Research

While economists have been incorporating big data into their analyses for a number of years now, the COVID-19 pandemic has produced a veritable revolution in real-time economics. Having timely information was essential for management of the crisis and allowing quick decision-taking. For instance, using data from [Google Mobility Report](#), it was possible to measure the impact that the COVID-19 pandemic had on people's mobility under lockdown and, thanks to data from Opportunity Insights (<https://www.tracktherecovery.org/>), the economic impact of the pandemic in the US. Here at CaixaBank Research, together with researchers from Pompeu Fabra University and the Institute of Political Economy and Governance (IPEG), we developed a pioneering tool for tracking inequality and the role of the welfare state in Spain in real time (<https://inequality-tracker.caixabankresearch.com/en>).

Real-time sources of information are generated both in the private sector (telephone and internet providers, financial firms, etc.) and within the public sector, which holds registry data that are an unparalleled source of economic information. The Spanish Tax Agency,<sup>1</sup> to name just one example, has the most detailed and up-to-date data on the performance of Spanish companies, thanks to the tax returns they file.

The information obtained from big data is supplemented with more traditional data such as surveys or economic experiments. However, the former offers a greater level of detail and is more instantaneous. Since big data is created for other purposes, it is readily available (i.e. it «only» has to be processed and analysed, without the need for surveys, for instance). The resulting economic






information is therefore cheaper to produce and can lead to more representative and larger samples.

Real-time economics can also play an important role in the design and implementation of public policies. Big data allows economic policies to be designed more specifically, focusing on the groups most in need (so-called «smart policies»). They also enable the impact of any measures introduced to be monitored *a posteriori* – after their implementation – as well as making it possible to adjust them in real time when necessary.

The new contribution of the CaixaBank Research team<sup>2</sup> to this revolution is the Real-time economics website (<https://realtimeeconomics.caixabankresearch.com>), a pioneering project which aims to track developments in the Spanish economy through 12 indicators built with internal CaixaBank data, aggregated using big data techniques. The indicators are grouped into five areas: consumption, housing, tourism, wages and inequality. Each of these indicators can be broken down by a range of different categories, allowing differences to be identified between groups (age, gender, income level, sector), regions (autonomous communities, municipalities), etc. In total, we publish more than 800 time series, which we update monthly.

The Real-time economics portal enables the analysis of key issues in the current uncertain economic context. One of the major concerns is the degree of slowdown in private consumption as a result of the sharp rise in prices. CaixaBank Research's consumption indicator shows a downward trend and below-inflation growth, suggesting that consumption in real terms is falling. Specifically,

### Indicators available on the Real-time economics portal

	Indicators	Definition	Breakdown categories
	<b>Consumption</b> Total consumption, in-person consumption and e-commerce	Consumption based on payments and cash withdrawals carried out with debit and credit cards, including both Spanish and foreign cards	National, by autonomous community region, age, income level, expenditure type
	<b>Housing</b> Housing affordability	Number of years of net employment income that the median household must allocate in order to purchase a home in a specific geographic area	National, by autonomous community region and provincial capital
	<b>Wages</b> Wages	Monthly wage income calculated using payrolls paid into CaixaBank accounts	National, by autonomous community region, age, gender, economic sector, public/private sector
	<b>Tourism</b> Domestic tourism, international tourism and spending abroad	Expenditure based on payments and cash withdrawals carried out with Spanish or foreign cards	National, by age, country, expenditure type
	<b>Inequality</b> Gini index, income percentiles, income distribution, Lorenz curve	Wage inequality defined on the basis of payrolls paid into CaixaBank accounts as well as unemployment benefits	National, by autonomous community region, age, gender, country of birth

**Note:** For further details on how the variables are built and their representativeness, see the Methodological Note ([https://www.caixabankresearch.com/sites/default/files/content/file/2022/02/09/49/nota-metodologica\\_rte.pdf](https://www.caixabankresearch.com/sites/default/files/content/file/2022/02/09/49/nota-metodologica_rte.pdf)).

**Source:** CaixaBank Research, Real-time economics portal ([www.realtimeeconomics.caixabankresearch.com](http://www.realtimeeconomics.caixabankresearch.com)).

1. [https://sede.agenciatributaria.gob.es/Sede/datosabiertos/catalogo/hacienda/Informes\\_Ventas\\_Empleos\\_y\\_Salarios\\_en\\_las\\_declaraciones\\_tributarias.shtml](https://sede.agenciatributaria.gob.es/Sede/datosabiertos/catalogo/hacienda/Informes_Ventas_Empleos_y_Salarios_en_las_declaraciones_tributarias.shtml).

2. The website has been a collective effort involving Oriol Aspachs, Patricia Esteban, Alberto Graziano, Javier Ibáñez de Aldecoa, Eduard Llorens, Josep Mestres and Judit Montoriol.



in September, in-person spending using Spanish bank cards registered 7.0% year-on-year growth, the lowest rate in 2022 to date. The pattern varies widely between different expenditure categories. On the one hand, we find significant growth in leisure and catering (13.6% year-on-year), in line with the strength of the tourism sector, and in spending on essential goods (18.0% year-on-year), reflecting the sharp rise in food prices. On the other hand, spending on durable goods is showing much more timid growth (2.3% year-on-year), amid high uncertainty and a loss of household purchasing power.

Another concern in this context of strong inflationary tensions is the intensity of so-called second-round effects. CaixaBank Research's wage income indicator shows that wage growth has been contained to date. In September 2022, wage incomes in Spain rose by around 2.4% year-on-year, similar to the growth of the last six months. Breaking this figure down by category allows us to determine whether there are differences by sector or autonomous community region. For instance, wages rose at different rates in the tourism and non-tourism service sectors in 2022. In the former, wage incomes rose by over 5% year-on-year in May and June 2022, with a strong rebound after the pandemic, although this growth moderated to 3.5% in September 2022. In non-tourism services, meanwhile, the growth rate has been slower, at around 2.3% year-on-year in 2022 to date. By autonomous community, wages grew more in the Balearic Islands (2.9%) and less in

Extremadura (2.0%), indicating limited differences between regions.

On the other hand, the Real-time economics portal also reveals the significant contribution of tourism to the growth in economic activity after the restrictions linked to the pandemic were lifted. According to CaixaBank Research's international tourism indicator, in September 2022 spending on foreign cards in Spain grew by 27.8% compared to the same month in 2017. Tourism from European countries was the first to recover, and long-haul tourism is also joining the trend. Despite the highly encouraging recovery in international tourism to date, it is unclear to what extent we will be able to continue to rely on this driver of growth, in a context in which the main source countries of tourists who visit Spain are in the midst of an economic slowdown. The website indicators will allow us to track these developments, month by month and instantaneously.

At CaixaBank Research we are committed to the dissemination of economic information as a valuable contribution to society. We perform research and analysis on our data in order to condense them in these indicators, which we make freely available to all in this Real-time economics website ([www.realtimeeconomics.caixabankresearch.com](http://www.realtimeeconomics.caixabankresearch.com)), thereby providing relevant economic information that is instantly accessible and which can complement that of other sources.

*Josep Mestres and Judit Montoriol*