The economic impact of the COVID-19 crisis on inequality: this time is different

Throughout history, pandemics have been one of the phenomena to have had the greatest impact on income and wealth distribution in societies. So much so that most have led to a sharp rise in inequality.[1] The employment destruction associated with the economic crises generated by pandemics is often concentrated among the most disadvantaged groups, thus increasing income inequality. However, the social protection systems of the past were a far cry from the mechanisms provided by the modern welfare state. This is surely one of the major differences between the current pandemic and those of the past: the decisive response we are witnessing from public policy.[2] But is it enough? Are all groups being offered protection? Is the right action being taken?

We would normally have to wait years to answer these questions, as it is extremely difficult to compile and process data on income distribution. In Spain, for example, in June of this year the 2018 wage structure survey was finally published, and other developed countries take a similar amount of time to publish such information. In the current situation, this time lag raises concerns over how the economic crisis will affect the most vulnerable groups. It also makes the public sector's task more difficult, because without the data to hand it is harder to assess the effectiveness of the various aid programmes that have been implemented.

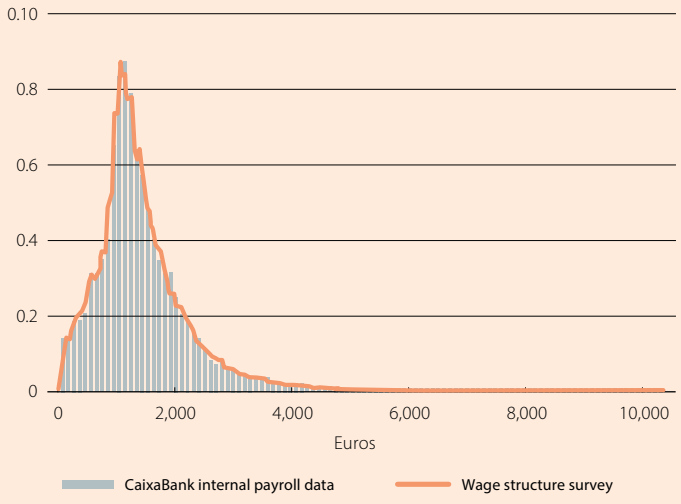
In this context, a team of researchers from Pompeu Fabra University, the Institute of Political Economy and Governance (IPEG) and CaixaBank Research has embarked on a globally pioneering project to track the evolution of inequality, as well as the role of the welfare state, in real time. To accomplish this, we analyse the data from wages deposited in CaixaBank, duly anonymised and applying big data techniques to manage the large volume of available information (we analyse the evolution of around 3 million payrolls each month). In addition, we include in our analysis individuals who receive some form of public transfer related to their participation in the labour market (such as unemployment benefits, or temporary furlough benefits under Spain's ERTE schemes). This information is essential in order to assess the impact of the economic crisis and the effect of public transfers. We can also perform the analysis both for the entire population and for different groups, disaggregating the data by age, gender or other characteristics such as geography. This allows us to assess what situation the various groups are in and the effectiveness of public policies for each of them.

This is not the first study to use big data techniques to track the economic effects of the pandemic in real time. One of the most ambitious projects at the international level is *Opportunity Insights*, led by Raj Chetty from Harvard University, which has developed several indicators that allow the US economy to be monitored in real time. For example, they have indicators that analyse the evolution of consumption according to the characteristics of each geographical area (such as the income level of the residents) or the evolution of employment according to workers' income level. This information is highly valuable for assessing the impact of the crisis both at the aggregate level and on the various groups.

Our project is also based on a large database, which is representative of the population as a whole, and this allows us to assess the impact of the crisis on the various groups, as well as the impact of public transfers. To confirm the representativeness of CaixaBank's internal data, we compared the distribution of these wage payments with

Spain: distribution of net monthly wages

Frequency (%)



Source: *CaixaBank Research, based on internal CaixaBank data and data from the wage structure survey (National Statistics Institute).*

1. See G. Alfani (2020). «Pandemics and inequality: A historical overview». VOX EU column. At https://voxeu.org/article/pandemics-and-inequality-historical-overview. And L. Wade (2020). «An unequal blow». Science, vol. 368 (6492), pages 700-703.
2. There is also no comparison in terms of the quality of the healthcare response, which improves treatments and reduces the mortality rate.

data from the Wage Structure Survey. As can be seen in the chart, the two distributions are very similar – a relationship we corroborated by comparing the quartile ratios of each distribution. Apart from the distribution of wage incomes, the characteristics of the people who have their wages deposited into CaixaBank are also very similar to those of the population as a whole. This can be seen in the second table, in which we compare the relative weight of different groups in the CaixaBank data with those from the wage structure survey and the labour force survey.

Spain: quantile ratios of the distribution of net wages

Ratio

	CaixaBank (2020)	Wage Structure Survey (2014)
P90/P10	4.24	4.12
P90/P50	1.88	1.87
P10/P50	0.44	0.45
P75/P25	1.85	1.83

Note: *The table shows the quantile ratios of the distribution of net wages separately for the internal CaixaBank sample and for the wage structure survey (WSS). To facilitate the comparison between samples, we adjust the wage distribution of the WSS by the average wage increase between 2014 and 2019.*
Source: *CaixaBank Research, based on internal CaixaBank data and data from the wage structure survey (National Statistics Institute).*

Having data that are representative of the whole population allows us to construct inequality indicators, such as the Gini index or Lorenz curves, both for the population as a whole and for the various subgroups, and to analyse how they evolve over time. All this information is made available to the public on a website, CaixaBank Research's Inequality Tracker: www.inequality-tracker.caixabankresearch.com, where the impact of the COVID-19 crisis on inequality can be viewed month by month. In addition to several interactive charts for analysing the impact of the crisis on income distribution, we also offer the possibility to download the data so that anyone wishing to analyse the underlying trends in further detail can do so.

Spain: comparison of the distribution of the different databases by age and gender

Percentage (%)

	CaixaBank	Wage Structure Survey	Labour force survey
	(2020)	(2014)	(Q4 2019)
Gender			
Male	54.0	52.0	52.0
Female	46.0	48.0	48.0
Age			
15-19	1.0	–	0.8
20-29	18.0	12.0	14.5
30-39	25.0	31.0	24.6
40-49	28.0	30.0	30.5
50-59	21.0	21.0	23.3
60+	7.0	5.0	6.0
Sample size	3,028,204	209,473	≈200,000

Note: *The table shows the distribution of individuals by age and gender from three different samples: CaixaBank internal data, the wage structure survey (WSS) and the labour force survey (LFS).*
Source: *CaixaBank Research, based on internal CaixaBank data and data from the wage structure survey (National Statistics Institute).*

The following articles present an initial assessment of the impact of the economic crisis on income distribution, both for the population as a whole and for different groups and at the regional level. As can be seen from this initial analysis, the crisis has had a profound impact, the role of public transfers is crucial for a large portion of the population, and there are several groups that are particularly suffering. When it comes to the information we have available to help us deal with the pandemic, this time really is different.

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