



**JOCLAD 2021**



UNIVERSIDADE  
BEIRA INTERIOR

**COVID-19 PANDEMIC**  
An unprecedented shock to consumer  
confidence


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**Overview**

- Consumer confidence: why does it matter?
- COVID-19: The shock to consumer confidence;
- Questions and discussion

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## Consumer confidence: why does it matter?

The information from official statistics is often made available with some delay regarding the events we wish to study;

Business and consumer surveys fill in this need: the information is made available at the end of the month it reports to;

The consumer confidence indicator, although of qualitative nature, shows a strong adherence to relevant macroeconomic variables;

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## Consumer confidence: why does it matter?

The consumer confidence indicator is calculated with information collected via survey, in the first two weeks of each month, where consumers are asked about their opinions and expectations regarding a set of economic variables;

The answers are compiled using balances of opinions: the difference in percentages of positive answers and negative answers. In the specific case of the consumer survey, there is more than one positive (and negative) possible answer (the very positive (++) and very negative (--)) answers have a weight of 1 and the positive (+) and negative (-) answers have a weight of 0.5);

$$\text{Balance} = (\%ans(++)*1 + \%ans(+)*0.5) - (\%ans(-)*0.5 + \%ans(--)*1)$$

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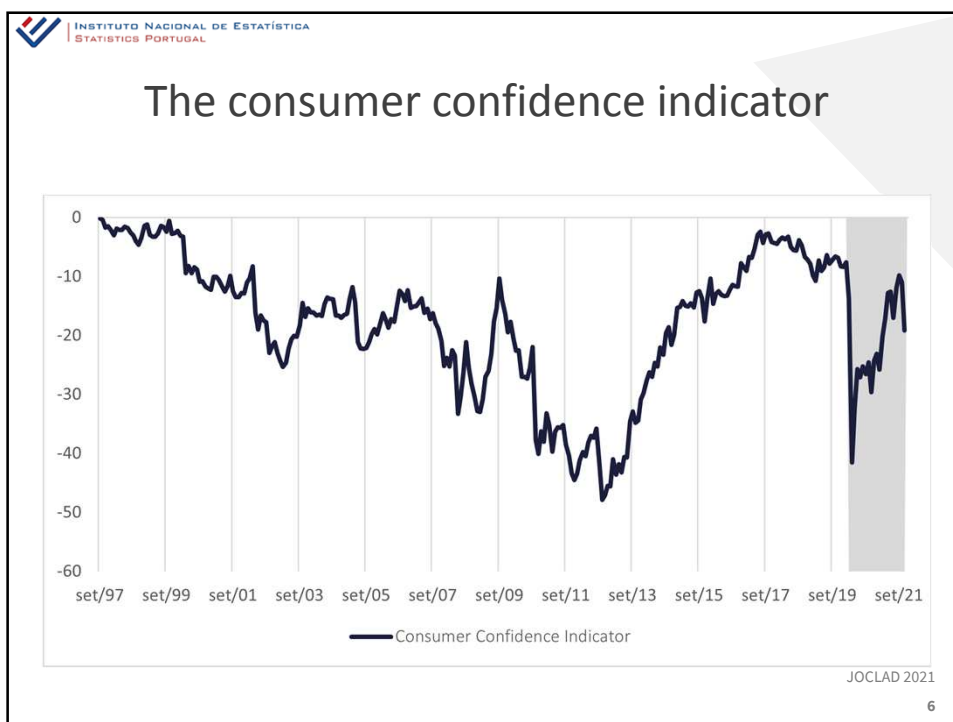
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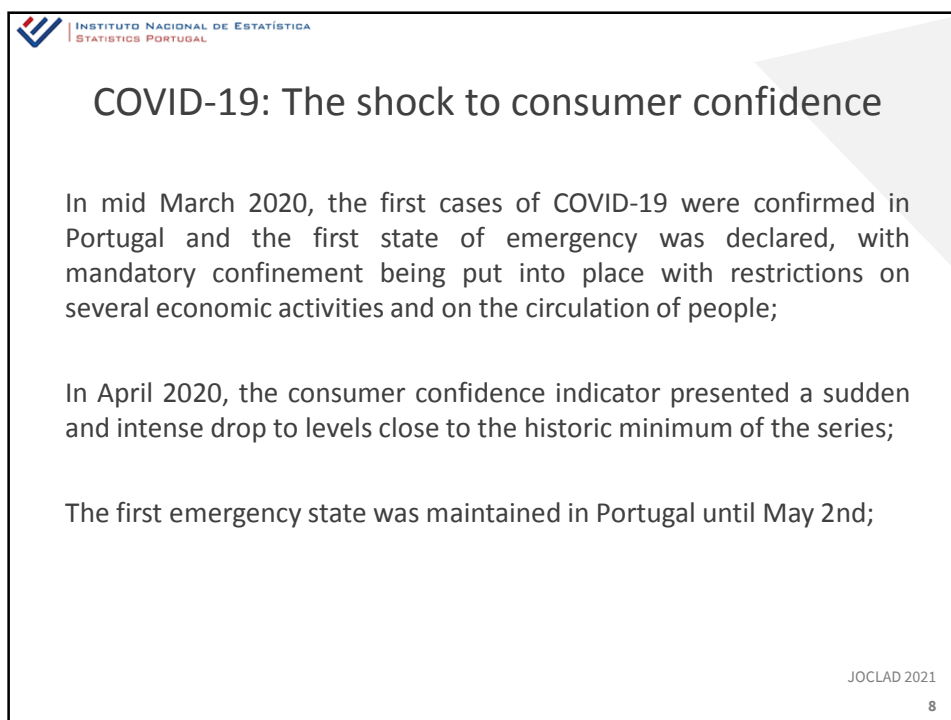
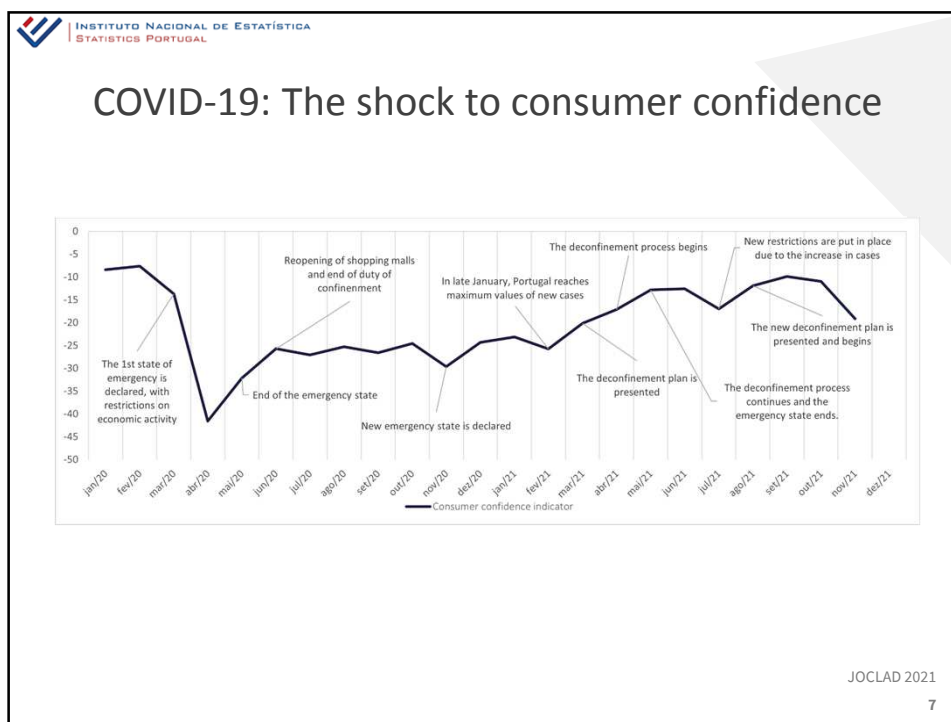
## Consumer confidence: why does it matter?


The consumer confidence indicator is the simple average of four balances:

- opinion on past evolution of household's financial situation;
- perspectives on the future evolution of household's financial situation;
- perspectives on the future evolution of country's economic situation;
- perspectives on the future realization of major purchases;

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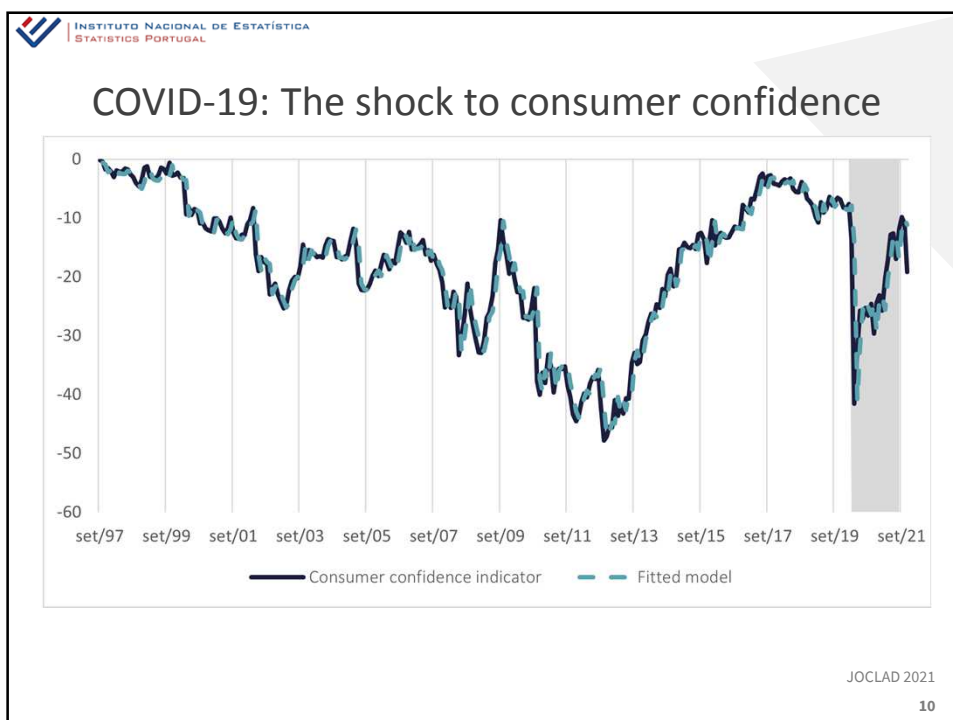
## COVID-19: The shock to consumer confidence


Consumer confidence tends to exhibit an autoregressive behavior (opinions and perspectives do not tend to shift abruptly over short periods of time);

Given this insight, can consumer confidence be successfully modelled through an autoregressive process? How does the model fare with the events of the pandemic?

An autoregressive model of the first order (AR (1)) was estimated using the observations from October 1997 to December 2019;

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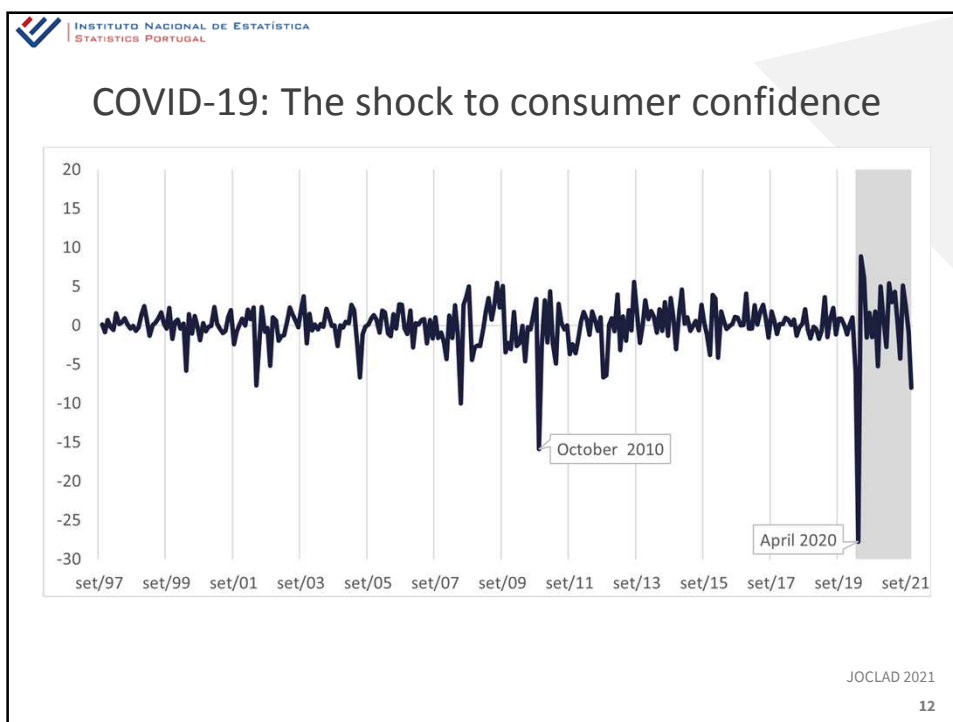
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## COVID-19: The shock to consumer confidence

Despite being a simple model, the fit to the original series is quite satisfactory;

Higher order of autoregressive models were also tested, and the AR(1) specification was selected for this exercise due to the quality of the fit combined with the parsimony of the model;

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## COVID-19: The shock to consumer confidence

As we can see from the residuals, the model diverges considerably from what was observed in April 2020;

This divergence indicates the magnitude of the surprise that the pandemic represented, stronger than any previously verified;


When we observe the residuals from higher order autoregressive models, we see that, despite some differences, the residual for April 2020 is unprecedented across specifications;

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## COVID-19: The shock to consumer confidence

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## COVID-19: The shock to consumer confidence

Although technically simple, this exercise allows us to understand that the pandemic represented an unprecedented shock to consumer confidence, even more intense than the one registered in October 2010, where the financial difficulties of the country became more evident;

Consumer confidence seems to be successfully modelled through an autoregressive process in general, but this is not the case for the unprecedented surprise the pandemic represented;


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## Questions / Comments?

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Thank you for your attention

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