The cushioning effect of fiscal policy in the EU during the COVID-19 pandemic

EUROMOD Research Workshop

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Outline

1. Motivation
2. Research Question
3. Method and Data
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Motivation I

- The COVID-19 pandemic hit Europe severely in 2020
  - Households faced an increased risk of unemployment due to lockdown measures and general reduction in economic activity.

- **Automatic stabilizers** insure households against the risk of income loss
  - BUT strong variation of Automatic Stabilization across EU Member States.

- To further cushion the drop in household incomes, EU member states implemented several additional (discretionary) policy measures
  - With the support of the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE)
Motivation II

Rapidly increasing literature on the impact of the COVID-19 pandemic on household income

- Using **up-to-date survey data** (Clark et al. (2020); Menta (2021))

- **Nowcasting** microdata to the new labour market characteristics:
  - **Reweighting** the underlying survey data (Almeida et al. (2021))
  - Modelling **labour market transitions** (Brewer and Tasseva (2020); Bruckmeier et al. (2020); Figari and Fiorio (2020); Canto-Sanchez et al. (2021) etc.)
Research Questions and Contribution

Research questions:

1. To what extent have the tax-benefit systems of the EU Member States protected household incomes during the COVID-19 pandemic?

2. Which policies stabilized the household income? What was the role of monetary compensation schemes (such as Short Time Work)?

Our contribution:

1. A first assessment of the impact of COVID-19 on household income for all EU Member States in a comparable manner (using modelling labour market transitions).

2. Detailed estimation of the **cushioning effects** of taxes and social transfers during the COVID-19 pandemic for all EU Member States.
Methodology and Data I

What we do:

▸ Use EUROMOD, with data from the 2018 EU-SILC. Simulation of **2020 tax-benefit rules**.

▸ Adjusted micro-data to labour market conditions in 2020, simulating labour market transitions.

▸ **Detailed statistics** (administrative country-level data or Eurostat data):
  ▸ transitions to unemployment or monetary compensation schemes
  ▸ duration in unemployment or monetary compensation schemes
  ▸ hour reduction in monetary compensation schemes

▸ Various levels of disaggregation (gender, sector, self-employed/employees)
Methodology and Data II

- Comparison of two alternative scenarios for 2020:
  - No COVID-19 labour market shock: No transitions are simulated.
  - COVID-19 labour market shock: Transitions to monetary compensation schemes and unemployment are simulated.

- Holding policies constant, this comparison allows us to focus on the extent to which 2020 policies cushioned
  - the **incomes of the households** that underwent these labour market changes
  - potential **inequality** increase
  - potential **poverty** increase
We follow the approach of Dolls et al. (2012), who define the income stabilising coefficient (ISC) as:

\[
ISC = 1 - \frac{\sum_i \Delta Y_i^D}{\sum_i \Delta Y_i^M} = \frac{\sum_i \Delta Y_i^M - \sum_i \Delta Y_i^D}{\sum_i \Delta Y_i^M}
\]

where \(\Delta Y_i^D\) is the change in disposable income and \(\Delta Y_i^M\) is the change in market income for an individual \(i\).

An \(ISC = 0.8\) would imply that 80% of a shock to the market income is absorbed by the tax-benefit system.
We can further decompose the effect of several tax-benefit instruments:

\[
ISC = \frac{\sum_i \Delta Y^M_i - \sum_i \Delta Y^D_i}{\sum_i \Delta Y^M_i} = \frac{\sum_i \Delta T_i - \sum_i \Delta UB_i - \sum_i \Delta MC_i - \sum_i \Delta OB_i}{\sum_i \Delta Y^M_i}
\]

where \( T_i \) are taxes and social insurance contributions of individual \( i \), \( UB_i \) unemployment benefits, \( MC_i \) monetary compensation schemes and \( OB_i \) other benefits and pensions.
Change in incomes – Member States

![Chart showing change in incomes for different countries with market income and disposable income indicated]

- Market income
- Disposable income

AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK
Income stabilisation coefficient - EU

Graphs by CTRY

Taxes and SICs  Monetary compensations  Unemployment benefits  Other benefits and pensions

EU

Q1  Q2  Q3  Q4  Q5  TOTAL

Taxes and SICs
Monetary compensations
Unemployment benefits
Other benefits and pensions
Income stabilisation coefficient - MS

[Bar chart showing various countries and their respective income stabilisation coefficients for Taxes and SICs, Monetary compensations, Unemployment benefits, and Other benefits and pensions.]
AROP rate and Income inequality - EU

Change in AROP rate (pp) for baseline, COVID-19 (fixed PL), and COVID-19 (floating PL).

Gini Coefficient for Market Income and Disposable Income, showing changes between baseline and COVID-19 conditions.

AROP rates - Member States

[Bar chart showing changes in AROP rates for different Member States, comparing baseline and COVID-19 (fixed PL) and COVID-19 (floating PL) scenarios.]
Gini Coefficient - Member States

Change in Gini Coefficient

AT BE BG CY CZ DE DK EE EL ES EU FI FR HR HU IE IT LT LU LV MT NL PL PT RO SE SI SK

Market Income
Disposable Income
First attempt to evaluate the effectiveness of the 2020 tax-benefit policies in cushioning the impact of labour transitions in all EU countries.

Most EU countries experienced large drops in market incomes. Poorer households hit hardest.

Tax-benefit systems absorbed a significant share of the COVID-19 shock and were able to offset – in most countries – the regressive nature of the shock on market incomes.
Monetary compensation schemes played a major role in cushioning the effect of adverse labour market transitions.

... although in aggregate terms they represent a minor component of household disposable income.

AROP rates: increases if measured using a fixed poverty line / stable or slightly declining if measured using a floating poverty line.

Evidence of stable or slightly declining inequality across EU Member States.
Future steps

- Update/improve statistics used to model labour market transitions.
  - Capture whole year 2020.
  - Further homogenise sources of information and levels of disaggregation.

References


Thank you