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# Gender income inequality during the COVID-19 pandemic in Europe: the role of government response[1]

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## Abstract

This study provides the first comparative analysis of how COVID-19 policy responses influenced gender income inequality across 28 European countries. Using a quasi-experimental approach that combines microsimulation and nowcasting techniques, we construct counterfactual scenarios to estimate the net effects of pandemic-related labor market shocks and government interventions on the incomes of women and men. By employing a gender-sensitive measure of disposable income, we address intra-household inequality often overlooked in distributional research. Our findings show that although both working age men and women experienced income losses in 2020, these were significantly mitigated by tax-benefit policies. Men, on average, benefitted more from furlough due to greater employment losses and higher pre-pandemic earnings, while women benefitted from the progressive design of other policy measures. On average, the ratio of women's to men's disposable incomes rose slightly, indicating a temporary narrowing of the gender income gap. These results highlight the equalizing role of expansive social protection during pandemic and underscore the importance of gender-aware policy analysis.

**JEL codes**: : D13, D31, J16

**Keywords**: gender inequality, income distribution, tax-benefit system, COVID-19, Europe

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[1] An earlier version of results presented in this paper was presented in the report written by the authors upon request of the European Institute for Gender Inequality, see: EIGE. (2023) Evidence to action: gender equality and gender mainstreaming in the COVID-19 recovery. Vilnius: European Institute for Gender Equality.

The results presented here are based on EUROMOD and UKMOD models. For EU countries we use EUROMOD version I4.62+ with 2019 EU-SILC data made available by Eurostat. For the UK we use UKMOD version B1.07 with 2019/20 FRS data made available by the Department for Work and Pensions via the UK Data Archive. Having been originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 EUROMOD is maintained, developed and managed by the Joint Research Centre (JRC) of the European Commission, in collaboration with Eurostat and national teams from the EU countries. UKMOD is maintained, developed and managed by the Institute for Social and Economic Research (ISER) at the University of Essex. We are indebted to the many people who have contributed to the development of EUROMOD and UKMOD. The results and their interpretation are the authors' responsibility.

## 1. Introduction

The COVID-19 pandemic had a profound impact on Europe's economy in 2020, leading to a 5.6% decline in GDP across the EU-27 (EUROSTAT, 2025) and a record 10.4% drop in the UK (ONS, 2025) – surpassing the contraction seen during the 2008-09 global financial crisis. Households faced heightened unemployment risks and were forced to scale back economic activity due to lockdowns. Unlike the austerity policies that followed the Great Recession of 2008-09, governments in 2020 responded with unprecedentedly generous support measures (O'Donoghue et al., 2022). These included wage subsidy or furlough schemes to replace lost earnings, along with adjustments to tax-benefit systems – such as expansions in parental and sick leave, social assistance, ad hoc cash transfers, and tax relief. A key innovation was the broadening of social protection eligibility, including relaxed contribution requirements and inclusion of previously excluded groups like the self-employed (Tavora and Rubery, 2021). As a result, public social spending across the OECD rose by nearly 3 percentage points of GDP – from about 20% in 2019 to 23% in 2020 – driven mainly by increased spending and, to a lesser extent, shrinking GDP (OECD, 2023). This marked a clear shift in social policy priorities, with pre-pandemic concerns about public debt largely set aside (Moreira and Hick, 2021).

The literature shows that the 2008-09 global economic crisis impacted male employment more than female employment, while subsequent austerity policies were particularly harsh on women – a gendered shift described as the move from a "he-cession" to "sh(e)-austerity" (Rubery, 2014; Perivier, 2018). Rubery (2015) further argues that austerity measures in Europe disrupted – and potentially reversed – progress toward gender equality, a key principle of European policy since the mid-1990s. She also notes that these policies have not been sufficiently scrutinized for their gendered effects.

A substantial body of research on the effects of the COVID-19 pandemic highlights its pronounced gendered impact on the division of paid and unpaid work within households. Numerous studies found that mothers' paid work was more adversely affected than that of fathers, and that mothers took on significantly more childcare and housework than their partners (Alon et al., 2021; Alon et al., 2020; Andrew et al., 2022; Fabrizio et al., 2021; Dang and Viet Nguyen, 2021; Hupkau and Petrongolo, 2020; Wielgoszewska et al., 2023; Collins et al., 2021). This is particularly concerning given women's pre-existing disadvantages in the labor market.

However, as is the case with austerity policies, there is a lack of studies examining the gendered impacts of government income support measures during the pandemic. While these anti-crisis policies were formally gender-neutral, their effects likely differed due to gender-based differences in labor market characteristics, tax liabilities and benefit entitlements. Identifying the impact of public policies on the economic resources of women and men is inherently difficult, as most individuals live in couples where income is assumed to be shared. Calculating individual disposable incomes within households is complex, and to date, only one study – focused on Ireland – has assessed the gendered effects of pandemic-related policies (Doorley et al., 2021). Their findings suggest a temporary reduction in gender income disparities during the pandemic, indicating that policy interventions may have helped narrow income inequalities between women and men, at least in the short term. This promising result highlights the potential role of government tax-benefit interventions mitigating pre-existing gender disparities.

This article makes a novel contribution to the literature on gender inequality by providing a comprehensive assessment of the differential impact of government policy responses during the COVID crisis on the economic situation of women and men across 28 European countries. Using microsimulation and nowcasting techniques, we construct counterfactual scenarios for 2020 – with and without the labor market shock caused by lockdowns, and with and without policy interventions. This quasi-experimental approach

allows us to isolate the effects of specific factors while holding others constant, thereby addressing endogeneity concerns and enabling a clearer identification of the direct impact of policy changes. Our analysis captures multiple dimensions of gender inequality in economic resources, including differences in employment, working hours, earnings, and individual disposable incomes – accounting for both taxes paid and benefits received. While we do not address non-monetary aspects of gender inequality, such as unpaid care work or domestic responsibilities, which are undeniably important, our focus on economic outcomes fills a critical gap in the literature by quantifying how public policy responses shaped gendered economic disparities during the pandemic.

## 2. Evidence on the gendered impacts of tax-benefit policies

Prior research on gender inequality in advanced nations has highlighted numerous challenges faced by women in the labor market in terms of participation, employment, and earnings relative to men (Blau and Kahn, 2017; Olivetti and Petrongolo, 2016; OECD, 2017). Factors such as the 'motherhood penalty' and low wage occupations predominantly held by women, are key contributors to women's lower wages (Budig and England, 2001; Rubery and Grimshaw, 2015). However, the ultimate incomes of men and women are shaped not only by earnings but also by non-market income sources, such as private transfers, and by welfare state taxes and transfers. The tax-benefit system can alleviate the gender earnings gap by redistributing between men and women, both directly and through the work incentives it generates (Gornick, 2004; Grown & Valodia, 2010; Ponthieux & Meurs, 2015). Higher earnings lead to higher taxes for men, while women, often with shorter contribution histories and lower earnings, tend to have lower entitlements to contributory benefits such as pensions. Simultaneously, lower income makes women more dependent on means-tested benefits, and their caregiving responsibilities make them more reliant on public services.

Analyzing the gender impact of tax-benefit policies is crucial for both equity and efficiency reasons (Himmelweit, 2002). From an equity perspective, understanding how policies differently affect men and women helps ensure that outcomes are fairer and that policies do not exacerbate existing gender inequalities. Gender analysis can reveal when policies worsen disparities, making the case for corrective measures. Moreover, gender-impact assessments can create political pressure for more gender-sensitive policies in the future. From an efficiency standpoint, since men and women may respond differently to policies, overlooking these differences can lead to ineffective outcomes. Therefore, a gendered analysis not only reveals direct impacts but also helps understand the broader behavioral responses to policy changes.

Collecting evidence on the differential treatment of men and women by government tax-benefit policies is challenging, as disposable income is typically measured at the household level. Therefore, research primarily focused on the gender income and poverty gap between single women and men, especially lone parents (Christopher et al., 2002; Brady and Burroway, 2012; Harkness, 2022). Some studies took an alternative route and challenged the conventional assumptions of full income pooling and equal sharing by constructing individual disposable income measures (Jenkins, 1991; Sutherland, 1997; Figari et al., 2011; Doorley and Keane, 2023; Avram et al., 2016; Avram and Popova, 2022; Meulders and O'Dorchai, 2010). This typically involves using alternative assumptions about the intrahousehold redistribution of resources, such as minimal or partial income pooling, whereby all or some part of incomes received individually are attributed to the individual. Common sources of income, such as housing benefits or social assistance, are then shared in some way among all household/benefit unit members.

Using individual income as a measure of well-being can be justified based on three considerations. Firstly, it is supported by non-unitary models of household decision-making, whereby the bargaining power of individuals within the household depends on the resources they would command if the relationship broke down (Himmelweit et al., 2013; Lundberg and Pollak, 1996). Secondly, a consistent finding in the empirical literature on intra-household allocation is that a woman's consumption/living standard in the household is strongly correlated with her share of earnings (Bennet, 2013; Bonke, 2015) or, more broadly, her share of income (Cantillon, 2013; Himmelweit, Santos, Sevilla, & Sofer, 2013; Pahl, 1983). Thirdly, examining individual income allows capturing not only gender inequality in consumption but also in other dimensions important to individual well-being, such as status, personal autonomy, and control over one's life (Pahl, 2005).

Studies employing individual measures of disposable incomes typically find that women's incomes are consistently lower than those of men (Figari et al., 2011; Avram and Popova, 2022; Doorley and Keane, 2023; Fuenmayor et al., 2020; Avram et al., 2016), although less so if partial income pooling assumptions are applied (Avram and Popova, 2024). The gender gap in earnings appears to be higher than the gender gap in incomes, suggesting that taxes and transfers have an equalizing effect. Cross-country variations in the redistributive effect of policies result in varying ratios of female to male disposable incomes, ranging from 60 per cent in Germany to 84 per cent in Finland (Avram and Popova, 2022). The largest impact in reducing the gender income gap comes from old-age pensions and survivor benefits (for the elderly) and personal income taxes (for the working-age population). Within-couple equalization is more pronounced in countries with individual income tax systems, while joint taxation disincentivizes women from increasing their hours or earnings. Sociodemographic characteristics also play a role, with a higher gender income gap observed for the elderly, one-earner couples, the low-educated, and married individuals.

We are aware of only one study that has assessed the impact of government policies during the pandemic on women's and men's disposable incomes, focusing on Ireland (Doorley et al., 2021). That study found that the cushioning effect of Ireland's tax-benefit system on the gender income gap doubled during the pandemic. Our study provides the first comprehensive cross-country evidence on how the pandemic affected gender income inequality across Europe. By comparing outcomes across 28 countries, we not only highlight variations in policy effectiveness but also draw valuable insights into which interventions may help mitigate gender disparities. Crucially, we assess the net effects of both the labor market shock and government responses on women's and men's incomes, shedding light on their potential equalizing – or unequalizing – impact.

## 3. Methodology and data

Quantifying the impact of the pandemic on income distribution poses a challenge since it requires constructing a counterfactual scenario, while the 2020 income data available in surveys inherently reflects the crisis situation. Microsimulation techniques offer a solution to this complexity. Several studies have employed such techniques to replicate 2020 labor market conditions in 2019 survey data (Brewer and Tasseva, 2021; Figari and Fiorio, 2020; Christl et al., 2021; Doorley et al., 2021; Cantó et al., 2021; Christl et al., 2022). Their findings suggest that households experienced a significant decline in market income during 2020, with poorer households being disproportionately affected. However, the tax-benefit systems partially absorbed the impact of the COVID-19 shock, resulting in a substantially smaller and more progressively distributed fall in disposable income. Furlough schemes were pivotal in shielding household incomes against the effects of the crisis.

Our study employs microsimulation models EUROMOD and UKMOD to assess how COVID-19 impacted the income distribution and to develop a gender-sensitive measure of individual disposable income. These models are cutting-edge tools for analyzing income distribution in the EU and the UK. We use them to allocate direct taxes, social insurance contributions, and cash transfers to individuals in household surveys, allowing us to compare incomes before and after taxes and transfers. Most tax-benefit instruments are fully simulated using survey data on individual and household characteristics, along with actual rules established in the national legislation. The simulations also consider benefit non-take-up and tax evasion where applicable. Therefore, we can model taxes and benefits for any policy year using older (or newer) data, as long as market incomes are uprated to that year. This allows us to disentangle the *net effects of changes in policies* from the effects of environment in which they operate. The net policy effects can, in turn, operate through two distinct channels: *discretionary policy actions* and *automatic stabilizers* (Paulus and Tasseva, 2020). Discretionary policy actions involve the implementation of new tax-benefit instruments or adjustments aimed at achieving specific objectives, such as mitigating the adverse impacts of crises. On the other hand, automatic stabilizers entail the automatic adjustments of benefit entitlements and tax liabilities in response to changes in earnings, employment status, or individual characteristics. For instance, unemployment benefits may compensate for income shortfalls following job loss, while progressive taxes may reduce net gains as market incomes increase.

### 3.1 The counterfactual scenarios

We employ EUROMOD (version I4.62+) to simulate 2020 policies using 2019 EU-SILC data (with an income reference period of 2018) and UKMOD (version B1.07) to simulate 2020 policies using 2019 FRS data (with an income reference period of April 2019/March 2020). In essence, we forecast both the pre- and post-COVID-19 income distribution of 2020 using the 2019 data. Our methodology follows the approach developed and implemented by the Joint Research Centre of the European Commission in close collaboration with the Flash estimates team at Eurostat, EUROMOD national teams, and the University of Essex (see Christl et al. (2024) for the most recent empirical application). This method utilizes detailed labor market statistics from Eurostat for the EU countries and ONS for the UK in order to predict individual transitions from employment to unemployment or reductions in working hours and entry into furlough schemes, thereby forecasting labor market conditions in 2020 based on the underlying 2019 EU-SILC data.

Importantly, keeping the data constant enables us to better isolate policy effects, avoiding confounding influences from changes in population characteristics over time. The EU-SILC and FRS datasets for the years 2020/2021 are now available; however, we have decided against using them due to the fact that the interviews during the pandemic were conducted via telephone, and the sample sizes for some countries are considerably smaller. For instance, in the UK, the 2020/21 FRS sample comprised 10,007 households, whereas the 2019/20 survey included 19,210 households. Given the data collection issues, for several EU countries, input data for EUROMOD for 2020/2021 was not generated at all. As an additional validity test, the findings of a recent study on the pandemic policy effects in Austria, based on income data from SILC for 2020 and 2021, appear to be consistent with those of three other studies for Austria that used microsimulation and nowcasting approaches (Geyer and Groß-Wohlgemuth, 2025).

Given the novelty of the COVID related policy measures, it is crucial to disentangle the effects of deliberate policy choices aimed at mitigating the repercussions of pandemic shock from the automatic mechanisms inherent in the tax-benefit system. However, compiling a comprehensive list of COVID-related policies for each country presents a challenge. While some policies like furlough schemes are readily identifiable as new programs, many governments have also assisted their populations through adjustments to existing tax-benefit policies, such as top-ups to sick leave benefits, social assistance, and the introduction of various ad-

hoc cash payments and tax reductions. These adjustments may be implemented as either new policy instruments or integrated into existing ones depending on the country. Nevertheless, the microsimulation models we employ enable us to evaluate the impact of discretionary policies through counterfactual scenarios.

We employ the following three scenarios, all of which are implemented using the same dataset:

**Scenario 1: No COVID-19 shock scenario** (or 2020 as if COVID-19 had not happened):

- 2019 tax-benefit system where all monetary policy parameters are uprated to 2020 using consumer price index (CPI),
- 2019 labour market data, market incomes uprated to 2020 using CPI.

**Scenario 2: COVID-19 shock without COVID-19 policies**:

- 2019 tax-benefit system with policy parameters uprated to 2020 using CPI (as in Scenario 1),
- 2019 labour market data with simulated labour market shocks (unemployment or reductions in working hours); market incomes uprated to 2020.

**Scenario 3: COVID-19 shock with COVID-19 policies**:

- 2020 tax-benefit system (including furlough schemes and other measures),
- 2019 labour market data with simulated labour market shocks, and market incomes uprated to 2020 (as in Scenario 2).

Importantly, to enable meaningful cross-country comparisons, all new (elements of) policies introduced in 2020 that go beyond uprating in line with CPI, are considered as discretionary COVID measures. Among these, the furlough schemes stand out as the most significant policy innovation adopted by all 28 countries included in the study. The key features of furlough schemes simulated in each country are outlined in Supplementary Annex, Table A1. While generosity varied across countries – ranging from less generous schemes in Eastern Europe to full salary replacement in countries like Denmark and the Netherlands – most provided relatively high replacement rates, typically over 70% of gross pay. The actual take-up of furlough schemes was simulated rather than the statutory rules, whenever this information was available. Still, it's worth noting that our simulations may potentially overestimate the overall impact of these schemes. Additionally, the accuracy of simulating furlough schemes for the self-employed may suffer to some extent, as these schemes often relied on self-employment incomes received over multiple previous years, whereas EU-SILC data only captures income from the past year only.

The difference between S2 and S1 captures the impact of COVID-19 related labor market shocks and of automatic stabilizers (**Labor market effect = S2 – S1**). The difference between S3 and S2 shows the net impact of COVID-19 related discretionary policy measures (**Policy effect = S3 – S2**). Finally, the difference between S3 and S1 captures the total effect of the COVID-19 labor market changes and the full response of the tax-benefit system, including the impact of automatic stabilizers and the discretionary COVID-19 policies (**Total effect = S3 – S1**).

### 3.2 Gender-sensitive measure of disposable income

Utilizing microsimulation models significantly simplifies the construction of a *gender-sensitive measure of disposable income* that addresses intra-household income inequality because it allows for the accurate measurement of taxes and social insurance contributions paid by each individual, as well as individual-level benefits, such as parental leave or unemployment benefits. Following the methodology outlined by Avram

and Popova (2022), we reconstruct individual incomes of women and men, assuming minimal income pooling within households. This means that individuals retain all income received in a personal capacity, including earnings and other market incomes (i.e. private pensions) and all individual-level benefits minus individual taxes and SIC. Common sources of income, such as family benefits or investment income, are divided equally among all adults in the relevant assessment unit. A comprehensive overview of the income splitting procedure applied is provided in Supplementary Annex, Table A2.

We account for economies of scale in consumption and differences in household size and composition by adjusting the 'modified OECD' scale for use with individual incomes. The standard 'modified OECD' scale applied to household income assigns a weight of 1 to the first adult, 0.5 to subsequent adults, and 0.3 to children. In our case, the weights of adults living in the same household are added and divided by the number of adults present. Secondly, we take into account the financial cost of children by attributing the weight of children to their parents. When both parents are present, it is assumed that the costs of their children are split equally.

This individual disposable income measure based on the assumption of minimal income pooling, is used for all the subsequent analyses. In the absence of information regarding the actual intra-household distribution of income, our individual income measure derived using the minimal income pooling assumption represents an upper bound of the degree of intra-household gender inequality. This measure can be thought of a proxy of the economic situation of an individual in the event of household dissolution, when income pooling comes to an end. Conversely, equivalized household income (the conventional measure) provides a lower bound, as it disregards inequality within couples. To enable meaningful cross-country comparisons of mean incomes, individual incomes of women and men are always shown as percentage of the national median equivalized disposable income calculated in the 'standard' way, i.e. pooling all incomes within a household, equivalizing it (using the 'modified OECD' scale) and attributing it to all members of the household.

We concentrate on assessing the pandemic's impact on different segments of the working-age population (18-64 year olds), as the COVID-19 pandemic has predominantly affected the employment and incomes of this demographic group. It's important to note that our results come with the caveat that our simulations are essentially "static", capturing only the direct effects of taxes and social transfers on income distribution between women and men. Additionally, our methodology is solely suited for analyzing the initial distributional impacts of direct taxes and cash transfers, or the effects assuming no behavioral changes resulting from the introduction of COVID-19 policies. We believe this assumption is valid, given the temporary nature of COVID-19-related policies, which were phased out in 2021. Finally, it is crucial to recognize that our methodology is insufficient for establishing a causal effect of changes policies on income inequality between women and men.

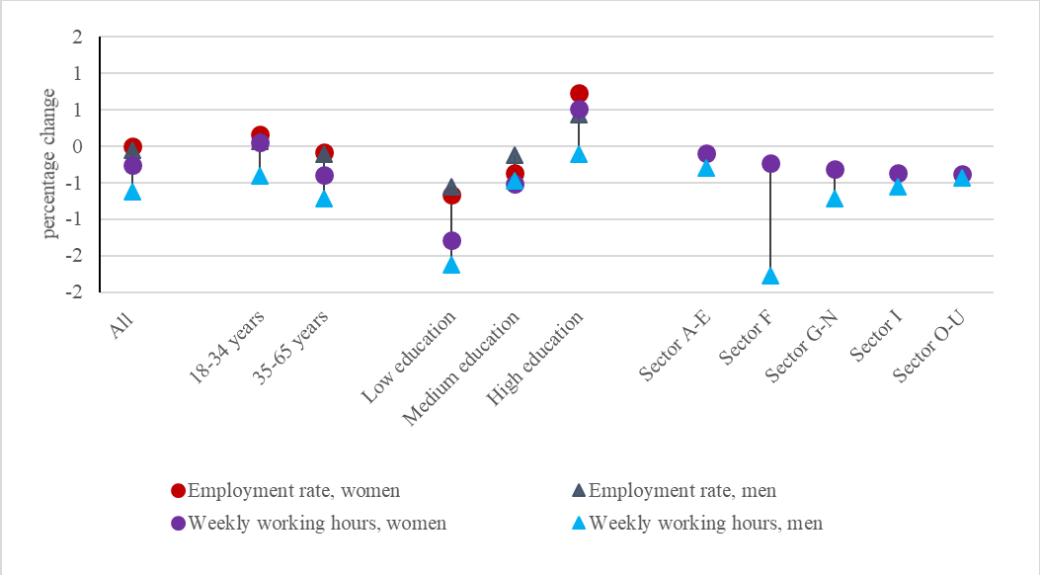
### 4.1 COVID-19 labor market shock: changes in employment, working hours and earnings

Table A3 (Supplementary Annex) presents the impact of the COVID-19 shock on labor market outcomes across 28 European countries, comparing Scenario 1 (no COVID shock) to Scenario 2 (COVID shock without COVID policies). While on average across all the countries employment rates both for women and men hardly changed, this masks significant variation across countries. Notably, women in Luxembourg and Portugal, saw substantial increases in employment (3.2 and 1.7%, respectively). However, in Ireland they fell by 1.3%. Employment rate for men also fell most sharply in Ireland (-2.2%). On average, men experienced more pronounced declines in their working hours compared to women, with the largest

reductions observed in the UK (-5.2%) and Ireland (-2.4%). These findings indicate a gendered divergence in labor market outcomes, with women demonstrating more resilience, particularly in terms of employment rate, while men faced more consistent and substantial declines both in terms of their employment and working hours.

As shown in Figure 1, the pandemic's impact also varied according to age, education, and sector. Younger individuals (aged 18–34 years) generally experienced more favorable outcomes, with women in this age group seeing a modest increase in employment and a slight rise in working hours. By contrast, individuals aged 35–65 years were more negatively affected, with both men and women experiencing a reduction in working hours.

**Figure 1:** Average changes in labour market outcomes due to the 2020 COVID-19 shock, by age, education, and sector, across 28 countries

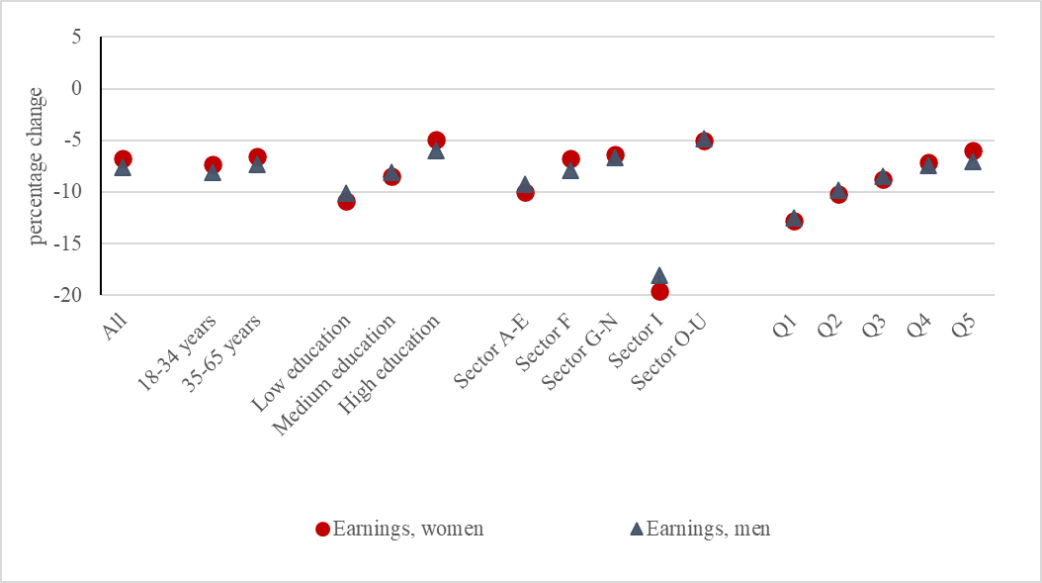



Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.
Notes: The figure shows unweighted averages for 28 countries. Sample includes working age individuals only (aged 18-64 years). The figure shows differences between Scenario 2 (COVID shock without COVID policies) and Scenario 1 (no COVID shock), as percentage of Scenario 1, or (S2-S1)/S1*100.
Level 1 Codes from the Statistical Classification of Economic Activities in the European Community Rev. 2 (2008) are used for groupings: A-E = Agriculture, Forestry, Fishing, Mining, Manufacturing, Utilities (Electricity, Gas, Water);
F = Construction; G-N (excluding I) = Wholesale, Retail, Trade, Transport, Information, Finance, Real Estate, Professional and Administrative Services; I = Accommodation and Food Services; O-U = Public Administration, Education, Health, Arts, Other Services, Household Activities, and Extraterritorial Organizations.

Highly educated workers experienced gains in employment rates and working hours, with women's employment rising by 0.7% and their working hours increasing by 0.5%. For highly educated men, employment rose by 0.4%, while working hours slightly declined. Conversely, individuals with low educational attainment faced more significant negative impacts, with both women and men experiencing reductions in employment (-0.7% for women and -0.6% for men) and working hours (-1.3% for women and -1.7% for men).

Sectoral differences also played a critical role. Men employed in the construction sector (Sector F) and in industry, trade, and business services (Sectors G-N) experienced the largest reductions in working hours, with declines of -1.8% and -0.7%, respectively. In contrast, sectors with higher female representation, such as public administration, education, and healthcare (Sectors O-U), saw smaller declines in working hours, with both women and men in these sectors experiencing a reduction of -0.4%. These sectoral patterns underscore the relative resilience of women's employment and suggest that higher educational qualifications provided a buffer against the adverse labor market effects of the pandemic.

**Figure 2:** Average changes in earnings due to the 2020 COVID-19 shock




Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.
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Q signifies a quintile of individual earnings, where Q1 refers to 20% with lowest earnings and Q5 refers to 20% with the highest earnings. Quintiles are defined separately for women and men.

Turning to the impact of the labor market shock on earnings (see Table A3, Supplementary Annex), the shock was much more significant, with earnings declining by 6.7% for women and 7.6% for men, on average. Countries like Austria and Malta were among the hardest hit, with earnings dropping by over 20%. Earnings losses of over 10% were recorded in Ireland, UK, Slovakia, Italy and Greece. In contrast, Luxembourg stood out as the only country to record earnings growth for women (at 1.7%), although men's earnings experienced a modest decline of 0.5%. In the Scandinavian countries, the decline in earnings was relatively mild compared to the rest of Europe, less than 1% for both women and men in Finland, around 2.0% in Sweden, and 2.6% in Denmark. Overall, earnings for both genders were generally on a downward trend, with men's earnings often experiencing steeper declines in most countries. This pattern aligns with

the fact that men's employment and working hours were more significantly impacted by the pandemic, particularly in sectors where male employment is more concentrated, such as manufacturing and construction.

Figure 2 illustrates the patterns of earnings reductions caused by the 2020 COVID-19 shock by socio-demographic subgroups. The most substantial negative impacts are observed among the low-educated, those employed in the accommodation and food services sector, and the low-paid workers. Highly educated workers and public sector employees (sectors O-U) have experienced much smaller earnings declines. Sectoral variations show that women in accommodation and food services experienced the most substantial drop (-19.6%), exceeding men's losses (-18.0%), whereas in the highest earnings quintile, men's losses (-7.0%) exceeded women's losses (-6.0%). This suggests that while overall patterns of earnings loss were similar for both genders, the distribution of these losses differed, with women in low-paid jobs facing lightly steeper declines and men seeing greater reductions at the top of the earnings distribution.

### 4.2 Changes in disposable incomes: the role of the COVID labor market shock and discretionary policy response

In this section, we decompose the total effect of COVID-19 on individual disposable incomes of women and men in 2020, highlighting the role of COVID-induced labor market changes and automatic stabilizers (referred to as Labor Market Effect) versus the role of discretionary COVID-19 policy changes (referred to as Policy Effect). As shown in Table A4 (Supplementary Annex), on average across 28 countries, the labor market shock resulted in a reduction in individual disposable incomes, with women's incomes falling by 5.4% and men's by 6.6%. It is noteworthy, this decline is lower than the one recorded for earnings (see section 4.1) because individual disposable incomes depend not just on earnings but also on non-labor incomes and the individual's tax liabilities and benefit entitlements. However, the impact of discretionary COVID-19 policies in 2020 was largely positive, helping to absorb a large part of this shock. As a result, the total effect on individual disposable incomes was mildly negative across most countries, with women's incomes falling just by -0.4% and men's by -1.3%, on average.

The policy responses by design were broadly proportional to the severity of the labor market shock. For instance, in Austria and Malta, where the size of the shock was greatest, the impact of the discretionary measures was also the strongest. As a result, these countries experienced just a slight reduction in disposable incomes, predominantly affecting men. In contrast, Denmark, Finland, and Luxembourg, who were least affected by the labor market shock, still saw positive effects from policy measures, resulting in income growth during the crisis. Bulgaria experienced the highest total increase in disposable incomes, with both women and men benefiting from a 9% rise, largely due to the positive impact of discretionary policy measures, despite the relatively small labor market shock by international standards.

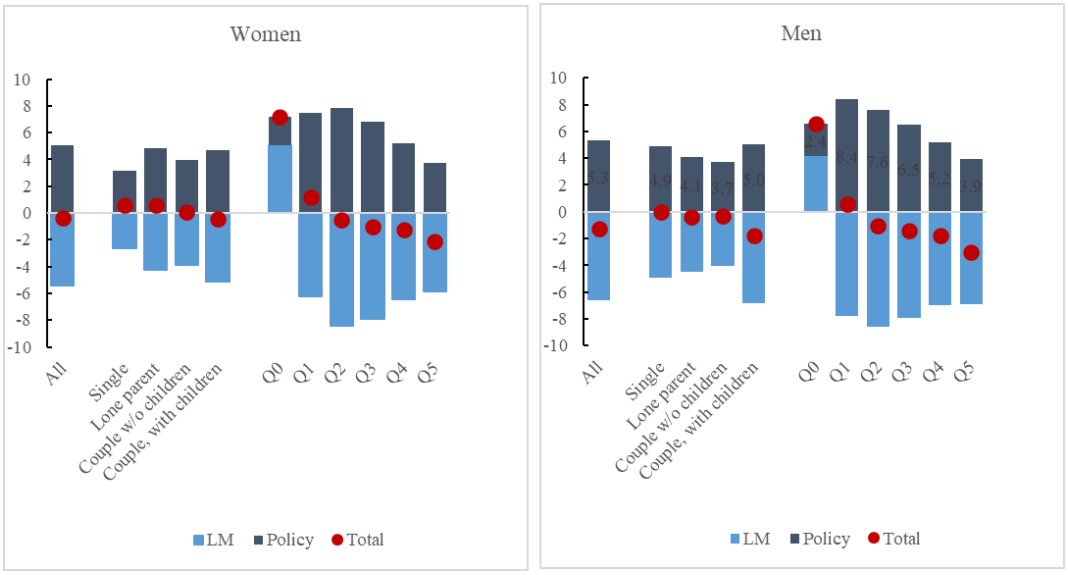
In Hungary and Italy, discretionary policies during the pandemic seemed to have had a negative impact, reducing incomes by more than 1% for both women and men. This negative effect indicates that in these countries the 2020 tax-benefit system, even with its additional discretionary COVID policies (S3), performed worse than the 2019 system, where all policy parameters were uprated by the 2020 Consumer Price Index (CPI) (S2).

Figure 3 shows that while discretionary COVID-19 policies largely mitigated the negative effects of the labor market shock for most individuals, the total impact varied by household type and earnings quintiles. For those out of work (Q0), both women and men saw substantial increases in disposable incomes (7.2%

and 6.6%, respectively). This effect was largely driven by the discretionary policy interventions during the pandemic. In contrast, individuals in higher earnings quintiles, particularly the top quintile (Q5), faced significant losses, with women's disposable incomes falling by -5.9% and men's by -6.9% due to the labor market shock. The policy response was not sufficient to fully counteract these losses, resulting in a negative total effect of -2.1% for women and -3.0% for men.

Among household types, singles and lone parents saw increases in disposable incomes, thanks to the discretionary policy measures. However, couples with children were more negatively impacted by the labor market shock, and despite some policy relief, the total effect remained negative for both women and men in this group. Overall, the results highlight that lower-earning groups benefited from the 2020 discretionary policy measures, while higher-earning individuals, particularly men, and families with children, faced income reductions that the policies did not fully offset.

**Figure 3:** Changes in mean individual disposable income in 2020: the role of COVID-19 labor market shock and the discretionary policy response (percent)




Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.
Notes: The figure shows unweighted averages for 28 countries. Sample includes working age individuals only (aged 18-64 years).
The figure shows changes in income between the three scenarios, measured in percentages. The following abbreviations are used: LM (S2-S1) = the effect of labor market changes and automatic stabilizers; Policy (S3-S2) = the effect of discretionary policies; Total (S3-S1) = LM effect + Policy effect.
Q signifies a quintile of individual earnings, which are defined separately for women and men. Individuals without earnings fall into Q0.

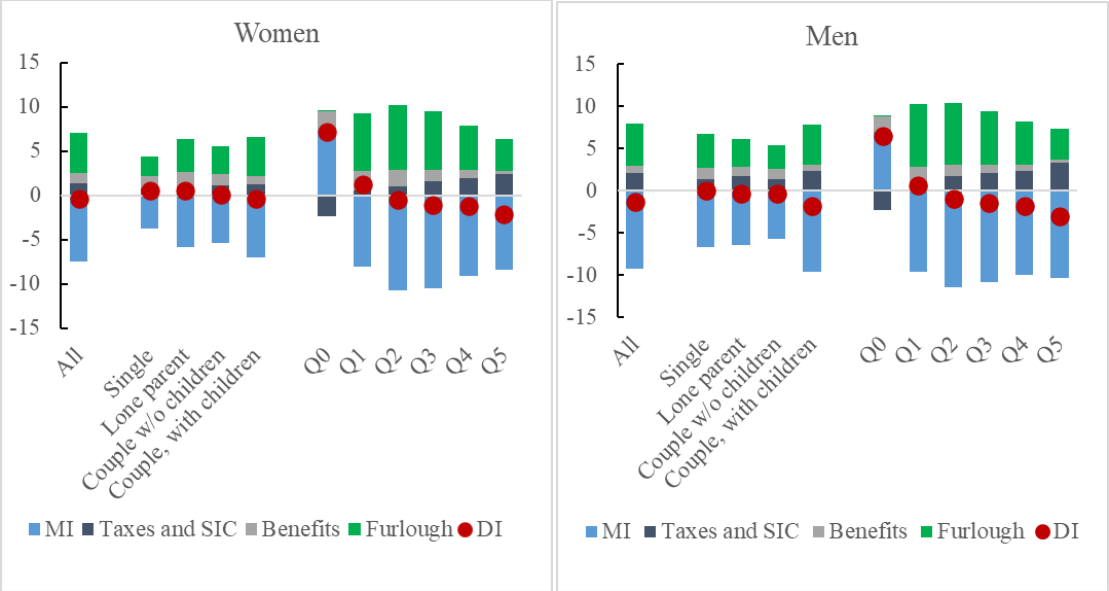
## 4.3 Changes in disposable incomes: the role of furlough schemes and other tax-benefit policies

In this section, we decompose changes in the mean disposable incomes between Scenario 3 (2020, including COVID-19 labor market changes and all discretionary measures) and Scenario 1 (2020 as if COVID had

not occurred), in order to assess the net contribution of changes in market incomes, direct taxes, social insurance contributions (SIC), social transfers and the furlough schemes. During the 2020 pandemic, furlough schemes across Europe were designed to temporarily support workers and businesses by covering a portion of wages, typically between 60-80%, and typically subject to a certain monthly cap. The schemes were flexible, with some countries offering part-time work options and sector-specific support for industries like tourism and hospitality. The characteristics of furlough schemes implemented in the 28 countries included in the study are shown in Table A1 (Supplementary Annex).

As shown in Figure 4, furlough schemes provided a more significant income compensation during the 2020 crisis than all other tax-benefit policies combined. On average, furlough schemes increased women's disposable incomes by 4.6%, compared to just 2.5% increase coming from all other direct taxes and benefits. For men, furlough had an even greater effect, increasing their incomes by 6.7%, while other taxes and benefits combined contributed only 4.1%. However, the impact of furlough was shaped by the severity of labor market disruptions and other policy measures in place across countries (see Table A5, Supplementary Annex).

**Figure 4:** Changes in mean individual disposable income in 2020: the role of furlough and other tax benefit policies (percent)




Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.
Notes: The figure shows unweighted averages for 28 countries. Sample includes working age individuals only (aged 18-64 years).
The figure shows differences between Scenario 3 (COVID shock with COVID policies) and Scenario 1 (no COVID shock), measured in percentages. The contribution of each income source is expressed relative to disposable income in Scenario 1.
The following abbreviations are used: MI = market income, SIC=social insurance contributions, DI = disposable income.
Q signifies a quintile of individual earnings, which are defined separately for women and men. Individuals without earnings fall into Q0.

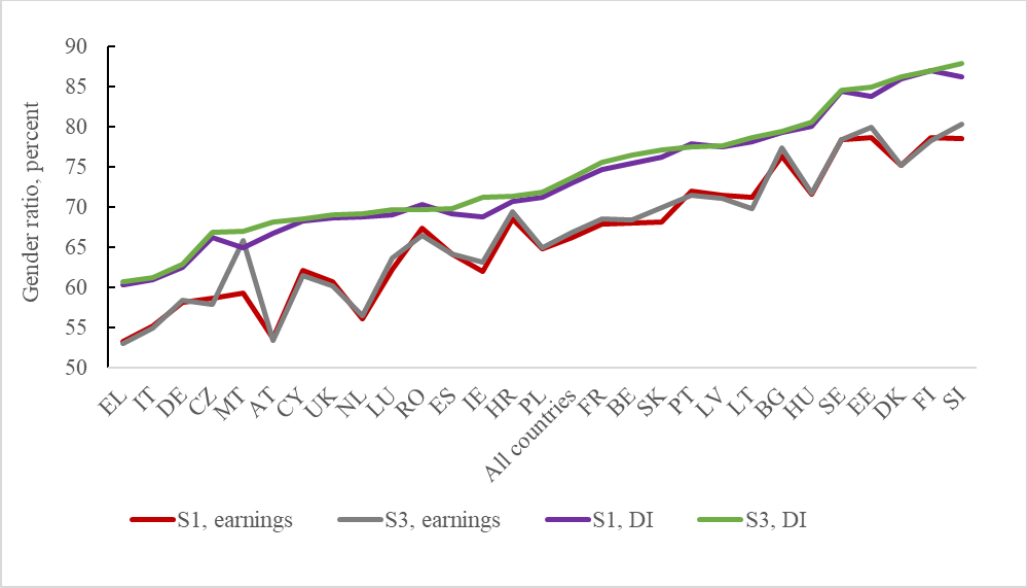
Single men, couples with children and low earners are the groups that benefitted the most from furlough schemes in relative terms (Figure 4). In the two bottom quintiles, furlough schemes increased disposable income by around 7%, both for women and men. The furlough support was the main factor offsetting the negative impact of the labor market shock, thereby leading to small or positive net income changes in these

groups. In contrast, due to the presence of earnings caps, high earners (Q5) received less from furlough in relative terms, with their incomes growing by about 4% due to furlough income. Due to lower level of compensation, high earners experienced a pronounced net income decline in contrast to low earners, whose disposable incomes either increased (Q1) or decreased by less than 1% (Q2).

### 4.4 Changes in the earnings and disposable income inequality between women and men

Finally, we explore how gender inequality has evolved during the pandemic, focusing on the earnings and disposable incomes of women compared to men. We calculate gender ratios by expressing women's earnings or incomes as a percentage of men's in each country. A higher ratio indicates lower gender inequality, and vice versa. Figure 5 compares gender income ratios between two scenarios: Scenario 1 (no COVID) and Scenario 3 (COVID shock with policies in place). On average, across 28 European countries, women's earnings in 2020 (without COVID) were 66% of men's earnings, while their individual disposable incomes were 73% of men's. This highlights that inequality in disposable incomes is lower than earnings inequality, mainly because direct taxes and transfers help redistribute income between genders.

**Figure 5:** Changes in gender ratios for earnings and disposable incomes during the pandemic




Source: Own calculations using EUROMOD with 2019 EU-SILC data and UKMOD with 2019 FRS data.
Notes: Gender income ratios are women's earnings/incomes as percentage of men's. Countries are sorted in the ascending order by the size of gender income ratios in S3. The following abbreviations are used: S1 = Scenario 1; S3 = Scenario 3; DI = individual disposable income

In Scenario 3, gender earnings ratios either increased or remained stable in most countries compared to Scenario 1. The average earnings ratio across all countries rose slightly from 66% in Scenario 1 to 67% in Scenario 3. Notable increases (over 2 percentage points) were seen in Malta, Slovakia, and Slovenia. However, some countries, such as Romania and Lithuania, experienced a decline in their gender earnings ratios.

Gender ratios for individual disposable incomes either improved or stayed the same in nearly all countries during the COVID scenario (Scenario 3) compared to the no-COVID scenario. The average income ratio for all 28 countries increased from 73% in Scenario 1 to 74% in Scenario 3. Significant gains (more than 2 percentage points) were observed in Malta and Ireland. Overall, while gender income ratios improved slightly during the pandemic in most countries, substantial disparities remained.

## 4. Discussion and conclusions

The COVID-19 pandemic triggered an unprecedented economic crisis, fundamentally different from the Great Recession of 2008–09. Whereas the earlier crisis was followed by a policy regime dominated by fiscal austerity and debt containment, the COVID-19 response prioritized social protection. Governments across Europe introduced expansive income support packages, including furlough schemes and significant adjustments to existing tax-benefit systems. These measures were rolled out rapidly and often without the usual political constraints on public spending. This marked shift created a unique context for assessing how gender inequalities in economic resources evolved due to large-scale state intervention during an exogenous crisis.

This article offers the first cross-country comparative assessment of how pandemic-related labor market shocks and corresponding policy responses affected gender income inequality across 28 European countries. Using a quasi-experimental framework based on microsimulation and nowcasting techniques, we disentangled the effects of the COVID-19 labor market shock from those of anti-crisis policies. By using a gender-sensitive measure of disposable income – based on a minimal income pooling assumption – we addressed a longstanding gap in the literature on intra-household income inequality, responding to calls for greater scrutiny of gendered impacts of government policies (Himmelweit, 2002; Rubery, 2015).

Our findings show that while working-age men and women both suffered income losses in 2020, these were substantially mitigated by government interventions. The decline in individual disposable incomes was less severe than the drop in earnings, reflecting the equalizing role of taxes and transfers. On average, men experienced steeper losses in employment and working hours, particularly in sectors such as construction and manufacturing. Women showed greater resilience in labor market participation, partly due to their higher representation in essential sectors such as healthcare, education, and public administration. Discretionary policy responses, particularly furlough schemes, played a crucial role in cushioning income losses for both genders, although men on average benefited more from furlough due to their higher earnings and more pronounced employment losses.

Our findings underscore the progressive character of the COVID-related policy measures. Low earners benefited most from furlough schemes and other discretionary support, while high earners – particularly men in the top quintile – faced more pronounced net losses as the policies were insufficient to fully offset labor market shocks in this group. Lone parents and single women experienced net gains in disposable income, while couples with children – especially those in higher income brackets – faced more persistent losses. These results highlight the unequal distribution of both the economic shock and the policy relief across different household types and income groups.

The study also reveals substantial cross-country variation in the effectiveness of policy responses. In Bulgaria, where discretionary measures were especially impactful, disposable incomes increased by more than 9% for both genders during the pandemic. Similar gains occurred in Luxembourg, Finland, and Denmark, where milder labor market shocks were coupled with robust fiscal responses. In contrast,

countries like Hungary and Italy saw either limited or negative effects from their discretionary measures, pointing to the importance of timely, inclusive, and well-calibrated policy design.

Crucially, similarly to the study of Doorley et al. (2021) for Ireland, we find evidence of a temporary narrowing of gender income inequality, with the ratio of women's to men's individual disposable incomes increasing from 73% to 74% on average across the 28 countries studied. This modest improvement suggests that government interventions, though not explicitly gender-targeted, can contribute to reducing gender disparities.

There are several limitations to our analysis. Our microsimulation models are static and capture only the first-order, direct effects of policy changes and labor market shocks, without accounting for behavioral responses or longer-term effects – though we believe this is appropriate given the temporary nature of most anti-crisis measures. While our use of a minimal income pooling assumption allows us to estimate individual incomes within couples, it likely overstates actual intra-household inequality and should be interpreted as an upper-bound estimate. Next, our analysis focuses solely on the year 2020 and does not capture the longer-term impacts of the pandemic, such as sustained labor market detachment. We also exclude non-monetary aspects of gender inequality – such as unpaid care work, mental health burdens, and time poverty – which are critical but beyond the scope of this study. Finally, our decision to simulate 2020 outcomes using 2019 survey data allowed us to maintain internal consistency and conduct a controlled quasi-experimental analysis, but it may limit comparability with official statistics derived from actual post-pandemic surveys, particularly those affected by COVID-era disruptions in data collection.

Our findings open several important avenues for future research. There is a need to examine whether the narrowing of the gender income gap observed in 2020 persisted in subsequent years, especially as COVID emergency measures were phased out and inflation accelerated. It is important to investigate how the design of COVID policies may have influenced gendered labor supply decisions at the end of the pandemic. As governments shift their focus toward fiscal consolidation, further research should explore whether a new wave of austerity will follow and how this could affect gender equality.

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## SUPPLEMENTARY ANNEX

**Table A1. Furlough schemes simulated in EUROMOD and UKMOD, 2020**

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| AT-Austria | Wage compensation paid by state and employer | bwkmcee_s yemmc_s | employees | percentage of earnings | upper limit | partly covered by employer |
| | Hardship fund for self-employed | bwkmcse_s | self-employed | lump sum | n/a | simulated as one-off payment with average amount of compensation phase1 and 2 |
| BE - Belgium | Temporary unemployment scheme | bwkmcee_s | employees | percentage of earnings | lower and upper limit | share of hours not taken into account in simulation of MC |
| | The compensation premium for self-employed | bwkmcse_s | self-employed | lump sum | amount varies depending on the number of dependants | |
| BG -Bulgaria | Wage subsidies (“60/40 measure”) | yemmc_s bwkmcee_s | employees | percentage of earnings | upper limit | partly covered by employer |
| | BGN290 compensation scheme for self-employed | bwkmcse_s | self-employed | lump sum | n/a | |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| CY –Cyprus | Special unemployment benefit scheme for employees | bwkmcee_s | employees | percentage of earnings | lower and upper limit | |
| | Special unemployment benefit scheme for self-employed | bwkmcse_s | self-employed | percentage of earnings | lower and upper limit | |
| CZ -Czechia | Wage compensation scheme ("Antivirus") | bwkmcee_s | employees | percentage of earnings | upper limit | two different regimes |
| | Self-employed compensation bonus | bwkmcse_s | self-employed | lump sum | upper limit | |
| DE -Germany | Covid-related wage compensation for employees | bwkmcee_s | employees | percentage of earnings | higher if there are dependent children | |
| | Covid-related one-off benefit for the self-employed | bwkmcse_s | self-employed | n/a | n/a | simulated but not inlcuded in income lists |
| DK -Denmark | Employee compensation scheme | bwkmcee_s yemmc_s | employees | percentage of earnings | upper limit | partly covered by employer |
| | Self-employed compensation scheme | bwkmcse_s | self-employed | percentage of the lost revenue | upper limit | |
| EE -Estonia | Wage compensation measure | bwkmcee_s yemmc_s | employees | percentage of earnings | lower and upper limit | partly covered by employer |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| EL -Greece | Special purpose monetary compensation | bwkmcee_s | employees | lump sum | n/a | beneficiaries (whose labour contracts are suspended) are determined on the basis of the NACE codes of the employer |
| | Special purpose monetary compensation | bwkmcse_s | self-employed | lump sum | n/a | beneficiaries are determined on the basis of the NACE codes of their business |
| ES -Spain | Wage compensation scheme | bwkmcee_s yemmc_s | employees | percentage of earnings | lower and upper limit | partly covered by employer |
| | Self-employment income compensation scheme | bwkmcse_s | self-employed | percentage of previous contribution base | lower and upper limit | |
| FI -Finland | Compensation scheme for the self-employed | bwkmcse_s | self-employed | one-off | n/a | |
| FR -France | Wage compensation scheme | bwkmcee_s yemmc_s | employees | percentage of earnings | lower and upper limit | partly covered by employer |
| | Self-employed and firm compensation scheme | bwkmcse_s | self-employed | percentage of the lost turnover | upper limit | 100% of turnover is compensated for self-employed (modelled as an average value, as turnover is not available) |
| HR -Croatia | Wage compensation | bwkmcee_s | employees | lump sum | n/a | different lump-sum amounts provided for March and April/May |
| | Wage compensation | bwkmcse_s | self-employed | lump sum | n/a | different lump-sum amounts provided for March and April/May |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| HU -Hungary | Wage compensation scheme | bwkmcee_s | employees | percentage of earnings | n/a | partly covered by employer |
| IE -Ireland | Temporary Wage Subsidy Scheme | bwkmcee_s | employees | percentage of previous earnings or flat rate according to the amount of the previous earnings | upper limit | |
| IT -Italy | Wage Supplementation Scheme | bunct01_s | employees | percentage of earnings | upper limit | |
| | COVID bonus for self-employed | bls01_s | self-employed | lump sum | n/a | income must be below 35.000€ |
| LT-Lithuania | Subsidies to remain in the labour market | bwkmcee1_s bwkmcee2_s | employees | percentage of earnings | upper limit | partly covered by employer |
| | Covid compensation for the self-employed | ysemc_s | self-employed | lump sum | n/a | |
| | Sickness benefit for childcare | bhl_s | employees | percentage of earnings | n/a | Only modelled for parents and those with disabled children |
| LU –Luxembourg | Short-time working scheme | yemmc_s bwkmcee_s | employees | percentage of previous earnings | lower and upper limit | partly covered by employer |
| LV-Latvia | Downtime benefit paid to employees | bwkmcee_s | employees | percentage of previous earnings | lower and upper limit | |
| | Downtime benefit paid to self-employed | bwkmcse_s | self-employed | percentage of previous self-employment income | lower and upper limit | |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| | Supplementary payment to downtime benefit for dependent children | bwkmcch_s | employees | lump sum | n/a | |
| MT -Malta | Wage supplement for employees | yemmc_s bwkmcee_s | employees | several flat rates | n/a | partly covered by employer |
| | Wage supplement for self-occupied/ self-employed | ysemc_s bwkmcse_s | self-employed | several flat rates | n/a | partly covered by employer |
| | Parental benefit | bfapl_s | employees in the private sector | flat rate payment | n/a | Targeted at parents that cannot carry out their functions through teleworking and are not eligible for wage supplements |
| NL -Netherlands | Monetary compensation for employers * | bmcer_s | employers | percentage of the wage cost of employers | n/a | this benefit is for employers, while employees receive 100% of their wage |
| PL -Poland | Wage compensation scheme | yemmc_s bwkmcee_s | employees | either percentage of earnings or flat rate | lower and upper limit | partly covered by employer |
| | Benefit for the self-employed | bwkmcst_s | self-employed | flat rate | n/a | |
| PT -Portugal | Wage compensation scheme | yemmc_s bwkmcee_s | employees | percentage of previous earnings | lower and upper limit | |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| | Self-employed compensation | bwkmcse_s | self-employed | depending on the average remuneration recorded as contribution base: average,or a percentage or a lump sum | upper limit | |
| RO-Romania | Wage compensation scheme | yemmc_s bwkmcee_s | employees | percentage of previous earnings | upper limit | partly covered by employer |
| | Self-employment income compensation scheme | bwkmcse_s | self-employed | lump sum | n/a | |
| | Allowance for parental leave | bplmc_s | employees | percentage of previous earnings | upper limit | Allowance for parents in the event of temporary closure of educational establishments |
| SE -Sweden | Wage compensation scheme | yemmc_s bwkmcee_s | employees | percentage of previous earnings | upper limit | different levels of compensation depending on share of hours worked, cannot be 0 hours worked; partly covered by employer |
| SI -Slovenia | Wage compensation for workers on hold | yemmc_s bwkmcee_s | employees | percentage of previous earnings | upper limit | partly covered by employer |
| | Crisis allowance for employees who work during Covid-19 | yemxp_s | employees | lump sum | n/a | |

| Country | Policy name | Variable names | Target | Amount | Other | Comments |
|---|---|---|---|---|---|---|
| | Universal income for self-employed during Covid-19 | bwkmcse_s | self-employed | lump sum | n/a | |
| SK -Slovakia | Wage compensation scheme | bwkmcee_s | employees | percentage of previous earnings | lower and upper limit | partly covered by employer |
| | Self-employment compensation | bwkmcse_s | self-employed | lump sum | n/a | different sum depending on randomly assigned revenue (approximated by profit) loss |
| | Pandemic nursing benefit | bccmc_s | employees and self-employed | percentage of previous earnings | upper limit | benefit for parents during school closures |
| UK - United Kingdom | Coronavirus Job Retention Scheme | yemmc_s bwkmcee_s | employees | percentage of previous earnings | upper limit | partly covered by employer |
| | Self-Employment Income Support Scheme | bwkmcse_s | self-employed | percentage of previous earnings | upper limit | |

Notes: For the Netherlands the employer furlough scheme is included in disposable income in our analysis.

**Table A2. Allocation of disposable income components in EUROMOD assuming minimal income pooling**

| COMPONENTS OF DISPOSABLE INCOME | Type of income | EUROMOD treatment | Individual allocation rules |
|---|---|---|---|
| **Individual level in EU-SILC** | | | |
| Employee and self-employed income cash and near cash income | Market income | From data | Individual who receives this income |
| Pension from individual private plans | Market income | From data | Individual who receives this income |
| Unemployment benefits | Benefits/ Pensions | Simulated | Individual who receives this income |
| Old-age benefits | Benefits/ Pensions | From data | Individual who receives this income |
| Survivor' benefits | Benefits/ Pensions | From data | Individual who receives this income |
| Sickness benefits | Benefits/ Pensions | From data | Individual who receives this income |
| Disability benefits | Benefits/ Pensions | From data | Individual who receives this income |
| Education-related allowances | Benefits/ Pensions | Simulated/ from data | Individual who receives this income |
| **Household level in EU-SILC** | | | |
| Income from rental of a property or land | Market income | From data | Shared equally between the oldest couple |
| Interest, dividends, profit from capital investments | Market income | From data | Shared equally between the oldest couple |
| Family/children related allowances | Benefits/ Pensions | Simulated/ from data | Shared equally among the adults in the assessment unit |
| Social exclusion not elsewhere classified | Benefits/ Pensions | Simulated | Shared equally among the adults in the assessment unit |
| Housing allowances | Benefits/ Pensions | Simulated/ from data | Shared equally among the adults in the assessment unit |
| Regular inter-household cash transfer received | Market income | From data | Shared equally among the adults in the assessment unit |
| Income received by people aged under 16 | Market income | From data | Shared equally among the adults in the assessment unit |
| Regular taxes on wealth | Taxes | From data | Shared equally between the oldest couple |
| Regular inter-household cash transfer paid | Market income | From data | Shared equally between all adults in the household |
| Tax on income and social contributions | Taxes/SIC | Simulated | SIC & individual taxes are allocated to respective individuals; taxes in joint taxation system are divided between spouses in proportion to their taxable income |

**Table A3:** Changes in labor market outcomes due to the 2020 COVID-19 shock, by country

| | Employment rate | | Weekly working hours | | Earnings | |
|---|---|---|---|---|---|---|
| | Women | Men | Women | Men | Women | Men |
| All countries | -0.01 | -0.06 | -0.26 | -0.63 | -6.7 | -7.6 |
| AT | -0.18 | -0.20 | -0.09 | -0.29 | -25.2 | -24.9 |
| BE | 0.00 | 0.35 | 0.05 | 0.35 | -5.7 | -6.1 |
| BG | -0.12 | 0.06 | -0.10 | 0.06 | -3.5 | -4.7 |
| CY | 0.80 | 0.63 | 0.88 | 0.63 | -7.4 | -6.4 |
| CZ | 0.40 | -0.05 | 0.41 | -0.08 | -4.8 | -3.6 |
| DE | -0.26 | -0.11 | -0.30 | -0.12 | -4.7 | -5.0 |
| DK | 0.50 | 0.28 | 0.52 | 0.28 | -2.6 | -2.6 |
| EE | 0.27 | -0.07 | 0.29 | -0.07 | -3.9 | -5.5 |
| EL | 0.53 | -0.50 | 0.57 | -0.57 | -10.5 | -10.1 |
| ES | -0.26 | -0.37 | -0.27 | -0.36 | -5.8 | -5.7 |
| FI | 0.93 | 0.88 | 1.04 | 0.90 | -0.7 | -0.2 |
| FR | 0.59 | 0.44 | 0.56 | 0.37 | -8.6 | -9.4 |
| HR | 0.03 | 0.50 | 0.03 | 0.48 | -8.2 | -9.3 |
| HU | -0.30 | -0.19 | -0.30 | -0.20 | -3.3 | -3.5 |
| IE | -1.28 | -2.20 | -1.46 | -2.43 | -13.2 | -14.8 |
| IT | -0.32 | 0.04 | -0.35 | 0.03 | -10.5 | -10.0 |
| LT | -0.33 | -0.40 | -0.22 | -0.35 | -6.2 | -4.3 |
| LU | 3.16 | 1.44 | 3.45 | 1.32 | 1.7 | -0.5 |
| LV | -0.31 | -0.20 | -0.31 | -0.17 | -3.3 | -2.6 |
| MT | 0.45 | 0.08 | 0.51 | 0.08 | -21.4 | -29.2 |
| NL | 0.62 | 0.30 | 0.85 | 0.31 | -6.6 | -7.3 |
| PL | 0.58 | 0.05 | 0.59 | 0.05 | -3.3 | -3.5 |
| PT | 1.72 | 1.07 | 1.76 | 0.97 | -5.1 | -4.4 |
| RO | -0.78 | 0.24 | -0.68 | 0.25 | -4.1 | -2.7 |
| SE | 0.09 | 0.09 | 0.10 | 0.06 | -2.0 | -1.9 |
| SI | 0.54 | -1.11 | 0.54 | -1.25 | -3.5 | -5.6 |
| SK | -0.24 | -0.49 | -0.29 | -0.51 | -11.5 | -13.7 |
| UK | -0.59 | -0.68 | -2.93 | -5.17 | -13.3 | -12.6 |

Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.

Notes: Sample includes working age individuals only (aged 18-64 years). The top line shows unweighted average for 28 countries.

The table shows differences between Scenario 2 (COVID shock without COVID policies) and Scenario 1 (no COVID shock), as percentage of Scenario 1.

**Table A4:** Changes in mean individual disposable incomes due to COVID-19 in 2020, by country

| | Women | | | Men | | | Women | | | Men | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S1 | S2 | S3 | S1 | S2 | S3 | LM | Policy | Total | LM | Policy | Total |
| All countries | 99.9 | 94.5 | 99.5 | 136.8 | 127.7 | 135.0 | -5.4 | 5.0 | -0.4 | -6.6 | 5.3 | -1.3 |
| AT | 91.8 | 77.5 | 90.3 | 137.5 | 113.3 | 132.4 | -15.5 | 14.0 | -1.5 | -17.6 | 13.9 | -3.7 |
| BE | 93.8 | 88.8 | 95.6 | 124.3 | 115.8 | 124.9 | -5.4 | 7.3 | 1.9 | -6.8 | 7.3 | 0.5 |
| BG | 134.4 | 130.5 | 133.8 | 169.5 | 162.6 | 168.3 | -2.9 | 2.4 | -0.4 | -4.1 | 3.4 | -0.7 |
| CY | 98.8 | 93.8 | 97.3 | 144.8 | 137.5 | 142.0 | -5.1 | 3.6 | -1.6 | -5.0 | 3.1 | -1.9 |
| CZ | 93.0 | 89.2 | 93.1 | 140.5 | 135.4 | 139.3 | -4.1 | 4.2 | 0.1 | -3.6 | 2.8 | -0.9 |
| DE | 89.8 | 86.9 | 89.2 | 143.4 | 137.7 | 141.7 | -3.2 | 2.6 | -0.6 | -4.0 | 2.8 | -1.2 |
| DK | 103.4 | 100.0 | 103.9 | 120.2 | 115.7 | 120.5 | -3.3 | 3.8 | 0.5 | -3.8 | 4.0 | 0.2 |
| EE | 106.5 | 103.7 | 107.2 | 127.0 | 122.3 | 126.1 | -2.6 | 3.2 | 0.6 | -3.7 | 3.1 | -0.7 |
| EL | 85.9 | 79.5 | 85.7 | 142.3 | 131.1 | 141.1 | -7.5 | 7.2 | -0.3 | -7.8 | 7.0 | -0.9 |
| ES | 93.7 | 90.1 | 93.4 | 135.4 | 130.2 | 133.7 | -3.8 | 3.5 | -0.3 | -3.8 | 2.6 | -1.2 |
| FI | 108.4 | 108.2 | 108.4 | 124.6 | 124.4 | 124.6 | -0.2 | 0.2 | 0.0 | -0.2 | 0.2 | 0.0 |
| FR | 101.2 | 95.0 | 101.0 | 135.3 | 125.2 | 133.6 | -6.1 | 6.0 | -0.2 | -7.5 | 6.2 | -1.3 |
| HR | 99.2 | 93.1 | 97.8 | 140.3 | 130.3 | 137.2 | -6.2 | 4.8 | -1.4 | -7.1 | 4.9 | -2.2 |
| HU | 95.5 | 93.9 | 95.4 | 119.2 | 116.2 | 118.4 | -1.7 | 1.7 | -0.1 | -2.6 | 1.8 | -0.7 |
| IE | 104.8 | 94.4 | 102.2 | 152.2 | 133.8 | 143.4 | -10.0 | 7.5 | -2.5 | -12.1 | 6.3 | -5.8 |
| IT | 87.5 | 80.0 | 84.6 | 143.3 | 131.1 | 138.1 | -8.6 | 5.3 | -3.3 | -8.5 | 4.9 | -3.6 |
| LT | 110.8 | 105.0 | 111.5 | 141.6 | 135.3 | 141.7 | -5.2 | 5.9 | 0.6 | -4.4 | 4.5 | 0.0 |
| LU | 90.5 | 89.5 | 92.8 | 130.9 | 129.7 | 133.0 | -1.1 | 3.6 | 2.5 | -1.0 | 2.6 | 1.6 |
| LV | 113.3 | 111.1 | 112.6 | 146.2 | 143.7 | 144.9 | -2.0 | 1.3 | -0.6 | -1.7 | 0.8 | -0.9 |
| MT | 97.5 | 78.9 | 94.0 | 150.0 | 109.4 | 140.2 | -19.0 | 15.5 | -3.6 | -27.0 | 20.5 | -6.6 |
| NL | 93.2 | 86.7 | 93.3 | 135.3 | 123.0 | 134.8 | -6.9 | 7.1 | 0.2 | -9.1 | 8.7 | -0.4 |
| PL | 98.0 | 95.5 | 96.8 | 137.4 | 133.2 | 134.7 | -2.5 | 1.4 | -1.2 | -3.0 | 1.1 | -1.9 |
| PT | 102.8 | 98.4 | 101.8 | 131.9 | 127.7 | 131.3 | -4.3 | 3.4 | -0.9 | -3.2 | 2.7 | -0.5 |
| RO | 98.7 | 94.2 | 98.8 | 140.3 | 135.5 | 141.6 | -4.5 | 4.6 | 0.1 | -3.5 | 4.4 | 0.9 |
| SE | 104.7 | 103.3 | 104.6 | 123.9 | 122.1 | 123.7 | -1.4 | 1.3 | -0.1 | -1.4 | 1.3 | -0.2 |
| SI | 100.4 | 98.2 | 103.8 | 116.4 | 111.0 | 118.2 | -2.2 | 5.6 | 3.4 | -4.6 | 6.2 | 1.6 |
| SK | 96.8 | 86.7 | 95.8 | 126.9 | 108.1 | 124.2 | -10.5 | 9.4 | -1.1 | -14.8 | 12.7 | -2.2 |
| UK | 101.9 | 93.0 | 100.9 | 148.5 | 134.0 | 146.1 | -8.7 | 7.7 | -1.0 | -9.7 | 8.1 | -1.6 |

Source: Own calculations using EUROMOD with 2019 EU-SILC data and UKMOD with 2019 FRS data.
Notes: Sample includes working age individuals only (aged 18-64 years). The top line shows unweighted average for 28 countries.
The table shows mean incomes of women and men as percentages of the national median equivalised income in each country for the three scenarios and changes in income between the scenarios.
The following abbreviations are used: LM (S2-S1) = the effect of labour market changes and automatic stabilisers; Policy (S3-S2) = the effect of discretionary policies; Total (S3-S1) = LM effect + Policy effect.

**Table A5:** Changes in mean individual disposable incomes due to COVID-19 in 2020: the role of furlough schemes, by country

| | Women | | | | | Men | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | MI | Taxes and SIC | Benefits | Furlough | DI | MI | Taxes and SIC | Benefits | Furlough | DI |
| All countries | -7.5 | 1.3 | 1.2 | 4.6 | -0.4 | -9.2 | 2.1 | 0.9 | 4.9 | -1.3 |
| AT | -25.9 | 9.7 | 1.2 | 13.5 | -1.5 | -31.9 | 13.8 | 0.9 | 13.5 | -3.7 |
| BE | -6.6 | 0.1 | 1.4 | 7.0 | 1.9 | -7.9 | 1.5 | -0.2 | 7.1 | 0.5 |
| BG | -3.7 | 0.4 | 0.6 | 2.3 | -0.4 | -5.2 | 0.4 | 0.8 | 3.3 | -0.7 |
| CY | -6.9 | 1.3 | 0.6 | 3.4 | -1.6 | -6.6 | 1.5 | 0.3 | 2.9 | -1.9 |
| CZ | -5.1 | 0.6 | 1.2 | 3.4 | 0.1 | -4.4 | 0.5 | 0.5 | 2.4 | -0.9 |
| DE | -5.9 | 2.3 | 0.9 | 2.1 | -0.6 | -6.7 | 2.6 | 0.5 | 2.5 | -1.2 |
| DK | -3.3 | -0.3 | 0.4 | 3.6 | 0.5 | -3.7 | -0.2 | 0.2 | 3.9 | 0.2 |
| EE | -3.8 | -0.0 | 1.1 | 3.3 | 0.6 | -5.7 | 0.4 | 1.4 | 3.2 | -0.7 |
| EL | -10.5 | 4.1 | 0.7 | 5.4 | -0.3 | -11.5 | 6.1 | 0.7 | 3.9 | -0.9 |
| ES | -5.9 | 0.8 | 1.7 | 3.0 | -0.3 | -6.2 | 1.2 | 1.3 | 2.5 | -1.2 |
| FI | -0.7 | 0.2 | 0.3 | 0.2 | 0.0 | -0.2 | -0.0 | 0.1 | 0.2 | 0.0 |
| FR | -8.3 | 1.6 | 1.0 | 5.6 | -0.2 | -10.0 | 2.1 | 0.8 | 5.8 | -1.3 |
| HR | -9.1 | 2.5 | 0.5 | 4.7 | -1.4 | -10.7 | 3.1 | 0.6 | 4.7 | -2.2 |
| HU | -4.2 | 2.1 | 0.4 | 1.5 | -0.1 | -5.0 | 2.5 | 0.4 | 1.4 | -0.7 |
| IE | -14.7 | 4.2 | 6.4 | 1.6 | -2.5 | -18.2 | 5.9 | 4.8 | 1.7 | -5.8 |
| IT | -11.7 | 2.7 | 0.7 | 5.0 | -3.3 | -12.2 | 3.4 | 0.6 | 4.6 | -3.6 |
| LT | -7.6 | 1.5 | 2.2 | 4.6 | 0.6 | -5.8 | 0.8 | 1.9 | 3.2 | 0.0 |
| LU | 1.8 | -2.6 | -0.1 | 3.4 | 2.5 | -0.6 | -0.6 | 0.5 | 2.3 | 1.6 |
| LV | -3.7 | 1.1 | 0.7 | 1.2 | -0.6 | -3.2 | 1.0 | 0.6 | 0.7 | -0.9 |
| MT | -21.9 | 0.9 | 2.0 | 15.3 | -3.6 | -32.7 | 3.6 | 2.2 | 20.4 | -6.6 |
| NL | -7.2 | -0.1 | 0.5 | 7.0 | 0.2 | -9.8 | 0.2 | 0.6 | 8.6 | -0.4 |
| PL | -3.5 | 0.9 | 0.1 | 1.3 | -1.2 | -4.1 | 1.0 | 0.2 | 0.9 | -1.9 |
| PT | -5.7 | 0.6 | 0.8 | 3.3 | -0.9 | -5.2 | 1.2 | 0.9 | 2.7 | -0.5 |
| RO | -5.7 | 1.0 | 1.5 | 3.3 | 0.1 | -4.0 | 0.3 | 1.1 | 3.4 | 0.9 |
| SE | -2.2 | 0.0 | 1.1 | 1.0 | -0.1 | -2.2 | 0.2 | 0.8 | 1.1 | -0.2 |
| SI | -4.1 | -0.6 | 2.7 | 5.4 | 3.4 | -7.1 | 0.9 | 1.5 | 6.4 | 1.6 |
| SK | -12.6 | 1.6 | 0.8 | 9.1 | -1.1 | -16.8 | 1.6 | 0.6 | 12.4 | -2.2 |
| UK | -14.0 | 1.1 | 1.0 | 10.9 | -1.0 | -15.1 | 1.9 | 0.6 | 11.0 | -1.6 |

Source: Own calculations using EUROMOD with EU-SILC data and UKMOD with FRS data.

Notes: Sample includes working age individuals only (aged 18-64 years). The top line shows unweighted average for 28 countries.

The table shows differences between Scenario 3 (COVID shock with COVID policies) and Scenario 1 (no COVID shock), measured in percentages. The contribution of each income source is expressed relative to disposable income in Scenario 1. The following abbreviations are used: MI = market income, SIC=social insurance contributions, DI = disposable income.