

Employment and labour markets

# Weathering the crisis: How job retention schemes preserved employment and incomes during the pandemic





# Weathering the crisis: How job retention schemes preserved employment and incomes during the pandemic



**When citing this report, please use the following wording:**

Eurofound (2024), *Weathering the crisis: How job retention schemes preserved employment and incomes during the pandemic*, Publications Office of the European Union, Luxembourg.

---

**Authors:** Dragoş Adăscăliţei, Tina Weber, Federico Vegetti, Michael Christl, Silvia De Poli and Vīginta Ivaškaitė-Tamošiūnė

**Research manager:** Dragoş Adăscăliţei

**Research project:** COVID-19 support measures and their effects on mitigating the longer-term consequences for business, work and employment (230302)

**Contributors:** Chapter 2 draws on empirical work carried out by Federico Vegetti (University of Turin). Chapter 3 draws on empirical work carried out by Michael Christl (Universidad Loyola Andalucía and Global Labor Organization), Silvia De Poli (Universidad Complutense de Madrid) and Vīginta Ivaškaitė-Tamošiūnė (Oxford Brookes University) and on results from Christl et al (2023a).

**Provider:** Network of Eurofound Correspondents (see Annex 3)

---

**Luxembourg:** Publications Office of the European Union, 2024

**Print:** ISBN 978-92-897-2424-1      doi:10.2806/5430110      TJ-01-24-002-EN-C

**PDF:** ISBN 978-92-897-2423-4      doi:10.2806/7896442      TJ-01-24-002-EN-N

This report and any associated materials are available online at <https://eurofound.link/ef24021>

© European Foundation for the Improvement of Living and Working Conditions, 2024

Reproduction is authorised provided the source is acknowledged.

For any use or reproduction of photos or other material that is not under the Eurofound copyright, permission must be sought directly from the copyright holders.

Cover image: © saravut/Adobe Stock

Any queries on copyright must be addressed in writing to: [copyright@eurofound.europa.eu](mailto:copyright@eurofound.europa.eu)

*Research carried out prior to the UK's withdrawal from the European Union on 31 January 2020, and published subsequently, may include data relating to the 28 EU Member States. Following this date, research only takes into account the 27 EU Member States (EU28 minus the UK), unless specified otherwise.*

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.

**European Foundation for the Improvement of Living and Working Conditions**

**Telephone:** (+353 1) 204 31 00

**Email:** [information@eurofound.europa.eu](mailto:information@eurofound.europa.eu)

**Web:** <https://www.eurofound.europa.eu>

# Contents

	<b>Executive summary</b>	<b>1</b>
	<b>Introduction</b>	<b>3</b>
<b>1.</b>	<b>Evolution and features of job retention and income stabilisation schemes for employees and the self-employed during the pandemic</b>	<b>5</b>
	Introduction	5
	Typology of job retention schemes	6
	Evolution of job retention schemes	6
	Eligibility criteria	7
	Income stabilisation measures for the self-employed during the pandemic	14
	Key findings	16
<b>2.</b>	<b>Employment effects of job retention schemes</b>	<b>17</b>
	Introduction	17
	Participation in job retention schemes	17
	Drivers of participation in job retention schemes	20
	Evidence on the employment effects of job retention schemes	24
	Key findings	29
<b>3.</b>	<b>Distributional effects of job retention schemes</b>	<b>31</b>
	Introduction	31
	Income protection and income inequality during the pandemic	31
	Labour market transitions in 2020 and 2021	33
	Impact of job retention schemes on household incomes	34
	Protecting the incomes of employees and the self-employed during the pandemic	39
	Impact of job retention schemes on poverty and inequality in the EU	41
	Key findings	45
<b>4.</b>	<b>Conclusions</b>	<b>47</b>
	<b>References</b>	<b>49</b>
	<b>Annexes</b>	<b>53</b>
	Annex 1: Instrument diagnostics	53
	Annex 2: Methodology	54
	Annex 3: Network of Eurofound Correspondents	56



# Executive summary

## Introduction

Job retention schemes were one of the main policy interventions used in the EU to address the negative effects of COVID-19 on the labour market. In contrast to previous crises, all Member States used them to protect employment, support incomes and ensure the fiscal health of national social security systems. This report maps the institutional features of job retention schemes, assesses their effects on employment and their role in protecting household incomes against the shock of the pandemic.

## Policy context

COVID-19 required swift and innovative policies at both EU and national levels. In March 2020, the general escape clause under the Stability and Growth Pact was activated for the first time to allow Member States to implement emergency policies with significant budgetary consequences. This was followed by two Coronavirus Response Investment Initiatives, which introduced a temporary framework providing flexible rules on using structural funds to address the economic impacts of the pandemic. They allowed Member States to mobilise up to €8 billion of immediate liquidity and to accelerate up to €37 billion of EU public investment in response to the crisis. The packages simplified the rules for accessing cohesion policy funds, allowing transfers between different categories of funds and between regions and, exceptionally, allowing Member States to request 100% co-financing for cohesion policy programmes.

Furthermore, in April 2020, the European Commission proposed a novel funding mechanism: Support to mitigate Unemployment Risks in an Emergency (SURE). SURE allowed the Commission to borrow up to €100 billion under favourable terms and distribute funds to Member States for employment retention interventions. It became the main pan-European instrument for funding job retention schemes during the pandemic.

## Key findings

All Member States implemented job retention schemes during the pandemic. The availability of funds through SURE and policy lessons learned from the global financial crisis contributed to the widespread use of such schemes in the EU. Eleven Member States had schemes pre-dating COVID-19, and 16 introduced new or additional schemes in 2020. Especially in the initial phases, national schemes were adjusted to broaden the

eligibility criteria, ease the administrative burden of applications and introduce income support schemes for the self-employed.

Despite similarities in the overall approach, significant differences remained in their institutional features and between the support offered to employees and to the self-employed. These affected eligibility and take-up rates as well as employment and incomes.

Although income support for self-employed workers was an unprecedented feature of the response, the scale and level of support granted to them remained below that offered to employees.

Participation tended to be lower in countries where some categories of workers, such as self-employed or public sector workers, were excluded from the scheme or where firms had to provide justifications for accessing it. Certain conditions, such as special dismissal protection rules, also reduced take-up rates.

Reducing the administrative burden for enrolment encouraged higher take-up rates. This was particularly important during the first stage of the pandemic, when uncertainty about lockdowns and administrative bottlenecks were widespread.

Longer-standing schemes had higher take-up rates, indicating that knowledge of them influenced whether firms opted to use the support available.

The estimated employment effects of job retention schemes are significant. In 2020 and 2021, they saved an estimated 26.9 million jobs. Large labour markets, including those in France, Germany, Italy, the Netherlands and Spain, accounted for more than 80% of jobs saved in the EU during 2020.

The schemes cushioned the impact of COVID-19 on household incomes, particularly in 2020. Their relatively smaller contribution to the protection of household incomes throughout 2021 is explained by lower take-up rates during the incipient recovery phase. In many countries, the schemes provided a lifeline to both dependent employees and the self-employed throughout both years.

Together with social benefits and direct taxes, job retention schemes absorbed 74.4% of the shock on disposable incomes in 2020 and 67.1% in 2021; the main instruments that absorbed the effect of the pandemic on income were taxes and social insurance contributions, accounting for 26.4%. Lower taxable income and lower tax liabilities combined with the progressive taxation schemes in some countries helped to soften the burden of social insurance contributions.

In contrast, job retention schemes and unemployment benefits reduced the income shock by 22.1% and 18.0%, respectively.

Income stabilisation measures akin to job retention schemes remained the main policy intervention protecting the incomes of self-employed workers in both 2020 and 2021. While unemployment benefits helped to protect the incomes of dependent employees, they played only a marginal role for self-employed workers.

Job retention schemes protected the incomes of bottom earners more than those of other groups in both years of the pandemic and in all Member States. The redistributive role of job retention schemes and income stabilisation measures varied substantially in size between Member States. On average, at EU level, the income-cushioning effect of the interventions was 20 percentage points greater for the bottom quintile of the income distribution than for the top quintile. This effect was driven by design features of job retention schemes such as income thresholds and replacement rates, suggesting that job retention schemes correctly targeted groups most in need of support.

The redistributive role of job retention schemes and income stabilisation measures for employees and the self-employed is reflected in poverty and inequality indicators. On average, in 2021, job retention schemes reduced inequality by an estimated 0.15 percentage points while also reducing the at-risk-of-poverty rate by 0.5 percentage points.

## Policy pointers

- Job retention schemes are temporary yet effective policy interventions that can be deployed during crises to preserve employment and incomes. Their effectiveness depends on flexible conditionality and eligibility criteria, which need to be adjusted to reflect labour market needs and avoid deadweight effects.
- During the COVID-19 pandemic, targeting job retention schemes at the sectors most affected by national health restrictions proved effective in supporting businesses and workers.
- In designing job retention schemes, policymakers need to consider interactions with broader national social insurance systems. In particular, the link between unemployment systems and job retention schemes should be strengthened.
- Job retention schemes should also incentivise workers and employers to use available downtime productively, for example for training. Such schemes should be aligned with existing national and EU initiatives such as the Council of the European Union's recommendation on micro-credentials, which seeks to ensure that short-term learning experiences are certified and recognised in the labour market.
- Access to job retention schemes and similar income support measures for non-standard workers and the self-employed should be improved. Experience from the pandemic shows that such schemes temporarily filled existing gaps in social security coverage for these categories of workers.



# Introduction

This report analyses the characteristics, evolution and outcomes of job retention schemes during the first two years of the COVID-19 pandemic. Such schemes were quickly deployed in all Member States to maintain employment levels and ensure that workers' incomes were protected in a highly unpredictable environment. The deployment of job retention schemes in response to crisis situations is not new. Some Member States, such as Austria or Germany, have a long-standing tradition of using short-time working schemes to preserve employment. Others introduced such schemes temporarily in response to the 2007–2008 global financial crisis.

However, the way that job retention schemes were deployed in response to the pandemic was different. First, mandatory lockdowns brought the economy and the labour market to a standstill in a matter of days, requiring swift policy interventions to support businesses and workers. Therefore, governments did not have the same time horizons for negotiating, designing and implementing job retention schemes. This resulted in numerous adaptations to the parameters of job retention schemes, especially during the first months of the pandemic. Second, the labour market impacts of the COVID-19 pandemic were widespread across sectors and mostly felt in contact-intensive service industries such as accommodation and food services, wholesale and retail, transportation and storage, and the arts, entertainment and recreation sector. In contrast, the global financial crisis affected mainly the manufacturing and construction sectors.

The different sectoral make-up of the COVID-19 pandemic required adaptations to the parameters of the job retention schemes, so the eligibility and conditionality criteria were broadened and the schemes were extended to include groups of workers and firms that previously did not have access to them. In consequence, the characteristics of the participants in job retention schemes differed between the two crises: whereas during the global financial crisis national schemes provided support mainly for workers in the manufacturing sector, typically employed in large firms with high export shares and high levels of investment in research and development, during the COVID-19 pandemic those who enrolled in job retention schemes or accessed similar types of support were primarily workers in the services sector, especially those employed in small and medium-sized enterprises, and self-employed workers.

The COVID-19 pandemic also hit at a time when European labour markets were still recovering from the impacts of the global financial crisis. While

unemployment levels were on the decline, they remained high in some Member States. The widespread deployment of job retention schemes to protect employment during the pandemic was therefore also driven by lessons learned from the previous decade. These included an understanding of the policy challenges of bringing people back into the labour market, the potential long-term scarring effects of unemployment on individuals and the broader socioeconomic consequences for more vulnerable socioeconomic groups.

The following chapters provide a comprehensive account of the way in which job retention schemes were used across the EU to respond to the pandemic, zooming in on their features and their variegated impacts at the macro and micro levels. Chapter 1 describes the characteristics of job retention schemes, mapping their main parameters and comparing their evolution. The chapter provides a typology of job retention schemes, showing that, because of the numerous changes introduced in job retention schemes during the pandemic, a clear distinction between schemes is increasingly difficult to delineate. Chapter 1 also shows that job retention schemes proved to be a particularly flexible instrument, more easily adjusted to the unpredictable environment generated by the COVID-19 pandemic than established institutions such as unemployment benefit systems. Besides changing the parameters of the national schemes, some Member States also developed sectoral schemes or similar measures targeting the self-employed. Indeed, a defining feature of the pandemic is that income support measures similar to job retention schemes were extended to self-employed workers.

Chapter 2 provides the first comparative empirical assessment of the link between institutional features of job retention schemes and participation rates, and estimates the net employment effects of job retention schemes. It shows that essential features of the schemes that affected participation rates were the administrative burden associated with accessing the schemes and criteria related to eligibility and conditionality for firms seeking to participate. At the same time, awareness of the existence of job retention schemes also affected participation rates within Member States that had schemes prior to the pandemic, as these pre-existing schemes registered higher levels of participation during the pandemic. In contrast, the generosity of the benefits paid did not influence participation in the schemes. This is explained by the unpredictable nature of the pandemic as well as by the fact that, in the vast majority of cases, participation came at no financial cost to employers.

Chapter 2 also provides national- and EU-level estimates of the number of jobs saved by job retention schemes in the first two years of the pandemic, showing that the schemes saved 26.9 million jobs in the EU. The estimated effect on employment was particularly significant in 2020: 24.8 million jobs, or the equivalent of 13.3% of EU employment, were saved in that year. The relative employment effects of job retention schemes varied between Member States and were dependent on participation rates. In 2021, amidst lower levels of participation and a gradual phaseout of the schemes in many countries, the estimated employment effects of job retention schemes were much less marked: 2.15 million jobs were saved.

Chapter 3 turns to the distributional effects of job retention schemes and income support measures for the self-employed. In addition to preserving employment, job retention schemes made a substantial contribution to maintaining household incomes during the pandemic. Chapter 3 demonstrates that in 2020 job retention schemes absorbed more than one-third of the shock generated by the pandemic, whereas in 2021

schemes absorbed more than one-fifth of the shock on market income (household income before taxes and benefits are taken into account). Together with other components of the tax–benefit and social security systems, job retention schemes absorbed most of the income shock generated by the pandemic in both 2020 and 2021. The extension of income support measures similar to job retention schemes to the self-employed also played a large role in protecting the income of this group of workers against the pandemic shock. Access to such measures was particularly important in the light of existing gaps in social protection coverage for the self-employed.

The analysis highlights the broader effects that job retention schemes and income support measures for the self-employed had on poverty and inequality. These effects were broadly driven by the redistributive nature of the interventions, which were geared towards protecting the incomes of those at the bottom of the income distribution. This provides evidence that schemes were well targeted and achieved their intended goals of income and employment protection.

# 1 Evolution and features of job retention and income stabilisation schemes for employees and the self-employed during the pandemic

## Introduction

The use of job retention schemes was the main feature of EU Member States' responses aimed at stabilising employment and income during the COVID-19 pandemic. Their use is not new but they became ubiquitous due to the experience arising from the global financial crisis, which demonstrated the importance and effectiveness of such schemes in supporting workers' attachment to the labour market during temporary drops in demand. These schemes allow firms to retain labour, skills and expertise, and thus prevent the inefficient termination of otherwise viable jobs (Boeri and Bruecker, 2011; Cahuc and Carcillo, 2011; Drahokoupil and Müller, 2021; Corti et al, 2023). Member States were therefore able to chart a smoother course towards recovery as restrictions were eased and finally lifted and demand grew (Eurofound, 2020; Eurofound and JRC, 2021). Another factor supporting the introduction and expansion of such schemes was the implementation of the EU's temporary instrument Support to mitigate Unemployment Risks in an Emergency (SURE), set up as a rapid response to the crisis in April 2020. SURE supported job retention schemes (among other things) in 19 Member States, making available long-term loans worth approximately €100 billion (Eurofound, 2021; ECA, 2022; Corti and Huguenot-Noël, 2024). Widespread reliance on job retention schemes during the pandemic demonstrates that their use benefits not only employers and workers, but also the state budget, as lay-offs are more limited (Eurofound and JRC, 2021), thus reducing the burden on unemployment benefit systems and the welfare state (Konle-Seidl, 2020). While short-time working schemes are no doubt costly, these costs are lower than those of the unemployment benefit schemes and other welfare supports that would otherwise be required.

Such schemes were introduced by all Member States, and both new and existing schemes were wider in scope than those implemented during the global financial crisis. Due to the specific nature of the crisis, which enforced movement restrictions and the full or partial closure of many sectors reliant on physical proximity for prolonged periods of time, additional groups of workers and organisations were brought into the scope of support measures, with the result that the number of dependent employees who benefited was significantly

higher than in previous crises. In addition, income support schemes were introduced for self-employed individuals on a scale that would previously have been unthinkable, but was justified by the fact that the restrictions on their ability to make a living were the result of government public health restrictions (Eurofound, 2024a). While distinct from job retention schemes, such support measures for the self-employed are covered in this chapter due to their importance in securing incomes during the pandemic – an aspect discussed in more detail in Chapter 3.

Studies on the impact of the use of job retention schemes during the global financial crisis indicate that the effectiveness and efficiency of such schemes are conditional on their design features. For example, if the cost to employers of participation is too high or eligibility criteria are too strict, employers may opt to – or be forced to – dismiss workers in jobs that would be viable in the longer term; on the other hand, if access to such schemes is too broad, ultimately unviable jobs could be subsidised, hindering the reallocation of labour to more viable sectors and occupations (Cahuc, 2019; Drahokoupil and Müller, 2021; Eichhorst et al, 2022). Furthermore, the eligibility criteria and replacement rates of job retention schemes (and income support schemes for the self-employed) have significant impacts on income stability, which in turn has consequences for whether affected workers come to rely on (other) social insurance or social assistance measures.

To set the subsequent discussion on the employment- and income-stabilising effects of these schemes in context, this chapter provides an overview of the diversity of job retention schemes and income support measures for the self-employed as implemented during the pandemic. It focuses on the nature or types of schemes implemented (e.g. short-time work, furlough schemes); the timing of the implementation and the evolution of schemes; and the extent to which such measures were permanent or temporary. It also discusses key eligibility criteria linked to employer and employee coverage, the level and duration of support, funding arrangements, the administrative burdens associated with these schemes, the link to dismissal protection and training, and the role of collective bargaining in their implementation.

## Typology of job retention schemes

Three types of job retention schemes are most commonly distinguished: short-time work schemes, furlough schemes (sometimes referred to as temporary unemployment/lay-off schemes; Eurofound, 2021) and wage subsidy schemes (OECD, 2020; Dražokoupil and Müller, 2021; Corti et al, 2023). All serve the purpose of supporting companies in addressing the impact of temporary reductions in demand and protecting workers' incomes and jobs in these situations. However, they differ in a number of features, including the type of support (payment for hours worked or not worked; employer or employee in receipt of the benefit); the cost to the employer (share of the cost covered by employer or state); and the role played by collective bargaining, among other things (Dražokoupil and Müller, 2021).

At their most fundamental level, wage subsidy schemes subsidise hours worked, whereas short-time work and furlough schemes subsidise hours not worked. In the literature, short-time work and furlough schemes have also been distinguished in relation to the scale of the reduction in working hours. Both Eurofound (2010), in its analysis of job retention schemes during the global financial crisis, and later the Organisation for Economic Co-operation and Development (OECD, 2020), consider a characteristic of furlough schemes to be the temporary stoppage of all work, whereas short-time work schemes are defined by a reduction in working hours, but not to zero.

However, in its analysis of pandemic job retention schemes, Eurofound (2021) concluded, as did Dražokoupil and Müller (2021) and Corti et al (2023), that this distinction became increasingly blurred during the pandemic, with both furlough and short-time work schemes allowing some or no working hours to be delivered, largely as a result of adjustments required because the public health restrictions affected different sectors to varying degrees. However, it remains the case that wage subsidy schemes are not contingent on specific reductions in working hours, but support companies affected by an economic downturn, the scale of which is a key eligibility criterion (Müller et al, 2022).

Dražokoupil and Müller (2021) suggest distinguishing between short-time work and furlough schemes using other features of the schemes, for example the fact that, in furlough schemes, employees receive benefits in situations of temporary unemployment, whereas short-time work schemes allocate wage support to employers to finance the payment of wages for hours not worked. In addition, in principle, furlough schemes can provide a temporary bridge to new employment, enabling workers to look for new job opportunities while remaining employed, whereas there is no expectation that workers participating in short-time

work schemes will seek alternative employment. In practice, there was little expectation that the beneficiaries of furlough schemes during the pandemic would seek alternative employment.

A particular feature of the pandemic was that a number of countries operated several job retention schemes, often of different types (either consecutively or at the same time). For example, 8 Member States (Bulgaria, Croatia, Czechia, Hungary, Ireland, Malta, the Netherlands and Poland) offered wage subsidy schemes; 19 (Austria, Bulgaria, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Portugal, Romania, Slovakia, Slovenia and Sweden) had short-time work schemes; and 10 (Belgium, Cyprus, Denmark, Finland, Greece, Ireland, Portugal, Romania, Slovenia and Spain) operated furlough schemes. In Denmark, Ireland and the Netherlands, systems pre-dating the pandemic were not utilised during COVID-19, and other systems (in the case of Ireland and the Netherlands, wage subsidy schemes) that were considered to be less bureaucratic, and therefore were more rapidly deployable, were introduced. Czechia had a long-standing wage subsidy system, but additionally introduced a short-time work scheme in April 2020. Systems allowing for the temporary suspension of contracts were initially used in Cyprus and in Romania for sectors affected by closure orders. Both countries also developed short-time work schemes, applied largely in sectors that experienced a reduction in turnover but where some working time remained possible.

## Evolution of job retention schemes

While some Member States have long-standing job retention schemes, in many countries the introduction of such (temporary or permanent) schemes was triggered initially by the global financial crisis and subsequently by the COVID-19 pandemic.

Only 11 Member States had job retention schemes in place prior to the global financial crisis. In a few countries (e.g. France and Germany), their initial introduction dates back around 100 years. In two further countries (Austria and Italy), job retention schemes were introduced in the 1940s, whereas other schemes date back to the 1970s, 1980s and 1990s (Finland, Luxembourg, Spain, Sweden, Portugal and Belgium, in order of date of introduction). These permanent schemes can be accessed when the situations stipulated in the eligibility criteria arise. Countries with such schemes already in place were able to trigger them immediately after the onset of the pandemic. In addition, it is likely that many employers in these countries were aware of the existence of such schemes, and some might even have had experience of using them. Two countries with long-standing schemes

decided to introduce different schemes, in both cases in the form of wage subsidies, which tend to be considered easier to administer and activate on a large scale (Drahokoupil and Müller, 2021). Ireland, instead of using its systematic short-time work support scheme, primarily relied on a new wage subsidy scheme, and the Netherlands also replaced its furlough scheme with a wage subsidy scheme.

During the global financial crisis, nine further Member States (Bulgaria, Czechia, Hungary, Latvia, Lithuania, the Netherlands, Poland, Slovakia and Slovenia) introduced job retention schemes. However, many of these schemes were temporary. During the COVID-19 pandemic, 16 countries therefore introduced new or additional schemes: Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Romania and Slovenia.<sup>1</sup> Furthermore, many countries with existing schemes introduced amendments to their measures, primarily revolving around simplifying administrative access in an effort to support workers and businesses as quickly as possible, broadening eligibility criteria and making supports more generous. Both eligibility criteria and the generosity of support were to a certain extent influenced by the type of scheme implemented. These issues are discussed in more detail in the subsequent sections.

In terms of the evolution of the schemes, beyond the amendments to eligibility criteria, a number of changes were made to the measures in place prior to the pandemic.

- Administrative burdens associated with applying for support were eased, meaning that both the rules and the procedures that had to be followed to gain access were limited or simplified. As well as easing eligibility criteria more generally, the steps most commonly implemented included allowing applications to be submitted digitally, reducing the amount of documentation that had to be submitted and allowing the use of data from other sources (e.g. other administrative data that may have already been submitted). Such solutions were implemented in many countries with long-standing systems (e.g. France, Germany, Portugal and Spain), but were also included in the design of new systems (e.g. Latvia, Lithuania, Malta, Slovakia and Slovenia). The Netherlands offered employers the option of applying for support in advance and repaying what was not used. In Austria and Germany, employers could apply for support as a precautionary measure and then claim only for workers actually affected by short-time work. As a result, the number of applications in these

countries was significantly higher than the number of eventual claims.

- Maximum periods for the possible receipt of support were gradually extended, largely in line with the ongoing development of public health restrictions. The nature of the public health crisis and the uncertainty around the speed and implementation of vaccination programmes made it difficult to predict and schedule the maximum duration of access, and any existing limits were often adjusted or temporarily lifted. Most temporary schemes were gradually extended to take account of any remaining public health restrictions. Estonia and Latvia were exceptions. In Estonia, the scheme was introduced in March and ended in June 2020 but was reintroduced between December 2020 and January 2021, during the second wave of the pandemic (Kallaste, 2021). Similarly, in Latvia, the short-time work scheme was initially in place for only three months but was subsequently reactivated between November 2020 and June 2021 (Preisa, 2021).
- Following the pandemic, a number of Member States extended job retention schemes to assist businesses in dealing with the impact of the war in Ukraine on supply chains. As of spring 2024, 13 EU Member States had permanent short-time work schemes in place. These can be accessed by companies provided they can demonstrate that they meet the relevant eligibility criteria. In addition to the 11 countries with long-standing job retention schemes, mentioned above, Czechia and Slovakia introduced permanent short-time work schemes during the pandemic.

## Eligibility criteria

Eligibility criteria for access to support from job retention schemes can broadly be categorised into those pertaining to the types of organisations covered (referred to as employer criteria) and those relating to the types of workers who can benefit (employee criteria). In addition to the type of scheme used, the design of these criteria was shaped by a number of factors, including the course of the pandemic and associated public health restrictions applied in different countries; the impact of the pandemic on specific countries and sectors; existing institutional features (e.g. the level of involvement of social partners); and other overarching political decisions regarding funding allocations and the balance between the importance of shoring up employment and the risk of deadweight effects.<sup>2</sup> Despite concerns that availability of finance

1 A type of job retention scheme, involving job-sharing arrangements, already existed in Denmark, but a new furlough scheme was introduced during the pandemic.

2 Deadweight effects arise when money is spent unnecessarily, for example to subsidise jobs that would have been saved even in the absence of a subsidy.

might influence the accessibility of job retention schemes and thus increase divergence in unemployment and income levels in Europe, divergence did not significantly materialise, partly as a result of the availability of the SURE facility.

As indicated above, employer and employee criteria were broadened both in schemes pre-dating the pandemic and designed for relatively expansive coverage and in new schemes designed to account for the wide-ranging impact of the public health restrictions imposed to limit the spread of the virus. As such restrictions eased and the economic situation of many businesses improved, many countries adjusted eligibility criteria in an effort to better target support to employers most affected by remaining restrictions and economic impacts of the pandemic and to reduce deadweight risks. However, significant differences remained between Member States.

Employer eligibility criteria included the following:

- the extent to which sectors and employers were subject to mandatory closure notices
- the scale of economic difficulties, which has to be demonstrated
- specific company characteristics such as size, sector or economic health prior to the pandemic
- organisational features such as the role of trade unions and collective bargaining

## Employer criteria

In terms of economic and operational impact on organisations, the pandemic situation was set apart from previous crises because the public health measures imposed had an impact on both businesses affected by enforced closures and those organisations whose ability to operate and generate revenue was limited by the restrictions and their impact on the wider economy. Businesses whose activity was subject to mandatory closure did not have to provide proof of a reduction in turnover. In some instances, however, they had to show that their activity fell into a specific sector mandated to close.

As demonstrated in Table 1, in countries with wage subsidy schemes or short-time work schemes newly introduced during the pandemic, a certain degree of revenue reduction was usually required in order for firms to be eligible for the scheme. Long-standing short-time work and furlough schemes were less likely to stipulate such requirements. However, in the case of short-time work schemes, a certain level of reduction in working time could be required or a minimum share of workers needed to be affected. For example, in Germany 10% of the workforce had to suffer a minimum of 10% loss in pay, and in Denmark temporary lay-offs had to affect at least 30% of staff or 50 or more employees. The extent of working time reduction can therefore be seen as an indication of economic impact. Ireland required a 25% reduction in working hours and Hungary required a 15–75% reduction in working hours, depending on the sector.

**Table 1: Employer eligibility criteria across Member States**

Eligibility criterion	None stipulated	10%	20%	25%	30%	More than 30%	Other
Revenue drop	Austria, Belgium, Czechia, Denmark (furlough scheme), Finland, France, Greece (furlough scheme), Italy, Lithuania, Luxembourg, Romania (furlough scheme), Spain, Sweden	Romania (short-time work scheme)	Bulgaria, Croatia, Greece (short-time work scheme), Netherlands, Slovakia, Slovenia (short-time work scheme)	Malta, Portugal	Estonia, Latvia (March–June 2020)	Estonia (50%), Latvia (50%, second wave)	Cyprus: no requirement for companies facing enforced closure, but for others at least 80%; Poland: 15% if as a result of the pandemic and otherwise 25%; Slovenia (furlough scheme): at least 10–20%
Working hours reduction				Ireland			Hungary: 15–75% reduction in working hours
Share of workers affected		Germany, Romania (short-time work scheme)	Croatia (employers with fewer than 50 workers)		Denmark (short-time work scheme)		

**Note:** ‘Furlough scheme’ or ‘short-time work scheme’ is mentioned in brackets for countries that have more than one scheme and for which eligibility criteria vary for the different schemes operating in the same country.

**Sources:** *Drachokoupil and Müller, 2021; Eurofound, 2021; and contributions received from the Network of Eurofound Correspondents for this study*

The revenue reduction required varied from 10% to 80%. Whereas eligibility for Romania's short-time work scheme required a minimum reduction of 10% in revenue (and a suspension of contracts for at least 10% of employees), the Cypriot scheme asked for a revenue drop of 80% among companies not impacted by enforced closure. Such differences clearly affect the share of eligible companies. Criteria also varied in relation to the reference periods for comparison (e.g. previous month or previous year). The precise design of these reference periods could be of particular relevance for more seasonal activities. Different reference periods could also be used in the same country. For example, in Poland, a minimum threshold of a 15% revenue drop applied to comparisons with the previous year whereas a month-to-month comparison required a drop of 25%.

A number of countries amended the requirements for drops in revenue during the periods in which restrictions were lifted (and then subsequently tightened again), and greater reductions were required to remain eligible (e.g. Croatia and Poland). The goal of this approach was to avoid deadweight losses, and could go hand in hand with provisions to exclude companies that paid out dividends or bonuses. This was the case in Croatia, Denmark, the Netherlands, Portugal, Romania, Slovenia and Sweden (Drahokoupil and Müller, 2021).

As regards criteria linked to sector-specific features, it is notable that public sector organisations were excluded in most countries (Austria, Belgium, Bulgaria, Cyprus, Czechia, Finland, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden). Size thresholds

were also stipulated in some countries, with Croatia, France, Germany and Spain requiring companies to have at least 10 employees. While the majority of countries did not stipulate any requirements regarding the financial health of the business prior to the pandemic, Austria, Czechia, Hungary, Latvia, Lithuania, Slovakia and Sweden required employers to demonstrate that they were not in a situation of insolvency or bankruptcy and had met all their social insurance and tax obligations.

Significant differences, mainly linked to underlying industrial relations traditions, are also evident in terms of any requirements for trade union or collective bargaining involvement in the implementation of job retention schemes (see Box 1). No formal requirements for such involvement were present in 11 countries (Bulgaria, Croatia, Cyprus, Czechia, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania and Malta). Belgium, Luxembourg, the Netherlands, Portugal, Romania, Slovakia, Slovenia and Spain required consultations with social partners in the implementation of the schemes at company level. Formal agreement was required in Austria, Denmark, Finland, France, Germany, Italy, Poland and Sweden. One of the important contributions of collective bargaining was the negotiation of supplements to state payments. In Belgium, such a supplement was agreed at industry level, whereas in Czechia, Denmark, France, Germany, Italy and Slovenia some company-level supplements were negotiated. In Germany, 45% of workers had their level of support increased through company-level bargaining, with a significant positive impact on their incomes during the pandemic (Eurofound, 2021).

### Box 1: Importance of collective bargaining in topping up statutory job retention schemes

Collective bargaining played a role in improving the level of support provided by job retention schemes. This was usually done at company level, although some sectoral agreements were negotiated, for example in the metal sector in Belgium and in the public sector in Slovenia. Although company-level agreements were also reached in Belgium, Czechia, France, Italy and Slovenia, such agreements were most common in Germany (Müller et al, 2022). Due to the relatively low level of the statutory allowance in the early months of the pandemic in Germany compared with other countries, collective agreements played a particularly important role in topping up statutory provisions. A survey by the Hans Böckler Foundation showed that, in June 2020, 60% of employees in workplaces with a collective agreement benefited from a top-up, compared with just 34% in firms without a collective agreement. By November 2020, 53% of employees in firms covered by collective bargaining were still in receipt of a top-up, compared with 29% of those that did not benefit from collective bargaining (Schulten, 2021). In some cases, company-level agreements went beyond merely topping up the level of support and sought to provide higher levels of support to those on low wages (Vincent, 2021).

**Table 2: Dismissal protection across Member States for the duration of job retention schemes during the COVID-19 pandemic**

<b>Member States where employees were protected from dismissal in the months following the receipt of support</b>	Austria (1 month), Croatia (1 month), Cyprus (1 month), Estonia (2 months), Hungary (1 month), Portugal (2 months), Slovakia (2 months), Slovenia (1 month, short-time work scheme), Spain (6 months)
<b>Member States where employees were protected while benefiting from job retention schemes</b>	Denmark, Greece, Malta, Netherlands, Poland, Slovenia
<b>Member States where employees were protected for periods equal to the duration of time that they benefited from job retention schemes</b>	Slovenia (furlough scheme)
<b>Member States with other rules for dismissal protection</b>	<p>Bulgaria: employees are protected for a period that is twice as long as the period of benefiting from the scheme</p> <p>Czechia: employees must still be employed when employer makes declaration of wages and contributions in subsequent months</p> <p>France: employees are protected for twice the period authorised in the scheme</p> <p>Italy: dismissal protection is linked to a specific date</p> <p>Latvia: the employee for whom the allowance is claimed must not be dismissed within one month of submitting the application</p> <p>Lithuania: protection measures apply for three months for at least 50% of the workforce retained with the short-time work scheme</p> <p>Luxembourg: companies benefiting from job retention scheme support are barred from making workers redundant for economic reasons (in the case of a proven need, companies in the hotel, restaurant and catering sector, the tourism sector and the events sector were allowed to lay off a maximum of 25% of their employees from 18 March to 31 December 2020)</p> <p>Romania: upon returning from technical unemployment, employers who benefited from the reimbursement of 41.5% of the salary between 1 June and 31 August 2020 have to maintain employment relationships until 31 December 2020, with the exception of seasonal workers</p>

Sources: *Drahokoupil and Müller, 2021; Eurofound, 2021; and contributions received from the Network of Eurofound Correspondents for this study*

In addition to setting eligibility criteria, many countries also stipulated that employers receiving support from job retention schemes could not dismiss employees or make them redundant (see Table 2). Such restrictions were in place – to varying degrees – in Austria, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, France, Greece, Italy, Latvia, Luxembourg, Malta, the Netherlands, Poland, Romania, Slovakia and Slovenia. While some of these provisions applied for only as long as employers benefited from the scheme, others lasted longer (in Bulgaria, for instance, twice as long as the period of benefiting from the scheme). Others made exceptions for specific sectors (e.g. Luxembourg). Lithuania and Spain also had some restrictions on dismissals in place, but these covered only a share of workers. In Lithuania, employers who have received a wage subsidy must maintain at least 50% of the jobs for at least three months after the end of the wage subsidy. Spain does not allow collective dismissals as long as an

employer is making use of a job retention scheme, and collective agreements can extend this period, in some cases for up to six months following use of the scheme.

Hungary was the only country that required employers to provide training for workers on job retention schemes. In Germany, in 2021, the state continued to cover social insurance contributions only for employers providing training. In other countries, including Portugal, Slovenia, Spain and Sweden, employers were encouraged to offer training or to give priority to workers on job retention schemes when allocating training places. In Austria, provisions stipulated that employees in short-time work must take part in training if offered, but few employers offered it. The reasons provided for the relative dearth of training were the difficulty of planning such interventions in advance, the limited offer of training online in some occupations and a lack of clarity about how long pandemic restrictions would last (Eurofound, 2021).



**Table 3: Groups of workers, other than core, covered by job retention schemes during the pandemic, across Member States**

<b>Part-time workers</b>	Austria, Belgium, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
<b>Fixed-term contract workers</b>	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain
<b>Temporary agency workers</b>	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Portugal
<b>Workers on casual contracts</b>	France, Ireland, Latvia, Malta, Netherlands, Portugal, Romania

Sources: *Drahokoupil and Müller, 2021; Eurofound, 2021; and contributions received from the Network of Eurofound Correspondents for this study*

## Employee criteria

Prior to the pandemic, job retention schemes were primarily accessible to workers on open-ended contracts. This changed during the pandemic, with a number of countries extending coverage to workers on fixed-term or temporary agency contracts and workers on other types of more casual contracts. Table 3 shows the level of coverage of workers on more atypical contracts by Member State.

Part-time workers were covered in practically all schemes except those in Croatia and Hungary, where the share of part-time workers is also relatively low (Eurofound, 2020). Workers on fixed-term contracts were not eligible for support in Denmark, Hungary and Sweden. Temporary agency workers were covered in 18 countries. In France, Ireland, Latvia, Malta, the Netherlands, Portugal and Romania, casual workers such as seasonal workers were supported. France also included domestic workers and apprentices among those covered.

It is apparent, therefore, that eligibility criteria for employees tended to be more uniform than company criteria across types of schemes and Member States. Some furlough schemes required employees to have contributed sufficiently to the unemployment benefit systems (e.g. Denmark, Finland and Ireland for the earnings-related unemployment benefit). The short-time work schemes in Austria and Germany excluded marginally employed workers whose earnings fell below the threshold for paying social insurance contributions. Ireland and Poland stood out for excluding workers earning more than a certain threshold entirely from their schemes.

## Level of support

The level of support granted can be assessed both in terms of the generosity of the payments received by workers for the wages lost due to hours not worked and in relation to the extent to which employers were compensated for costs arising as a result of retaining workers during times of reduced demand. Equally relevant is the duration for which support is granted and whether there are any adjustments to the level of

support depending on the duration of receipt. During the pandemic, with the exception of Estonia and Latvia, as mentioned above, the duration of support granted was less of an issue, particularly for workers in the most affected sectors, since Member States repeatedly extended their job retention schemes. As long as the eligibility criteria continued to be met, support therefore remained available. In terms of adjustments in the generosity of support depending on duration, different patterns emerge. For example, in Germany, workers on short-time work schemes initially received at least 60% of their net wage; this increased to a maximum of 87% after 6 months. In other countries, including Greece and Spain for example, the level of support granted declined over time (in Spain from 75% to 50%).

The first element affecting the level of support for employees in the replacement rate is the percentage of the original wage that is received for the hours not worked. As shown in Table 4, this is calculated as a percentage of gross wage, but the replacement rate varies significantly from country to country and ranges from 25% to 100%. Particularly (but not exclusively) in wage subsidy schemes, payments granted to workers were often at a flat rate, rendering the calculation of the replacement rate more challenging. Here, it is also worth recalling that the replacement rate offered by the scheme is only an indication of the level of support granted in countries where sector- or company-level bargaining plays a significant role in potentially increasing the level of payment provided (see Box 1). The original (gross) wage could also affect the replacement rate received. Austria, for example, granted higher replacement rates to low-wage workers (the scheme recognised three wage brackets).

The scale of working time reduction was another factor that could influence replacement rates. In Poland, the replacement rate for workers in sectors whose activity was fully suspended was 50%, whereas in sectors facing a drop in revenue, depending on the scale of this drop, a rate of 20–50% of the previous wage was applied. Sweden operated a similar scheme with three different brackets. In some cases, the level of support depended

**Table 4: Wage replacement rate and cap on job retention schemes, by Member State**

Member State	Replacement wage (%)	Cap as a percentage of average wage (%)
Austria	80–90 net	168
Belgium	70	47
Bulgaria	100	123
	Flat rate	
Croatia	Flat rate	21–29
	Flat rate	21–42
Cyprus	60	63
Czechia	60–100	85–111
	90	
Denmark	100	84
	Up to 90	64
Estonia	50–70	56–70
Finland	40–90	No cap
France	70	159
Germany	60–87 net	89
Greece	60 net	
	Flat rate	17–45
Hungary	70 net	30
	70 net	65
	70 net	86
Ireland	Flat rate	37
	Flat rate	
Italy	80	36–43
Latvia	50–75	65–92
Lithuania	70–90	51–76
Luxembourg	80	84
Malta	Flat rate	52
Netherlands	90–100	215–219
Poland	25–50	40
Portugal	66–92	122
Romania	75	75
	75	75
Slovakia	60–80	80–100
Slovenia	80	50
	80	Max. unemployment benefit
Spain	50–70	48–62
Sweden	88–96	114

**Notes:** Where there are two or more rows for a country, the information refers to separate job retention schemes. The replacement wage is gross unless otherwise indicated.

**Sources:** Dražokoupil and Müller, 2021; Eurofound, 2021; and contributions received from the Network of Eurofound Correspondents for this study

on the reason for the fall in revenue; for example, an employee unable to work because of being quarantined might receive a higher payment than one whose hours were reduced as a result of declining demand. A number of countries, including Estonia, Portugal and Slovakia, applied different replacement rates during different phases of the pandemic (Dražokoupil and Müller, 2021). Payments could also vary based on family situation.

In addition, the percentage replacement rate on its own is insufficient to assess the generosity of support granted without taking account of any caps applied, which specify the maximum amount of payment granted for hours not worked. The cap can be set at an absolute monetary value but can also be expressed in relation to the minimum or average wage in the country. Table 4 presents the cap expressed as a percentage of the average national wage, demonstrating significant differences in generosity between countries, even where replacement rates are comparable. Also important for workers – particularly if working time and wages are reduced for a significant period – is the payment or non-payment of insurance contributions, as non-payment ultimately leads to a loss of accrued rights to social insurance and pension benefits. In principle, workers on furlough schemes are drawing on unemployment insurance systems, and often no social security contributions are paid while on such schemes, unless specific provision is made to do so (e.g. in Cyprus and Spain). In the case of short-time work and wage subsidy schemes, social insurance contributions are usually paid, but the situation also differs between Member States.

Moving on to the generosity of different schemes from the point of view of the employer, the extent to which social security contributions are covered by the state for workers on job retention schemes is one of the factors affecting the costs that employers must bear. Arrangements vary in a number of ways. In Austria, Denmark, Estonia and, for a time, Germany and Slovenia, the state covered 100% of these contributions for hours not worked under short-time work schemes. Similarly, for wage subsidy and furlough schemes in Croatia, Cyprus, Czechia and Greece, the state provided full coverage. However, in Belgium and France, contributions were paid only for hours worked. In other countries, such as Lithuania, Luxembourg, Malta, the Netherlands, Poland and Romania, employers and employees continued to pay social security contributions.

The most significant cost element for companies relates to the question of who pays workers' wages for the hours not worked. Dražokoupil and Müller (2021) emphasise the impact of the type of scheme on the level of co-funding by employers, which they found to be higher in wage subsidy schemes, almost absent in furlough schemes and changing over time in short-time work schemes, with more co-payments required in the

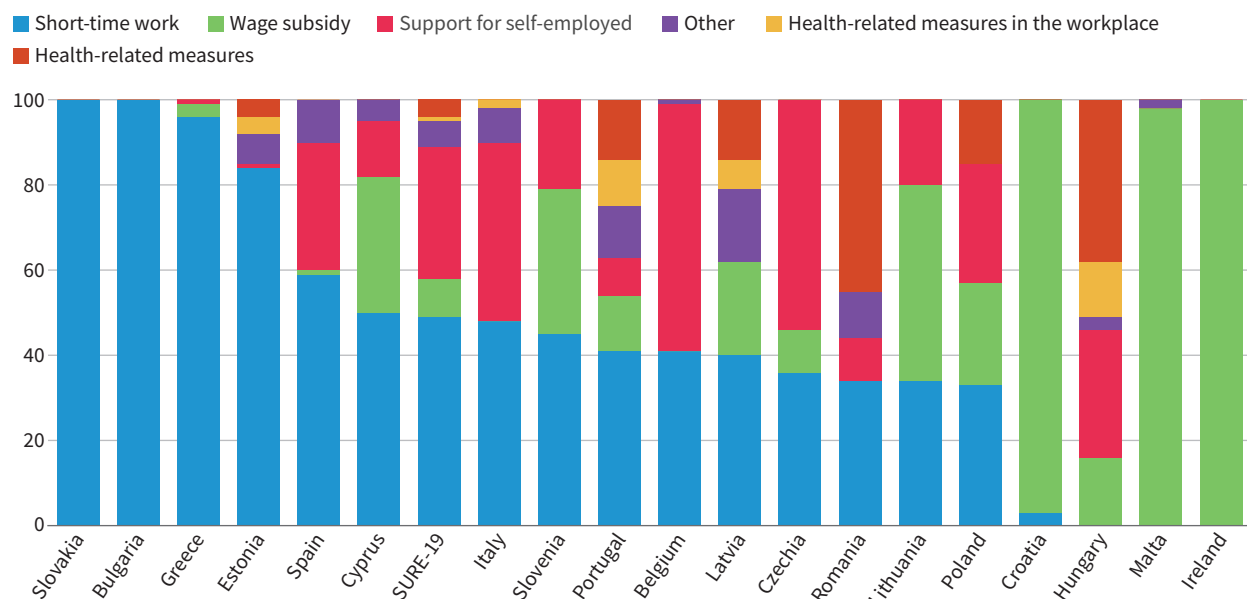
later stages of the pandemic. No payment is required from the employer (unless otherwise agreed in collective bargaining) in short-time work schemes in Austria, Germany, Greece, Hungary, Latvia, Lithuania, Luxembourg, Romania, Slovakia and Spain. In France, Italy and Portugal, no employer contribution is required in the standard short-time work schemes, but COVID-19-specific schemes involved some co-payment, in some cases introduced as the pandemic evolved and in others depending on the scale of the loss of revenue. In the Czech short-time work scheme, no contribution is required from the employer if the closure of the premises is mandated by the state, but a 40% contribution is required for reductions in working hours due to economic difficulties. The Cypriot, Danish, Finnish and Greek furlough schemes and the Irish wage subsidy schemes also require no employer co-payment. In other countries, during the COVID-19 pandemic, an employer co-payment was either required from the start or introduced gradually as more and more restrictions were lifted. In Denmark, different levels of co-payment were in place for blue- and white-collar workers, and in Sweden the level of employer financing depended on the extent of working time reduction. In Malta and Poland, the co-payment depended on the severity of the impact of the pandemic on the employer; in Italy, the same principle applied to the existing scheme that had been adapted for COVID-19. In the Bulgarian short-time work scheme, the co-payment was fixed at 40% and in the Slovenian furlough scheme it was fixed at 20%.

## Funding

Nineteen Member States took advantage of funding from the SURE facility to help them finance job retention schemes during the pandemic (SURE-19). In terms of country share of the total SURE loan amount, Italy, Poland and Spain were the largest beneficiaries. Almost half of the SURE spending (49%) went to job retention schemes, with a further 31% being allocated to similar measures for the self-employed and 9% for wage subsidy schemes (see Figure 1). Many of the countries that did not apply for SURE funding had job retention schemes in place prior to the pandemic and in the main were those able to raise funding on more favourable terms than could be obtained by the EU. The following countries did not make use of SURE funding: Austria, Denmark, Finland, France, Germany, Luxembourg, the Netherlands and Sweden. All SURE recipient countries utilised these favourable loans to fund job retention schemes. Bulgaria, Croatia, Greece, Ireland, Malta and Slovakia used SURE funding exclusively or almost exclusively for job retention schemes (either short-time work schemes or wage subsidy schemes). Figure 1 also shows that Belgium, Czechia and Italy also used a significant share of their SURE funding for measures to support the incomes of self-employed workers.

In most cases these were new (or expanded) schemes. Over 10 countries additionally used European Structural and Investment Funds to support their measures. In the countries making use of SURE funding, SURE loan contributions to total job retention scheme spending during the period (2020–2022) varied between 28% and 100%. Overall, at aggregate level, SURE loans accounted for 64% of job retention scheme spending

Figure 1: Spending profile of SURE-financed measures, 2020–2022 (%)



Source: European Commission, 2023

over 2020–2022 and 83% in 2020. For most countries, SURE loans accounted for 55–90% of total job retention scheme spending (including job retention measures not co-financed by SURE).

## Income stabilisation measures for the self-employed during the pandemic

The extension of income and social protection to the self-employed and the implementation of job retention schemes for employees were key features of government actions during the COVID-19 pandemic. The support provided was of a nature and scale that had previously been unthinkable but was a necessary response to the enforced full or partial closure of many sectors, which restricted the ability of self-employed workers to generate an income and undermined the moral hazard argument often used to reject the implementation of such protection schemes for the self-employed.

Governments in almost all Member States introduced income support measures for the self-employed that provided protection akin to short-time work or furlough schemes but at the same time were clearly different in nature. Such schemes were eligible for SURE funding, and the facility was used for these purposes in 13 countries (Belgium, Cyprus, Czechia, Estonia, Greece, Hungary, Italy, Lithuania, Poland, Portugal, Romania, Slovenia and Spain) (Eurofound, 2020, 2021, 2024a; Spasova et al, 2021).

However, as will be shown in this section, these schemes generally offered lower rates of support than those provided to employees (Bruegel, 2020; Eurofound, 2021, 2024a). Eligibility criteria linked to sectoral restrictions, turnover reduction thresholds and the financial health of the business prior to the pandemic also meant that some groups of self-employed workers were excluded from support (Eurofound, 2021). Particular problems arose for those with short work histories in self-employment, those coming off career breaks and other self-employed workers whose earnings in the assessment period did not fulfil set eligibility criteria (OECD, 2020).

Furthermore, replacement rates were lower and the duration of support was often shorter than for employees. However, it must of course be borne in mind that such income support measures were in many cases combined with other types of business support, such as low-interest loans and deferrals of social security and other financial obligations, as well as specific schemes for certain types of self-employed workers, such as artists (Eurofound, 2024a).

Analysis of the timing of these measures also shows that they were largely introduced after support measures for employees had been extended or introduced.

The slower speed of response was shaped by a historical reluctance to offer such support to self-employed workers, as it is ostensibly more difficult to show that a reduction (and collapse) in income is not due to inadequate effort or to poor business strategy.

## Coverage and eligibility criteria

### Sector focus

While most support schemes were open to self-employed workers in all sectors, in some instances payments were (initially) limited to those whose activity was forced to cease entirely, with those suffering only partial losses not covered. This was the case in Hungary, Ireland and Romania, which opened up their support schemes only to self-employed workers affected by closure orders. Other countries developed income replacement schemes solely for self-employed workers in specific sectors, such as the arts, entertainment and culture sectors, which tended to be most affected by contact restrictions during the pandemic. For example, in Bulgaria, financial assistance was available only to artists with an average monthly income of less than €500 in 2019 who were not benefiting from other forms of financial support. In Estonia, these support schemes were limited to freelancers in the creative industries and small and medium-sized enterprises operating in the tourism sector, the hotel, restaurant and catering sector and the events sector. In Croatia, income support measures for self-employed workers were also limited to the arts and entertainment sectors.

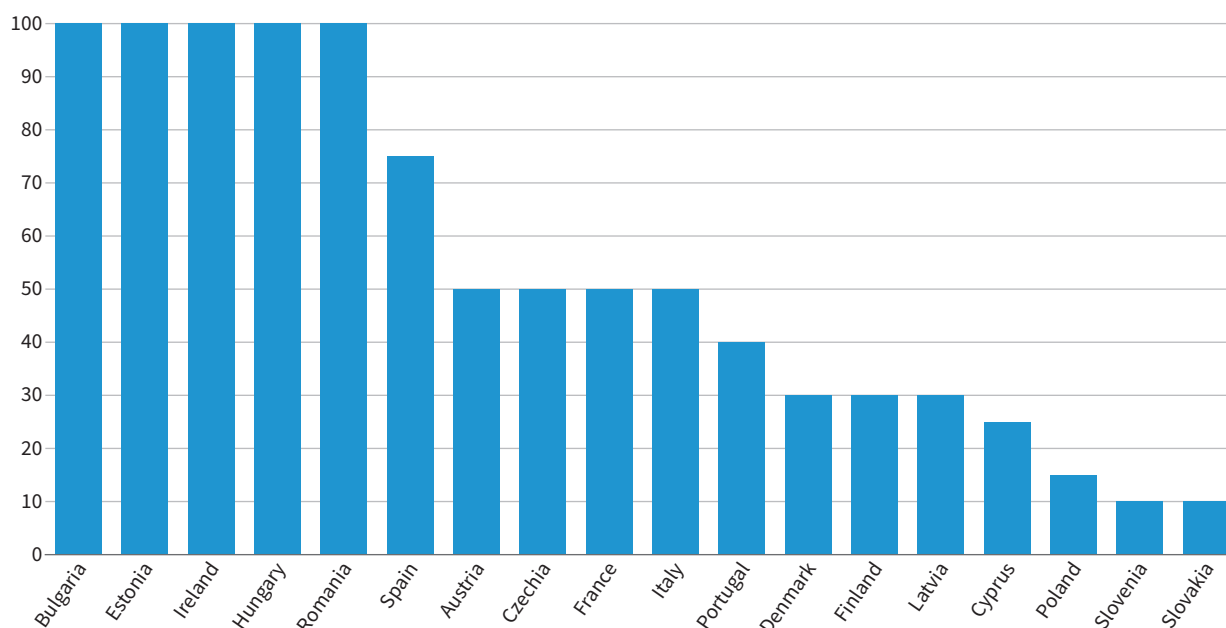
Limitations in access to the schemes in specific sectors became more evident as health restrictions began to lift. For example, the French solidarity fund for small companies was initially accessible to all entrepreneurs able to demonstrate the required economic impact. From June 2020 this became limited to the most affected sectors, including the tourism, hotel, restaurant and catering sectors. A similar approach was taken by the Belgian income replacement for the self-employed.

Some countries introduced schemes for specific sectors and occupations in addition to more general support measures. A feature of the support available to self-employed workers in the arts and entertainment sector was its one-off grant-based nature, which arguably did not provide the same amount of reassurance as ongoing monthly support at a time when the further evolution of the pandemic was uncertain. Support measures or one-off grants for the arts and entertainment sector were introduced in Austria, Cyprus, Czechia, Denmark, Finland and Portugal.

### Groups of self-employed workers covered

Most of the measures implemented were available to both self-employed people with employees and solo self-employed individuals. However, a number of income support schemes focused on the solo self-employed (e.g. Bulgaria, Croatia, Cyprus, Czechia, Finland, Germany, Poland, the Netherlands and Romania).

**Figure 2: Minimum income or turnover loss required to access self-employment income support schemes, early phase of the pandemic (first half of 2020) (%)**



**Notes:** No specific thresholds were set in Belgium, Germany or the Netherlands. In Greece, self-employed people who were affected by the government order to cease operations were eligible. In other countries (e.g. Malta and Sweden) the self-employed had to register as unemployed, but different provisions applied regarding whether they were still allowed to carry out some activity.

**Source:** Authors' calculations based on contributions received from the Network of Eurofound Correspondents for this study

Support measures were generally not strictly limited to those for whom self-employment was the sole source of income (only Finland, the Netherlands and Romania applied this limitation). However, most countries required self-employed workers' earnings from other activities to be below a certain threshold for them to qualify for support, or set restrictions on the types of earnings that could be combined. Minimum and maximum earnings thresholds from self-employment were used as a way of excluding from support those for whom self-employment accounted for only a small proportion of their income or whose pre-pandemic income was very high. Such upper and lower eligibility ceilings also meant that those with the smallest incomes could find themselves ineligible, while those with potentially the greatest financial losses were expected to rely on earnings accumulated in previous years.

### Income reduction thresholds

Access to income support measures was further restricted to those able to demonstrate a loss of income above a certain threshold. In general, these thresholds were lower at the start of the pandemic and increased as restrictions began to lift and activity became possible again in many sectors.

As indicated in the section 'Coverage and eligibility criteria', the schemes in Bulgaria, Estonia, Ireland, Hungary and Romania were available only to individuals or businesses prevented from operating because of public health restrictions. Other countries required a minimum turnover loss, ranging from 75% in Spain to 10% in Slovakia and Slovenia (see Figure 2). A number of countries, including Austria, Latvia, Slovakia and Slovenia, increased the thresholds after the most severe lockdown restrictions were lifted, while others reduced them to account for the fact that fewer businesses were affected by full closures. The Belgian scheme, for example, was initially designed largely for self-employed workers affected by closure orders (with others able to claim in certain circumstances).

**Table 5: Income replacement rates for the self-employed during the COVID-19 pandemic across Member States**

<b>Flat rate</b>	Belgium, Bulgaria, Croatia, Czechia, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Portugal, Slovenia
<b>Other</b>	Austria (income dependent), Cyprus (60%), Denmark (75%), Latvia (50–75%), Malta (dependent on sector), Netherlands (means-tested), Poland (80%), Romania (75%), Slovakia (income dependent), Spain (50–70%), Sweden (75%)

**Source:** Eurofound, 2024a

### Replacement rate

In nearly two-thirds of Member States income replacement was paid at a flat rate to self-employed workers (see Table 5), while in most countries support from job retention schemes for employees was income related and paid at a rate of between 25% and 100% depending on the country and the phase of the pandemic (see Table 4). This meant that income reductions were generally more significant for self-employed workers.

### Duration of available measures

Another difference between the availability of income support measures for employees and the self-employed was the duration for which the schemes were available. In most cases, access to these financial support schemes remained open longer for employees than for self-employed workers. The average duration for which

support schemes for self-employed workers remained in place during the pandemic was 21 months, compared with 26 months for employees (Eurofound, 2024a).

### Funding

Thirteen of the 19 Member States that received assistance from the SURE facility used this funding to support the self-employed. The vast majority of the €98.4 million expended from the SURE facility was allocated to short-time work schemes or similar measures, including those aimed at the self-employed (European Commission, 2023). Over 31% of total public expenditure on SURE-eligible measures was allocated to income stabilisation measures for self-employed workers. The European Commission estimates that over 9 million self-employed workers benefited from measures supported by SURE.

## Key findings

The extension of the use of job retention schemes across all Member States, the broadening of eligibility criteria to cover additional groups of workers and employers, the easing of administrative burdens of applications and the introduction of income support schemes for self-employed workers were among the key features of the pandemic response. These measures were necessitated by the specific nature of the challenges posed by the pandemic, and were informed by lessons learned from the experience of the global financial crisis. In addition, the rapid introduction of the SURE instrument provided Member States with the ability to access low-cost loans to help fund job retention and similar schemes to prevent the loss of otherwise viable jobs and businesses. Eleven Member States had job retention schemes pre-dating the pandemic, and 16 Member States introduced new or additional schemes in 2020.

Despite these similarities in overall approach, important differences in the characteristics of job retention schemes and the support offered to employees and self-employed workers affected eligibility, take-up rates and the retention of employment and incomes.

The job retention schemes implemented differed in three main ways: by whether they supported hours worked or not worked, the cost to the employer and the role played by collective bargaining. A number of countries operated several job retention schemes to account for the specific situation caused by the pandemic, with the enforced closure of some sectors and severe economic impact on others. In other countries that either amended existing or introduced new job retention schemes, the distinction between different types of schemes became increasingly blurred and changes were made to adjust policies during the evolution of the health emergency and its associated public health restrictions.

In addition to sector specificity, a key distinguishing characteristic of job retention schemes with regard to employer eligibility criteria was the impact of mandatory closure notices and the scale of economic effect that had to be demonstrated. Revenue drops required for eligibility ranged from 10% to 80%. Other countries required a minimum reduction in working hours (e.g. Hungary) or workers affected (e.g. Germany). As the pandemic evolved and some restrictions were lifted, a number of Member States increased the threshold for support to limit deadweight effects. Employee eligibility criteria converged to some extent under the COVID-19 job retention schemes, as most countries widened access to cover more workers on atypical contracts.

The level of support granted to workers has to be assessed in terms of not only wage replacement rates but also caps applied, since caps can mean that schemes offering similar replacement rates can vary significantly in the level of income stabilisation granted. In some countries, notably Germany, collective bargaining played a key role in enhancing the level of support provided.

For employers, the share of the wage cost and social security contributions borne by the state influenced the attractiveness of accessing the scheme. For governments in 19 Member States, access to low-cost loans through SURE enabled the introduction or extension of job retention schemes and income support for self-employed workers.

Although the introduction of income support for self-employed workers was an unprecedented feature of the pandemic response, the support granted to the self-employed, in terms of the access to and level of support provided, was less generous than that offered to employees.

## 2 Employment effects of job retention schemes

### Introduction

This chapter builds on the descriptive analysis provided in Chapter 1 and analyses the link between the institutional features of job retention schemes and participation or take-up rates, as well as the impact of the use of job retention schemes on employment levels. The substantial body of literature examining the link between the features of the schemes and participation rates during the global financial crisis demonstrated that generosity towards workers and firm eligibility criteria determine whether or not firms choose to make use of the scheme and move some or part of their workforce into short-time work (Boeri and Bruecker, 2011; Hijzen and Venn, 2011; Hijzen and Martin, 2013). However, there are several important differences between the global financial crisis and the pandemic-induced crisis.

First, the COVID-19 pandemic was an exogenous shock that, against the backdrop of mandatory lockdowns, initially affected the real sector (the part of the economy encompassing activities that directly produce goods and services, such as agriculture, manufacturing and construction). This limited the supply of goods, which then translated into supply bottlenecks. In contrast, the global financial crisis originated in the financial sector, first affecting the demand side and then evolving into a global recession. Second, the economic sectors most affected by the pandemic were those involving a high level of face-to-face interaction, such as hospitality, leisure and personal service activities. In contrast to the situation during the global financial crisis, the financial sector – one of the services sectors in which telework was possible and was swiftly implemented during the pandemic – did not suffer dramatic losses. Third, in contrast to the financial crisis of 2007–2008, which took some time to morph into a global crisis, the COVID-19 crisis spread around the world much more rapidly, leading to sharper declines in economic activity. Fourth, the impact of the pandemic on national labour markets was felt in several waves and was correlated with national lockdowns and social distancing rules.

These specific features of the COVID-19 shock resulted in policy responses that were different from those adopted during the global financial crisis. Given the impact of the COVID-19 pandemic on the real sector, the main policy concern at the start of the crisis, as well as during the subsequent waves, was to prevent mass lay-offs that would not only put substantial pressure on unemployment systems but also generate increased hiring costs for companies once economic activity

resumed. Furthermore, given the lack of predictability with respect to the duration of the pandemic, the speed with which vaccines could be developed and the emergence of new strains of the virus, policy responses focused on maintaining the incomes of affected workers (see Chapter 3) while also seeking to ensure that workers could fully resume work once the crisis had passed, thereby preserving firm-specific human capital (Costa Dias et al, 2020). At the same time, as the pandemic unfolded, and its public health effects became more manageable, initially generous income support schemes became more targeted and benefits were gradually phased out.

As Chapter 1 demonstrated, all Member States updated their existing schemes or deployed new job retention schemes in response to the pandemic, and design features and adaptations introduced in response to subsequent waves were highly heterogeneous. The analysis that follows describes how job retention schemes worked in practice during the COVID-19 pandemic by zooming in on their quantitative impacts. It first describes and compares the take-up rates using different available sources of data. In a second step, using the information on take-up rates, it estimates the net employment effects of job retention schemes. The main finding of this chapter is that job retention schemes achieved their intended purpose: they succeeded in saving an estimated 26.9 million jobs in the EU between 2020 and 2022. Unsurprisingly, the employment effect is driven by the number of jobs saved in 2020, which amount to 24.8 million. As the effects of the pandemic on the labour market waned with the decline in the duration and stringency of lockdowns, job retention schemes were phased out and replaced with traditional automatic stabilisers such as unemployment benefit systems. The chapter also compares the effectiveness of job retention schemes, in terms of jobs saved, across countries and years.

### Participation in job retention schemes

Job retention schemes were the main policy intervention used in the EU to address the immediate effect of the pandemic on national labour markets. Compared with the global financial crisis, the use of such schemes was more widespread, in terms of both geographical coverage and number of workers who participated in the scheme. As the previous chapter notes, nine EU countries introduced new job retention

schemes in response to the global financial crisis (Bulgaria, Czechia, Hungary, Latvia, Lithuania, the Netherlands, Poland, Slovakia and Slovenia). During the COVID-19 pandemic, 16 countries introduced new or additional schemes (Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Romania and Slovenia). According to OECD estimates, by May 2020 job retention schemes supported around 50 million workers, a tenfold increase compared with the global financial crisis (OECD, 2020).

As Figure 3 demonstrates, as a result of generally relaxed criteria for participating in the schemes as well as generous allowances relative to the original wage (see Chapter 1), take-up rose rapidly, especially during the first quarter of 2020. The total take-up figures presented in Figure 3 are similar in size to the estimates provided by the OECD. In the first two quarters alone, 52 million employees received support through job retention schemes, while an additional 11 million were supported in each of the two subsequent quarters of 2020. The figure also shows that, driven by the enforcement of new lockdowns, total participation in the schemes increased slightly in the EU during the first quarter of 2021, when it covered 13 million workers. In the subsequent quarters, participation in the schemes gradually declined, with the number of participants in the third quarter of 2022 estimated at 100,000.

Figure 3 also shows that large differences exist between EU countries in terms of the total participation in the national schemes. France, Germany, Italy, the Netherlands and Spain, with the largest labour markets in the EU, accounted for 82% of the total participation in job retention schemes in the EU during the first quarter of 2020, and for 72% and 66% in the subsequent two quarters. In France alone, almost 7 million workers participated in the scheme during the first quarter of 2020, and an estimated 6.1 million did so in the following quarter. Participation in the scheme declined significantly in the third quarter as the government aimed for a quick phaseout of the scheme through an increase in the employer contribution in sectors where activity was not restricted (Eichhorst et al, 2022).

Participation was also high in Germany, where an average of 2.6 million workers were covered during the first quarter of 2020, and 5.4 million workers in the following quarter. Germany's *Kurzarbeit* (short-time working) model had been tried and tested during the global financial crisis, when it saved an estimated 1.2 million jobs, amidst a much lower take-up rate of about 5% of employment when contrasted with the take-up rate during the COVID-19 pandemic (Hijzen and Martin, 2013). The model also served as a blueprint for many of the job retention scheme systems that were introduced across the EU in response to the COVID-19 emergency.

A large number of workers were also covered by the Italian scheme, particularly in March, April and May 2020 (an average of 4.7 million, 5.9 million and 4.6 million, respectively). Despite a general decline in participation in the Italian scheme in the following months, a new wave of participants entered the scheme in the last quarter of 2020. Overall, a cohort analysis provided by De Gregorio et al (2021) shows that, of the 4 million individuals who entered the Italian scheme in March 2020, more than a quarter had left three months later and, after four months, half had left the scheme.

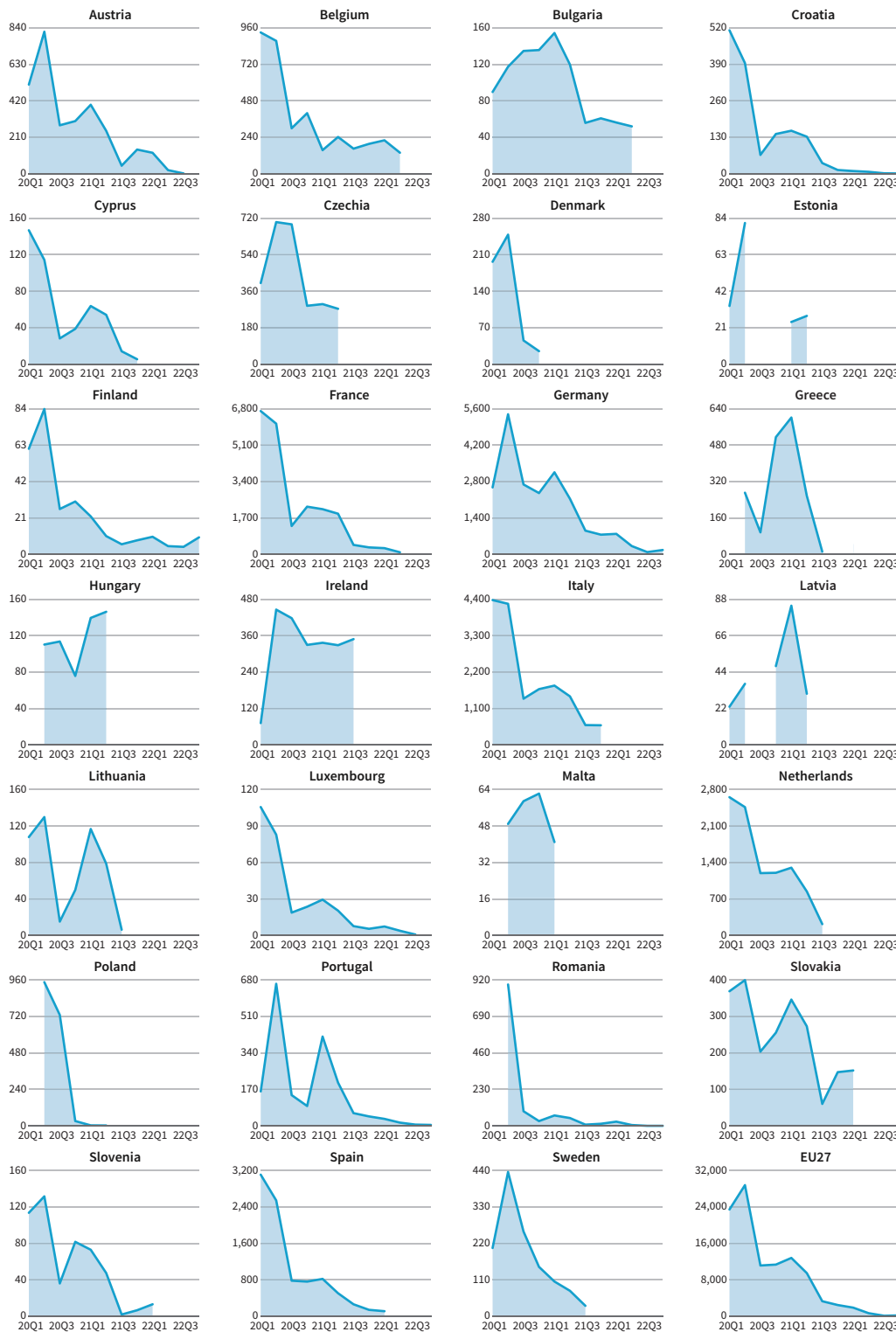
A similar participation pattern materialised in Austria, a country with a long tradition of short-time work, dating back to the 1940s. As was the case in Germany, Austria successfully deployed its short-time work scheme in response to the global financial crisis, when it provided support for 66,500 employees in 2009. The global financial crisis served as a learning experience, resulting in swift agreement between Austrian social partners around the short-time work model to be implemented in response to the COVID-19 health emergency (Tamesberger and Theurl, 2021). As Chapter 1 demonstrates, the Austrian scheme was among the most generous job retention schemes in the EU, with firms needing to satisfy very few requirements to apply. This resulted in a very rapid increase in the number of applications, which vastly surpassed the number reached during the global financial crisis.

In contrast, the pattern of participation in job retention schemes was different in many central and eastern European countries, the majority of which introduced novel schemes in response to the COVID-19 health emergency. In these countries, the eligibility and conditionality criteria for scheme participation tended to be restrictive. Schemes tended to have turnover thresholds, and it was necessary that firms were not subject to active bankruptcy procedures or in tax arrears. As Figure 3 shows, in contrast to other countries, participation in the Latvian scheme peaked in the first quarter of 2021, during the second wave of the COVID-19 pandemic, when the government updated national regulations for short-time work support (Preisa, 2021). On average, 3,500 firms participated in the Latvian idle-time allowance scheme during the first wave of the pandemic, and more than 8,000 did so during the second wave (Benkovskis et al, 2023). As in other countries, take-up was clustered in sectors where working remotely was not possible, such as in-person services sectors, the accommodation and food sector, and the entertainment industry.

Participation was also low in the Estonian and Hungarian job retention schemes. In Estonia, the national scheme was phased out between June and December 2020. In Hungary, the initial scheme, which was introduced during the first wave of the pandemic, was among the strictest and least generous in the EU.



**Figure 3: Average number of employees supported by job retention schemes across Member States, 2020–2022 (thousands)**



**Source:** Authors' calculations based on Eurostat and national statistical institutes' data and contributions from the Network of Eurofound Correspondents to this study

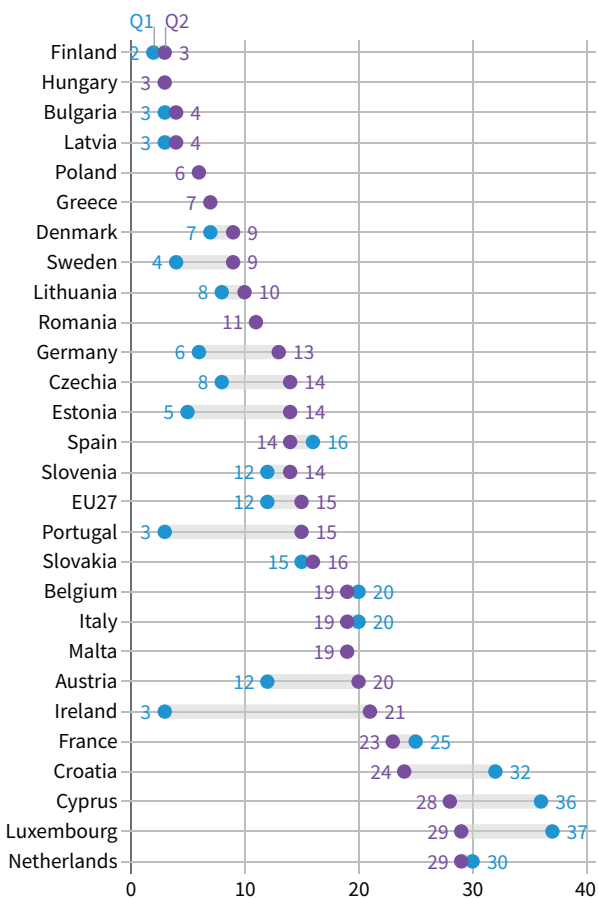
Although the very strict eligibility conditions were relaxed at the end of April 2020, this proved to be too late and, as a result, around 70,000 people registered as jobseekers in March and April (Krekó and Varga, 2022).

To improve the level of support as well as the number of workers covered, the government introduced two additional schemes later in 2020 that were both more generous and less strict in terms of eligibility criteria.

Both schemes were targeted at specific sectors. The first was launched in April 2020 and targeted workers in the research and development sector. The scheme lasted for three months and provided support for around 27,000 workers in the sector during the first wave of the pandemic. The second scheme was introduced in November 2020, during the second wave of the pandemic. It targeted sectors that were most affected by lockdowns, especially the hospitality, retail, tourism and cultural industries. Data on the participation in this later scheme indicate that around 165,000 people, the equivalent of around 42% of employees in eligible sectors, received benefits between November 2020 and May 2021, 60% of whom were women (Krekó and Varga, 2022).

To better gauge the extent of the use of job retention schemes in Member States, Figure 4 presents the number of participants as a share of total employment during the first two quarters of 2020 – the quarters when most job retention schemes registered the highest number of participants. The share of workers covered by job retention schemes in the EU27 increased from 12% to 15% between the two quarters.

**Figure 4: Participants in job retention schemes in the EU27 as a share of total employment, Q1–Q2 2020 (%)**



Source: Authors' calculations based on Eurostat and national statistical institutes' data and contributions from the Network of Eurofound Correspondents to this study

Figure 4 also shows that large differences exist between countries. More than one in three workers were supported by the national job retention scheme in the second quarter of 2020 in Cyprus and Luxembourg. Schemes in Austria, Belgium, Croatia, France, Ireland, Italy and Malta covered around one-fifth of employees or more in one of the first two quarters of 2020. In contrast, in Bulgaria, Finland, Hungary and Latvia participation in job retention schemes amounted to less than 5% of employees in both quarters.

Aside from the flexible and less stringent eligibility criteria (see Chapter 1), participation was also boosted by the financial support provided by the EU through its SURE programme (Müller et al, 2022). Estimates show that the SURE programme provided support to around 22.5 million employees, 8.5 million self-employed workers and 2.5 million firms in 2020 (European Commission, 2022).

## Drivers of participation in job retention schemes

While the previous section focused on describing how participation in job retention schemes varied between EU Member States, this section focuses on the relationship between the institutional features of the schemes and take-up. The analysis builds on a novel dataset that includes information on the institutional features of the schemes, including generosity of benefits, duration of support, eligibility criteria for different categories of workers, conditionality requirements for companies, and information on the role of collective bargaining and training requirements. The dataset includes information for all Member States between 2020 and 2022 on a quarterly basis for as long as the specific national scheme was in place. In several countries, including France, Greece and Slovenia, two job retention schemes operated simultaneously, and in such cases both schemes are included in the analysis that follows. One limitation of the database is that it cannot capture changes in institutional features that took place within quarters. This is particularly important for the first half of 2020, when governments implemented numerous adjustments to their job retention schemes, often several times a month. As a result, the database captures only the features of the scheme that were in place at the end of the quarter in question.

The existing literature has identified a strong relationship between the institutional features of the schemes and take-up. Specifically, Hijzen and Martin (2013) show that stricter eligibility requirements reduce the responsiveness of take-up to output shocks. Eligibility requirements refer to conditions that firms need to meet in order to participate in the schemes, such as requiring firms to demonstrate economic need or to obtain the agreement of social partners to

participate in the scheme. Such conditions are typically included in the scheme both to improve targeting and to limit potential deadweight effects. Hijzen and Martin (2013) also find that requiring firms to share the financial burden of job retention schemes reduces the responsiveness of take-up to output shocks. This suggests that the more prohibitive the costs associated with participation in the scheme, the more likely it is that these costs will act as a deterrent to participation.

Furthermore, Boeri and Bruecker (2011) also investigate the link between the features of the schemes and take-up rates. They analyse how the broader institutional environment – as captured by the generosity of unemployment benefits, the strictness of employment protection legislation and the centralisation of collective bargaining – affects take-up. Unsurprisingly, they find that higher costs and more restrictive entitlement conditions are associated with lower take-up rates. They also show that the higher the benefit replacement rate relative to the previous earnings, the higher the take-up – an association that indicates that generous schemes can overcome workers' resistance to working time reductions. More broadly, they find that generous unemployment benefit systems, as well as decentralised wage bargaining structures, help to reduce demand for short-time work. In a similar exercise, Corti et al (2023) find that only some of the features of job retention schemes affect take-up rates. They do not find significant associations between eligibility or conditionality requirements and participation in the schemes. The only robust association they identify is between the funding of the schemes and take-up rates. Specifically, when the state fully subsidises participation in the scheme, take-up rates tend to be higher.

A shortcoming of the analyses described above is that they only capture associations between features of the schemes and take-up rates prior to the onset of the COVID-19 pandemic. However, as argued at the beginning of this chapter, the scale of the crisis caused by COVID-19 and the speed at which it developed, the economic sectors it affected and its evolution across time all distinguish the pandemic from the global financial crisis as well as from a typical economic crisis. As a result, the way in which short-time working schemes were implemented also diverged from those implemented in the global financial crisis, in terms of the speed with which Member States initially implemented them, the type and number of adjustments introduced in their design features and the funding sources (see Chapter 1).

Taking into account these characteristics of the COVID-19 pandemic, the analysis that follows expands on previous work by analysing the link between the institutional features of job retention schemes and take-up rate between the first quarter of 2020 and the last quarter of 2022. With respect to the features of job

retention schemes, the first one included in the analysis is the age of the scheme, measured by the number of quarters since the time the scheme was first introduced. Some countries, for example Austria, France, Germany and Italy, have had a short-time working scheme in place for many years. Other countries, for instance Denmark, Greece, Ireland, the Netherlands and all central and eastern European countries, introduced new or additional job retention schemes in response to the COVID-19 pandemic during the first half of 2020. The rationale for using this variable is that firms in countries that had a job retention scheme in place for longer had more time to learn about its existence and its functioning. Hence, it would be expected that firms in these countries would be more ready to use the scheme in the event of crisis. In addition, in order to control for the large differences in the age of the scheme between countries that introduced it during the COVID-19 pandemic and those that already had a job retention scheme before the pandemic, we include in the models a dummy identifying the latter.

In a similar way to previous analyses, several predictors that describe the institutional features of the schemes are included in the regression models. First, a dichotomous variable indicating whether the scheme is a furlough or a short-time working scheme is added. Unlike short-time working schemes, in which working time is partially reduced, furlough schemes require workers not to work at all for a period while their employment contract is maintained and a certain level of income continues to be paid. However, as detailed in the previous chapter, this distinction became increasingly less relevant during the pandemic. A second dichotomous variable indicates whether the administrative burden of joining the scheme was simplified during the COVID-19 pandemic. The administrative burden captures the number and complexity of rules and procedures that firms need to follow in order to apply for access to the scheme. It takes into consideration all the paperwork that companies need to provide and formalities they need to complete to be granted access. Examples of simplifying the administrative burden are allowing companies to submit all the documentation digitally, reducing the number of forms that need to be submitted, reducing the number of processing errors by implementing automated procedures and reducing the amount of information required from companies by relying on data available in public databases.

The models also include two composite indicators built using several variables. The first, measuring the strictness of the eligibility criteria, is a sum of indicators capturing whether non-standard workers or public sector workers are excluded from the scheme, whether companies need to demonstrate their financial health when applying for access, whether they must provide a justification of economic need and whether they need to be subject to mandatory closures to be eligible.

Furthermore, the index includes an indicator of the coverage of the scheme that captures whether all workers are covered by the scheme – therefore making it less strict – or whether the scheme applies only to workers on open-ended contracts. The strictness of the eligibility indicator is measured on a scale from 1 to 6; the average value is 3.8, with higher values indicating stricter eligibility criteria. The second composite index measures the strictness of conditionality criteria, which comprises two items. The first is a dichotomous variable indicating whether the scheme includes special dismissal protection rules with respect to workers who participate in the scheme. As Chapter 1 demonstrated, the majority of the schemes used during the COVID-19 pandemic included such rules. The second item indicates whether participating in the scheme requires a mandatory training programme. Finally, the models also include a measure of the generosity of the scheme, defined as the proportion of the average monthly gross wage that is replaced by benefits. This ranges from about 40% to 100%, with an average of 74%, indicating that the schemes were relatively generous during the COVID-19 pandemic.

To account for the severity of the crisis in terms of output, the second model in Table 6 also includes the change in GDP compared with the same quarter of the previous year. This is done to control for macroeconomic conditions, since the severity of the economic crisis is strongly correlated with take-up rates. The third model also takes into account external conditions by including a set of quarter dummies, to observe the unravelling of the crisis (see Box 2).

Table 6 displays several common patterns among the three models. The first important aspect is that the generosity of unemployment benefits is not related in any way to take-up across models. This is because, during the COVID-19 pandemic, job retention schemes were more generous than unemployment benefit systems. At the same time, the main rationale for the use of job retention schemes was to avoid overburdening unemployment benefit systems, which, unlike in the United States, did not register large increases in the number of applicants.

Efforts to simplify the administrative burden for accessing support had a positive and significant effect on take-up, suggesting that simplified administrative procedures did achieve their intended policy goal of increasing enrolment. Administrative burdens were reduced, especially during the initial phases of the pandemic, when governments sought to streamline access by cutting back on the documentation required from firms.

On the other hand, stricter eligibility and conditionality criteria are negatively associated with take-up rates. These results are similar to those reported in previous studies (Boeri and Bruecker, 2011; Hijzen and Martin, 2013), indicating that they are the key parameters that need to be considered in the design of job retention schemes. By comparison, as mentioned previously, the generosity of the schemes is not significantly associated with the take-up rate in any of the models. The lack of a significant association stems from the specific context associated with the COVID-19 pandemic, and in particular from the depth of the economic crisis it triggered, the speed with which it affected the labour market and the lack of predictability with respect to its duration, especially during the first quarter of 2020. Under these conditions, the primary concern for affected firms was access to benefits as well as duration of support.

## Box 2: Estimating the link between institutional features of job retention schemes and take-up rates during the pandemic

The dataset used in the analysis that follows consists of 27 countries observed quarterly from the beginning of 2020 until the end of 2022. In most cases, data that are structured in this way are modelled using country fixed effects. However, fixed-effects models are appropriate only when the relevant variation occurs within countries. This is the case for the dependent variable, take-up, which consists of the number of participants in the job retention scheme in a given country by quarter unit. Nevertheless, this is not the case for most features of job retention programmes, as these are constant within a country due to the short period observed, but vary considerably between countries. Hence, to account for variation occurring both within and between countries, multilevel mixed-effects models are used in this part of the analysis. This allows the estimation of coefficients for variables varying between countries and within a country simultaneously.

Three different models are estimated. All of them include all the features of the job retention schemes, in addition to one control variable capturing the replacement rate of unemployment benefit systems for a single person after two months of unemployment, measured as a share of their previous salary. This indicator varies between countries and between years but is constant between the quarters of a year.

**Table 6: Multilevel linear models for the impact of job retention schemes' institutional features on take-up rates**

	Model 1	Model 2	Model 3
Intercept	1,570.81** (523.71)	1,397.34** (490.90)	1,363.18** (508.65)
Unemployment benefit replacement rate	2.59 (7.37)	1.83 (6.89)	2.05 (7.03)
Age of the scheme	7.81*** (1.86)	7.45*** (1.74)	8.97*** (1.79)
Scheme in place before 2020	-1,232.72* (485.32)	-1,091.60* (453.32)	-1,303.47** (467.12)
Furlough scheme (versus short-time work)	208.61 (144.72)	186.97 (136.43)	22.45 (135.04)
Administrative burden simplified	512.34*** (138.95)	500.24*** (131.85)	253.60 (134.08)
Strictness of eligibility criteria	-254.75*** (69.31)	-235.15*** (65.20)	-128.83 (66.59)
Strictness of conditionality criteria	-82.49*** (157.08)	-665.13*** (153.24)	-799.85*** (149.89)
Generosity	2.31 (5.84)	1.64 (5.51)	6.20 (5.40)
GDP change from previous year ( $t - 1$ )		-11.62*** (2.19)	
Akaike information criterion	3,873.95	3,845.95	3,700.62
Bayesian information criterion	3,912.51	3,888.01	3,777.74
Log likelihood	-1,925.97	-1,910.97	-1,828.31
Quarter fixed effects	No	No	Yes
Number of observations	246	246	246
Number of countries	27	27	27
Var intercept: country	282,966.87	242,412.32	273,924.61
Var: residual	439,767.18	396,251.84	348,536.61

Notes: \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ . The table provides coefficients of multilevel models and standard errors in parentheses.

Source: Authors' calculations

The variable capturing the age of the scheme is also significant and positively associated with take-up rates. This suggests that learning is indeed a factor that contributes to higher take-up rates, as firms in countries that have had a scheme for longer are more likely to be aware of its existence and possess knowledge about the circumstances under which they can avail themselves of it.<sup>3</sup> Furthermore, the lagged change in output relative to the previous year has a negative association with take-up. This indicates that a more severe economic crisis contributed to a higher take-up in the subsequent quarter.

Overall, the analysis demonstrates that the parameters of the schemes were consequential for participation rates. Specifically, three aspects of design policy had

the greatest effect on take-up rates during the COVID-19 pandemic. First, simplifying access to the schemes by streamlining the application process increased take-up. Second, less strict eligibility criteria that allowed access to groups not typically covered by such schemes (e.g. self-employed workers or workers on atypical contracts), or that did not tie access to the financial health of the company or economic need, also contributed to higher take-up. However, as the pandemic receded, the stringency of these parameters was increased as a strategy to improve targeting and to avoid deadweight and displacement effects. Throughout 2021 and 2022, many countries also increased the strictness of eligibility criteria as part of the phaseout of job retention schemes. Third, conditionality criteria, such as requiring firms to have dismissal

<sup>3</sup> Note that the variable indicating the countries that already had a job retention scheme in place before 2020 is negative. This indicates a composition effect, as the countries identified by this variable are all western European countries. Such countries are characterised by a higher average GDP and better equipped healthcare systems and by the fact that they were impacted by the COVID-19 pandemic early on and deployed the strictest social distancing measures and mandatory closures.

protection or to provide training during downtime, were associated with reduced take-up. As Chapter 1 has shown, dismissal protection rules varied widely between Member States: in some countries (e.g. Germany) no such rules existed, while in others dismissal protection was in place for an additional period of several months following participation in the scheme (e.g. in Austria, Bulgaria, Cyprus, Estonia, France, Hungary, Portugal, Slovenia and Spain).

## Evidence on the employment effects of job retention schemes

This section focuses on estimating how many jobs were saved by using job retention schemes during the COVID-19 pandemic. From a policy perspective, this is the most important question to tackle, as the main goal of job retention schemes is to preserve employment and avoid unnecessary lay-offs. The literature on the magnitude of the employment effects of job retention schemes is scarce. Estimates provided by Boeri and Bruecker (2011) show that, in 2009, the use of short-time work in Germany saved an estimated 400,000 jobs. The authors also find that increasing the participation in the short-time work allowance in Germany by 1% increases the number of jobs saved by 0.0042%. Similar results are provided by Hijzen and Martin (2013), who estimate that the use of short-time working in Germany saved around 580,000 jobs between the start of the global financial crisis and the final quarter of 2010.

However, as the previous section demonstrated, compared with the global financial crisis, job retention schemes were more broadly used during the COVID-19 pandemic. This was especially the case during the first two quarters of 2020. Focusing on the employment effects of short-time working in France during the COVID-19 pandemic, Cahuc et al (2021) find that the national scheme had a large impact on employment, especially in the bottom quintile (the 20% of households with the lowest income), where it increased employment growth by about 42%. This corresponds to about 11% of jobs for short-time work users in this quintile. Furthermore, each additional percentage point of short-time work subsidy relative to the previous year of the firms' payroll translated into a 20% increase in employment and a 16% increase in the hours of work for the bottom quintile of the distribution. Albertini et al (2022) also show that the French scheme benefited primarily low-skilled workers and estimate that in its absence the unemployment rate would have increased by about 4.5 percentage points. However, they also

show that the French scheme generated deadweight effects, subsidising jobs that would have been preserved anyway.

For Estonia, Meriküll and Paulus (2024) estimate that participation in the national scheme saved between 14,000 and 26,000 jobs. In the absence of the scheme, unemployment would have increased by an additional 3.1 percentage points in 2020. Furthermore, using survey and administrative data from the second quarter of 2020, Bennedsen et al (2020) estimate that the Danish national scheme helped reduce the number of workers laid off by around 81,000, and increased the number of furloughed workers by 285,000. Aiyar and Dao (2021) also find significant employment effects for the use of job retention schemes in Germany, showing that a 10 percentage point increase in take-up dampened the rise in the unemployment rate by 1.1 percentage points and raised the employment rate by 1.3 percentage points during the same period. Furthermore, the unemployment effect was stronger in sectors, such as hospitality, that were particularly hard hit by the COVID-19 pandemic. Overall, in the absence of the national job retention scheme, the unemployment rate would have increased by an additional 2.9 percentage points during the second quarter of 2020.

A common finding of the studies cited above is the large magnitude of the employment effects of job retention schemes. While a cross-national analysis using firm-level information for the entire EU is not possible due to the lack of data, the analysis that follows builds on earlier analyses (Boeri and Bruecker, 2011; Hijzen and Martin, 2013) that rely on country-level information to arrive at realistic estimates about the employment effect of job retention schemes. Box 3 provides details of the empirical strategy used in the analysis that follows. Two qualifications are necessary in evaluating the results discussed below. First, the available take-up data do not account for employment transitions or the number of workers who enter and exit the schemes from one period to another. This might result in an overestimation of the actual take-up rate and, implicitly, of the number of jobs saved, as some participants might be counted more than once. Second, the data do not allow for a finer-grained disaggregation of the type of jobs saved or sectors that benefited most in terms of employment from the implementation of job retention schemes. Intuitively, sectors that were the hardest hit by the pandemic and lockdown are likely to have benefited most. However, the quantitative employment effects of the use of job retention schemes by sector are not available.

### Box 3: Estimating the employment effects of job retention schemes during the pandemic

The analysis in this section uses a simple observation from the economic literature known as ‘Okun’s law’. According to Okun’s law, employment varies as a function of output. Therefore, a strict correlation exists between a country’s GDP and aggregate employment, as has been observed in a large body of empirical work (see, for example, Knotek, 2007). In the specific case of the COVID-19 crisis, the substantial drop in production from the first quarter of 2020 was associated with a sizeable drop in employment. However, the *strength* of the correlation between the decline in GDP and the decline in employment is expected to vary between countries as a function of the policies that are introduced to protect or support jobs. The model is specified as follows:

$$Empl_{it} = \alpha_i + \beta_1 Empl_{it-1} + \beta_2 GDP_{it} + \beta_3 Takeup_{it} + \beta_4 GDP_{it} Takeup_{it} + \beta_5 UB_{it} + \beta_6 GDP_{it} UB_{it} + e_{it}$$

The outcome variable denotes aggregate employment observed in country  $i$  and quarter  $t$ . To mitigate the non-stationarity of the time series due to seasonality, the difference from the same quarter of the previous year is taken. The model also includes the lagged dependent variable (employment observed at  $t - 1$ ), the GDP, the take-up and the interaction between the last two variables. In addition, the models include as controls the unemployment benefit replacement rate and its interaction with GDP. The coefficient of interest is  $\beta_4$ . A negative value of this coefficient signals that a job retention scheme, measured by its take-up, reduces the employment elasticity of economic growth – in effect, mitigating the impact of the drop in GDP caused by the COVID-19 crisis on employment. The model includes country fixed effects to account for unobserved heterogeneity between Member States.

Some of the causal strategies for estimating the employment effects of job retention schemes across countries, such as a difference-in-difference design, as used by Hijzen and Venn (2011), are impossible to apply to the pandemic. This is because all EU countries introduced job retention schemes, which makes it impossible to identify a comparison or ‘untreated’ group. Therefore, drawing on previous studies analysing the effect of job retention schemes on employment during the global financial crisis (Boeri and Bruecker, 2011; Hijzen and Martin, 2013), an instrumental variable model is estimated. This model uses as an exogenous instrument, the age of the scheme, measured in quarters since its first introduction. This is done to ensure that the observed correlation between take-up and employment, and its interaction with GDP, are indicative of a causal effect. The rationale for using this instrument, as suggested by Boeri and Bruecker (2011), is that businesses in countries that have had a scheme in place for longer have had more time to learn about the scheme and so they should be more ready to use it if needed. Hence, this variable should affect take-up independently from the crisis. The estimated model is a two-stage least squares (2SLS) regression. In the first stage of this model, both take-up and its interaction with GDP are regressed over the age of the scheme (together with the other controls included in the second stage); in the second stage, employment is regressed on the predicted values obtained in the first stage.

Table 7 details the number of jobs saved by country between 2020 and 2021 both as an aggregate figure and as a share of employment. Similarly to the previous literature described above, Table 7 shows that job retention schemes had a major effect on employment in the EU, saving a total of 24.8 million jobs in 2020 and 2.1 million jobs in 2021, or the equivalent of 13.3% and 1.1% of employment, respectively, in 2020 and 2021.

Table 7 also shows the large variation in the employment effects of national job retention schemes. In terms of total number of jobs, large labour markets, including those of France, Germany, Italy, the Netherlands and Spain, account for more than 80% of jobs saved in the EU during 2020. The estimated number of jobs saved is particularly large in France, Italy and Germany, where the use of job retention schemes during the first year of the pandemic is estimated to have saved 6.61 million,

4.71 million and 4.69 million jobs, respectively. Furthermore, job retention schemes saved an estimated 2.66 million and 1.77 million jobs in Spain and the Netherlands, respectively. These large employment effects are driven by the widespread participation in job retention schemes, especially during the first wave of the COVID-19 pandemic (see previous section). In Italy, 51% of Italian firms, accounting for 40% of employment, used the national short-time working scheme in March and April 2020 (Colussi, 2020). Similarly, in the Netherlands, under the first iteration of the NOW scheme (a temporary emergency bridging measure for sustained employment that provides subsidies for wage costs), 140,000 firms applied for subsidies between March and May 2020; this accounted for 30% of employment. Simulation results show that in the absence of government support measures the unemployment rate

Table 7: Number of jobs saved, in thousands and as a percentage of total employment, by Member State

Member State	2020		2021	
	Total (in thousands)	% of total employment	Total (in thousands)	% of total employment
France	6,612.59	25.0	-104.92	-0.4
Italy	4,710.09	21.8	129.02	0.6
Netherlands	1,772.62	21.7	352.68	4.2
Cyprus	70.80	17.6	29.07	7.0
Luxembourg	49.13	17.1	12.97	4.3
Croatia	244.46	15.1	69.68	4.3
Malta	36.83	14.8	8.78	3.4
Spain	2,662.90	14.1	215.93	1.1
EU27	24,776.73	13.3	2,141.89	1.1
Belgium	597.48	12.8	116.94	2.5
Germany	4,692.80	12.2	74.92	0.2
Ireland	247.86	11.7	151.27	6.7
Austria	460.15	11.4	162.04	4.0
Slovakia	266.32	10.4	171.13	6.8
Czechia	476.22	9.4	110.19	2.2
Slovenia	79.02	8.3	27.01	2.9
Greece	211.28	5.9	184.63	4.8
Portugal	255.40	5.7	147.45	3.2
Lithuania	64.84	5.0	42.21	3.2
Sweden	229.73	4.9	31.59	0.7
Denmark	111.91	4.3		
Estonia	24.85	4.1	10.97	1.8
Bulgaria	102.51	3.4	80.00	2.7
Romania	242.12	3.2	25.98	0.3
Latvia	23.18	2.7	24.51	3.0
Poland	418.72	2.7	0.87	0.0
Finland	43.99	1.9	9.53	0.4
Hungary	68.81	1.5	57.32	1.3

**Notes:** Countries are ordered in accordance with number of jobs saved as a percentage of total employment in 2020. Denmark had no scheme in place in 2021. In France, the continuous use of job retention schemes throughout 2021 had a slight negative effect on employment (-0.4%). This effect suggests that, in the context of high take-up rates, job retention schemes can have small negative effects on job creation during recovery phases. **Source:** Authors' calculations based on the methodology detailed in Box 3

in the Netherlands would have been between 0.7 and 2.0 percentage points higher, and would have risen to 8% had all employees whose hours were cut been fired immediately (Jongen et al, 2021).

Table 7 also shows that, in relative terms, job retention schemes contributed to saving a substantial number of jobs in many countries with smaller labour markets. For example, in Austria, Belgium, Croatia, Cyprus, Ireland, Luxembourg, Malta and Slovakia, job retention schemes were responsible for saving more than 10% of the total number of jobs during 2020. Counterfactual analyses of the impact of COVID-19 on the Austrian labour market

show that, in the absence of the national short-time working scheme, the unemployment rate in April 2020 would have increased by about 20 percentage points relative to the same month of 2019 (Ragacs and Reiss, 2021). Similar evidence from Slovakia also shows that the national job retention scheme contributed to preserving employment and was correctly targeted at firms that most needed the support (Bělín and Veselková, 2022).

Furthermore, in many central and eastern European countries the estimated employment effects, although smaller, were not negligible. This was the case in Bulgaria, Hungary, Latvia, Poland and Romania, where



the number of jobs saved relative to the national employment level in 2020 was up to 4%. Job retention schemes in the Nordic countries (Denmark, Finland and Sweden) also had a net positive impact on employment, albeit comparable in terms of relative size to those seen in central and eastern European countries.

Aside from positive effects on employment levels, firm-level analyses can also determine if support provided through job retention schemes during the pandemic introduced distortions in the labour markets that harmed productivity. As Box 4 details, job retention schemes can reduce the allocative efficiency of resources by subsidising unproductive ‘zombie’ and unviable firms at the expense of ‘deserving’ companies. A growing body of evidence suggests that the fiscal support provided during the COVID-19 pandemic through job retention schemes did not harm productivity. While the pandemic did result in a temporary decline in aggregate productivity levels, this decline was driven by within-firm factors such as decline in revenue rather than between-firm factors. Therefore, resources redistributed by Member States through job retention schemes were efficiently

allocated to productive firms in need of temporary support, reducing potential scarring effects on the labour market and contributing to long-term increases in output and productivity (Bělin and Veselková, 2022; Bighelli et al, 2022).

Finally, Figure 5 presents the estimated employment effects of job retention schemes across quarters, showing employment for each country if take-up were equal to zero, and employment with actual observed take-up values. Figure 5 reveals that, in the majority of Member States, job retention schemes protected employment mainly in the first two quarters of 2020. Furthermore, in two countries, France and Germany, the national job retention schemes seemed to have contributed to negative employment growth in the later stages of the pandemic, after the first quarter of 2021. This effect is small in magnitude in both countries, however, and could be driven by a combination of factors, including the capacity of firms to avail themselves of internal labour resources during a protracted recovery and given increasingly tight labour markets (Eurofound, 2024b).

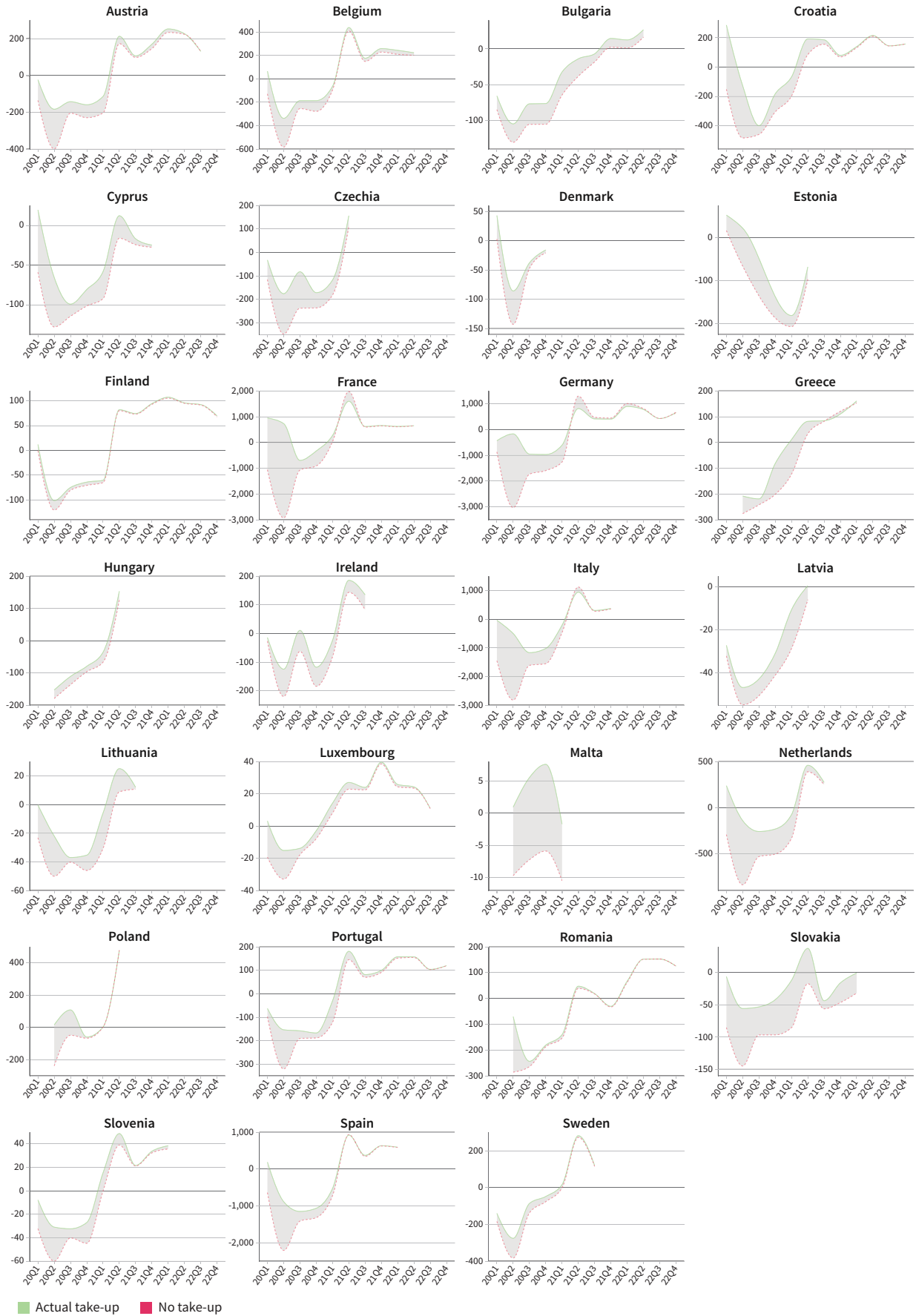
#### Box 4: Do job retention schemes harm productivity?

A core question in the study of the effects of job retention schemes on labour markets and the broader economy is whether their employment effects are harmful to productivity. Aside from their positive employment and income protection effects (see Chapter 3), job retention schemes are hypothesised to bring about negative effects on productivity by introducing a series of inefficiencies in the labour market. The potential negative effects of job retention schemes on productivity can emerge through different channels. Job retention schemes introduce a distortion in the relocation of employment between firms and sectors, potentially delaying the restructuring of low-productivity firms (Andrews et al, 2021a), generating disadvantages for those who cannot use them (Cahuc, 2019) and creating deadweight effects by subsidising jobs that might have been preserved anyway (Drahokoupil and Müller, 2021). Given these negative effects and the widespread use of job retention schemes during the pandemic, it is important to understand to what extent employment preservation came at the expense of productivity growth.

Existing evidence demonstrates that the effects of job retention schemes on productivity varied from country to country. In an analysis of French firms, Cros et al (2021) show that the use of job retention schemes did not affect the rate of predicted firm failures in 2020. This means that the hypothesised distortion introduced by job retention schemes through their support of non-productive firms did not materialise. Furthermore, Calligaris et al (2023) show that labour relocation remained productivity-enhancing during both 2020 and 2021. Overall, this effect was driven by the fact that support provided through job retention schemes did not disproportionately benefit low-productivity firms. In fact, take-up was lower among low-productivity firms. Importantly, job retention schemes did not hurt productivity-enhancing labour relocation and acted as a buffer for employment losses in medium- and high-productivity firms.

In contrast, using firm-level data from Estonia, Meriküll and Paulus (2024) show that the national job retention scheme weakened the link between productivity and job relocation, with participation in the job retention scheme reducing aggregate productivity by between 1.6% and 1.7%. As a result, the net gains stemming from the positive employment effects of participating in the scheme were cancelled out by the negative productivity effects. For Portugal, Kozeniauskas et al (2022) show that higher-productivity firms experienced smaller declines in employment but that the national job retention scheme did offset the potential cleansing effect that the crisis could have had on low-productivity firms. In other words, the use of a job retention scheme did contribute to maintaining employment and therefore the survival of low-productivity firms. Furthermore, Andrews et al (2021b) show that labour relocation remained productivity-enhancing during the pandemic but that in some countries the design features of job retention schemes weakened the link between employment and productivity.

Figure 5: Employment effects of job retention schemes, by Member State and quarter, 2020–2022 (thousands)



Source: Authors' calculations based on the methodology detailed in Box 3

## Key findings

Job retention schemes were one of the main policy instruments used throughout the pandemic to preserve jobs. However, participation in these schemes varied significantly between Member States and was driven by several design features, including the strictness of eligibility and conditionality criteria.

Participation tended to be lower in countries where some categories of workers, such as the self-employed or public sector workers, were excluded from the scheme or where firms had to provide various justifications (e.g. economic need or being subject to mandatory closures) for accessing the scheme. Conditionality criteria, such as special dismissal protection rules and requirements for participating in training programmes during the downtime, also reduced take-up rates.

Adjustments in national job retention schemes that focused on reducing the administrative burden for enrolment contributed to higher take-up rates. Reducing the administrative burden to facilitate access to the schemes was particularly important during the first stage of the pandemic, when uncertainty about the duration of lockdowns was high and administrative bottlenecks were widespread as a result of a massive growth in the number of applicants in a very short period.

Older schemes had higher take-up rates, indicating that experience and knowledge of the schemes played a role in determining whether or not firms opted to apply for the available support. The severity of the economic shock generated by the pandemic, coupled with the lack of predictability with respect to the duration of lockdowns, cancelled out the potential positive effects that generosity may have had on participation rates.

The estimated employment effects of job retention schemes during the pandemic are large. In 2020 and 2021, the schemes saved an estimated 26.9 million jobs. Large labour markets, including those of France, Germany, Italy, the Netherlands and Spain, account for more than 80% of jobs saved in the EU during 2020.



# 3 Distributional effects of job retention schemes

## Introduction

This chapter analyses the impact of job retention schemes on household incomes and compares the effect that these schemes had on dependent employees and self-employed workers. Aside from the core concerns of preserving employment levels and avoiding placing a disproportionate burden on unemployment systems, job retention schemes sought to prevent the negative effects of the COVID-19 pandemic on household incomes.

As previous chapters have demonstrated, during the COVID-19 pandemic, job retention schemes varied substantially in their generosity both over time and between countries. In the initial phase of the pandemic, the schemes tended to be very generous in terms of accessibility and the level of benefit replacement rates relative to a defined income. However, as the health emergency came under control, the generosity of the schemes was reduced through increased targeting, cuts in benefit levels and stricter limits on the maximum duration of support. Following the first wave of the pandemic, access to schemes was increasingly tied to government-imposed restrictions on economic activities. Furthermore, as Chapter 1 has demonstrated, the level of benefits paid by the schemes varied enormously from country to country, depending on, among other factors, whether the benefit was a flat rate or was linked to income level and whether it was capped at a defined level or was linked to specific personal circumstances such as having dependent children. In any event, the gross income replacement rates of benefits paid through job retention schemes tended to be higher than in unemployment benefit systems.

The analysis that follows extends previous work on the distributional effects of job retention schemes during the pandemic showing that job retention schemes were the primary source of income protection during 2020, absorbing more than one-third of the pandemic income shock during that year (Christl et al, 2023a). In total, automatic stabilisers absorbed more than two-thirds of the household income shock caused by the pandemic. Using a similar approach, this chapter shows that the significant income protection effect of job retention schemes continued throughout the second year of the pandemic, when such schemes absorbed one-fifth of the household income shock due to the pandemic. The effect of job retention schemes on income stabilisation was smaller in 2021 than in 2020 because far fewer people participated in such schemes in 2021 (see

Chapter 2). This effect varied substantially across countries. Furthermore, the analysis shows that the benefits paid through job retention schemes remained redistributive, with lower-income households benefiting more than higher-income households. This indicates that the benefits paid through job retention schemes were targeted at those who were most in need of support.

The analysis reveals significant differences between the impact of job retention schemes on the incomes of employees and those of self-employed workers. In general, social protection systems in the EU are designed around the dependent employment and the standard wage earner model, leading to gaps in the coverage of social protection for the self-employed. While the experience of the pandemic has led some countries to introduce adjustments in their social protection systems, extending coverage to the self-employed, unemployment benefit coverage remains particularly problematic (Eurofound, 2024a). Given the limited coverage of unemployment benefit systems, job retention schemes were the main source of income for many self-employed workers during the pandemic.

Finally, the last section of the chapter shows that job retention schemes contributed to a decrease in inequality levels during the pandemic. While this is not the primary aim of job retention schemes, the relative generosity of the schemes implemented during the pandemic, especially towards low-income earners, contributed to a decline in overall inequality.

## Income protection and income inequality during the pandemic

During the first year of the COVID-19 pandemic, policy interventions focused predominantly on income protection and income stabilisation. Member States leveraged both the existing automatic stabilisers (tax systems, unemployment benefit systems and social assistance benefits) and discretionary policies (temporary subsidies, job retention schemes, tax rebates) to fight the negative effects of the pandemic on individual and household incomes. The policy mix used during the COVID-19 pandemic differed significantly from that employed during the global financial crisis, with discretionary fiscal policy measures aimed at protecting incomes playing a much more prominent role. Indeed, welfare state expenditure during the pandemic was boosted, enabled by a temporary relaxation of EU fiscal rules (Eurofound, 2024c).

Available data indicate that expenditure on social and unemployment benefits registered substantial increases, especially during the first year of the pandemic. Public expenditure on unemployment benefits increased by an estimated 60% in 2020 compared with the previous year, as a result of the clustering of unemployment expenditure with expenditure on job retention schemes. As a result, in most Member States, the impact of welfare state policies on curbing inequality in 2020 was greater than the 2006–2019 average (Eurofound, 2024c).

Focusing on the effects of job retention schemes, evidence suggests that these had major effects on reducing inequality and poverty, especially during the first year of the COVID-19 pandemic. In Germany, Christl et al (2023b) show that in 2020 households experienced a decline of 3% in market income because of the pandemic. The shock had a disproportionate impact on low-income households, which were more likely than households on higher incomes to use the national *Kurzarbeit* scheme. Participation in the scheme helped limit the decline in household disposable income to just 0.5%. Overall, automatic stabilisers, including job retention schemes, absorbed 85% of the income shock generated by the pandemic. Bruckmeier et al (2021) also show that, although the COVID-19 pandemic led to a sizeable decline in labour income during the first three quarters of 2020 across the entire income distribution, job retention schemes protected household disposable incomes and even contributed to an increase in income levels among households in the bottom two income deciles.

In Italy, Monteduro et al (2023) also find that government policies in response to the pandemic were effective in limiting the increase in income inequality and poverty in 2020. In the absence of government supports, the level of inequality, as measured by the Gini index, would have increased by an additional 0.6 percentage points. However, the effect of the pandemic in Italy varied between income and population groups. While government policies were effective in targeting the poorest individuals, who as a result benefited more than other groups from the available income support, the poorest 20% also experienced the largest income losses in 2020. On average, the Italian job retention scheme reduced income inequality by around 8.5 percentage points in 2020. Gallo and Raitano (2023) also show that the benefits provided in Italy in response to the pandemic covered, on average, one-third of the labour income loss. They also show that the Italian short-time work allowance (*Cassa Integrazione Guadagni*) was the largest contributor to the reduction in individual and household income inequality.

Government transfers, and particularly job retention schemes, also helped to reduce inequality in Austria, Estonia, France, Spain and Sweden. Aspachs et al (2022) show that, in Spain, in the absence of government intervention, inequality would have increased dramatically, mainly as a result of job losses and wage cuts affecting those at the bottom of the income distribution. Albeit with a delay, policies reduced income inequality by an estimated 13 percentage points during April 2020. However, aggregate inequality increased during the pandemic, an effect driven by transitions from employment to unemployment, which mainly affected workers at the bottom of the wage distribution, younger workers and migrants.

Buresi and Cornuet (2021) find that, in France, in the absence of government support in general and the ‘partial activity scheme’ in particular, inequality would have increased between 2019 and 2020. While participants in the scheme came from the entire income distribution, the benefit was greatest among middle-income groups, such as white- and blue-collar workers, as well as those working in intermediate professions. Furthermore, support for self-employed workers during the pandemic was estimated to have covered around 90% of business income lost, which also helped slightly to reduce inequality (Buresi and Cornuet, 2021).

The impact of government support on inequality was similar in Sweden, where Angelov and Waldenström (2023) estimate that, in the absence of state aid, the increase in inequality would have been two to four times higher during the first three months of the pandemic. For Austria, Christl et al (2022) find that the size of the cushioning effect of discretionary policy measures was the same for both men and women. However, the job retention scheme seems to have benefited men more than women. In contrast, in Estonia, government support prevented a more significant fall in income among both men and women, but women’s income benefited more from the schemes (Laurimäe et al, 2022). This is explained by the design features of the job retention scheme in Estonia, which primarily targeted sectors most affected by the pandemic, which are the same sectors in which women are overrepresented in the labour force. Indeed, the sectors that benefited most from the wage compensation scheme were the hotels and restaurants, retail and trade, and arts and entertainment sectors.

Comparative studies that estimate the impact of government supports on incomes and inequality levels are less common. Almeida et al (2021) find a significant cushioning effect of government support, which prevented an additional fall of 5% in disposable income in the EU. The effect of policy interventions was found to be largest in Belgium, Denmark, Finland, Germany, Luxembourg and the Netherlands. Zooming in on the impact of job retention schemes, Christl et al (2023a) show that they absorbed the regressive impact of the

pandemic shock, providing adequate protection, especially for poorer households.

Although the magnitude of the effects of job retention schemes varied, which can be explained by differences in their design features and their interaction with national tax–benefit systems, the consensus in the literature is that they helped to protect incomes during the first year of the pandemic. Estimates from all countries surveyed in the previous paragraphs suggest that job retention schemes had significant effects and that these effects were primarily driven by the widespread use of the schemes, especially during the first government-imposed emergency lockdowns. The literature also suggests that job retention schemes were targeted at the most vulnerable groups whose incomes were more likely to be affected by the crisis.

## Labour market transitions in 2020 and 2021

This section and the next rely on a methodology developed by Christl et al (2023a) to estimate the cushioning effect of job retention schemes as well as taxes and other social outlays on disposable incomes. The EUROMOD model – a tax–benefit microsimulation model for the EU – was used to simulate a number of counterfactual scenarios and to analyse the impact of changes in tax liabilities and cash benefits on the labour market. Three main scenarios were generated: a hypothetical 2021 baseline scenario in which there was no COVID-19 pandemic and in which labour market transitions into job retention schemes did not occur; a COVID-19 scenario that takes into account the real income distribution for the same year, including the shock in the labour market due to the pandemic; and a second COVID-19 scenario in which the pandemic affected the labour market but the government interventions did not take place.<sup>4</sup>

Table 8 summarises the data on labour market transitions for 2020 and 2021, the two years when the pandemic affected most European labour markets. Several aspects are worth noting. First, consistent with the data on participation in job retention schemes presented in the previous chapter, almost one in four employees in the EU participated in a scheme in 2020. This figure declined to less than 1 in 10 in 2021, when the percentage of employees who participated in job retention schemes in the EU was 8.6%. Even so, the number of employees who availed themselves of

short-term work in 2021 was much higher than at the peak of the Great Recession. For comparison, the share of employees who were on short-time work schemes in the second quarter of 2009 in Germany at the peak of the recession was around 3.7% (Fréhaut, 2012). Furthermore, the table shows that shifts in participation rates in job retention schemes between 2020 and 2021 declined more for the self-employed than for employees. At the same time, while participation rates declined, both the average number of hours spent in job retention schemes and the percentage of hours reduced because of short-time work increased in 2021. This indicates that schemes were increasingly targeted towards those workers and sectors that were most in need.

The largest reductions in hours in 2021 were in the Netherlands (49%), Italy (32%) and Greece (30%). In contrast, in Denmark, Finland, Hungary and Slovenia, participation in job retention schemes was associated with an average reduction in working hours of less than 15% (see Table 8). The average number of months spent in job retention schemes was highest in Slovakia (6.9 months) and lowest in Hungary (1.5 months). The average duration of participation was also high in Belgium (6.7 months).

In Croatia, Cyprus, Greece, the Netherlands and Slovakia, more than 15% of employees took part in a job retention scheme in 2021. In Greece, this figure was almost one in three. Workers in Greece benefited from two job retention schemes during the pandemic: an existing furlough scheme and a newly introduced scheme, ‘Syn-ergasia’, which was extended several times during 2021. Any company that experienced a decline in gross revenue of at least 20% could participate in the Syn-ergasia scheme, but only workers in full-time employment were eligible. In contrast, less than 5% of employees in Bulgaria, Czechia, Denmark, Finland, Hungary, Poland, Romania and Sweden participated in a job retention scheme in 2021. The low participation rate in these countries is explained by the phasing out of some of the schemes during 2021.

Table 8 also shows that, in the majority of countries, less than 5% of self-employed workers participated in job retention schemes in 2021. However, almost one in two self-employed workers in France, one in four self-employed workers in Cyprus and more than one in five self-employed workers in Belgium participated in job retention schemes in 2021, thereby driving up the EU average.

<sup>4</sup> See Annex 2 for further details on data sources and the EUROMOD methodology.

**Table 8: Labour market transitions, by Member State, 2021**

Member State	Reduction in hours (%)	Months in job retention scheme	Share of employees moved to job retention scheme (%)	Share of self-employed workers moved to job retention scheme (%)	Share of employees moved to unemployment (%)
Austria	26.0	3.8	11.2	0.8	1.6
Belgium	20.9	6.7	7.8	21.9	2.3
Bulgaria	19.3	4.9	4.4	1.2	3.7
Croatia	15.9	2.5	17.0	4.2	0.7
Cyprus	19.7	3.7	20.4	25.7	1.0
Czechia	24.5	2.9	4.3	14.4	3.2
Denmark	11.3	2.9	4.6	4.8	0.7
Estonia	18.6	3.9	9.7	0.7	3.3
Finland	14.4	3.5	1.1	3.4	1.5
France	24.3	3.9	13.6	48.1	2.2
Germany	20.0	4.6	8.3	0.7	1.9
Greece	29.7	3.9	28.8	1.3	2.2
Hungary	10.6	1.5	2.6	0.0	2.9
Ireland	22.2	4.0	5.2	0.1	7.4
Italy	31.7	3.9	11.5	1.2	2.6
Latvia	21.0	3.7	6.6	17.8	6.7
Lithuania	15.3	4.0	7.7	1.0	1.0
Luxembourg	26.2	3.9	7.7	0.1	0.4
Netherlands	49.3	4.6	17.2	2.3	2.8
Poland	20.5	1.8	0.3	0.7	0.3
Portugal	22.0	3.9	11.9	7.9	6.6
Romania	27.7	4.8	2.3	0.4	0.6
Slovakia	28.2	6.9	17.4	6.9	4.0
Slovenia	14.5	2.5	9.0	13.0	4.6
Spain	21.6	4.8	5.4	4.7	2.3
Sweden	18.3	4.0	2.5	0.4	2.7
EU 2020	23.1	3.7	23.0	25.5	2.4
EU 2021	25.5	4.3	8.6	6.9	2.3

Note: Data for Malta are not available.

Source: Authors' calculations based on labour force survey data and administrative statistics

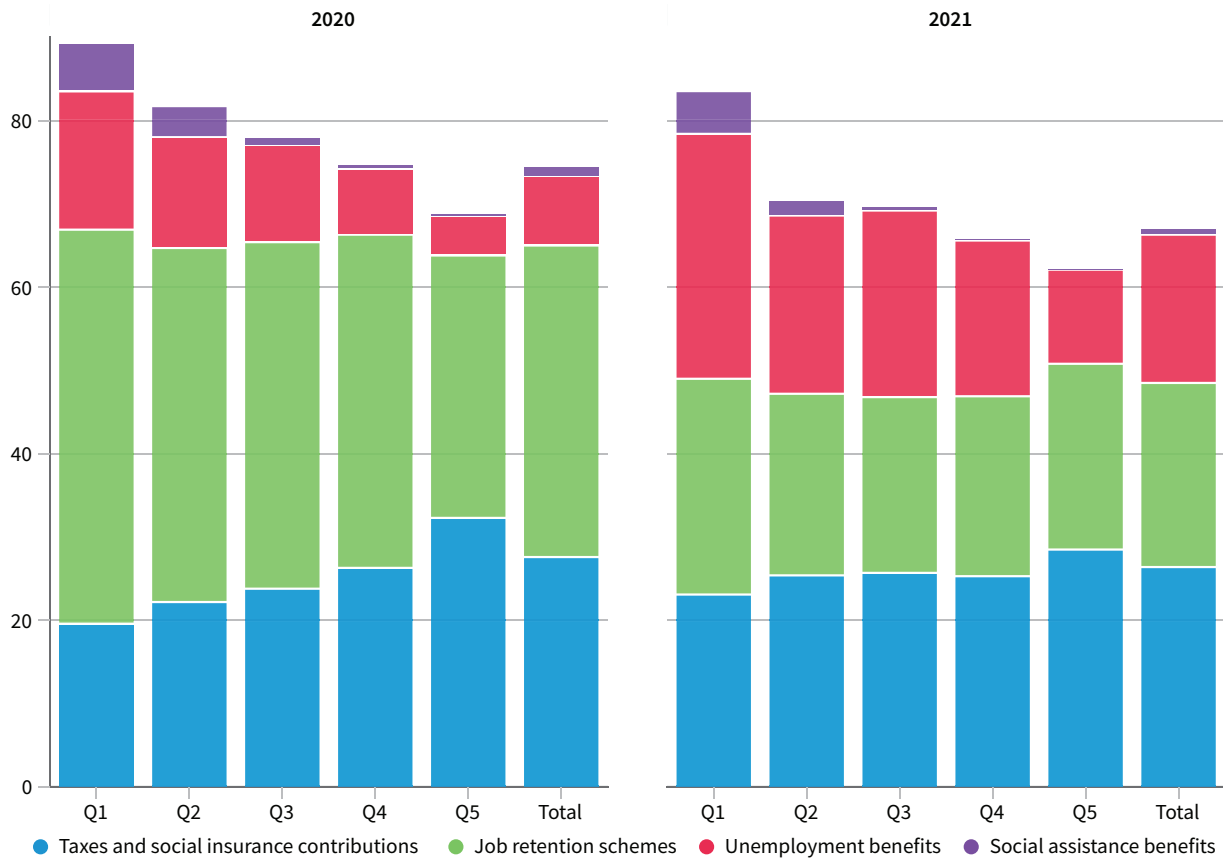
## Impact of job retention schemes on household incomes

The analysis that follows uses EUROMOD to estimate how much of the shock on household incomes generated by the COVID-19 pandemic was absorbed by the national tax and social protection systems, including job retention schemes. A full description of the methodology is available in Annex 2. The main indicator computed through EUROMOD is the income stabilisation coefficient (ISC), which indicates how much of the income shock generated by the pandemic was absorbed by the tax-benefit system and its components (see Box 5 for a description of the ISC).

Figure 6 compares the ISC in the EU for 2020 and 2021. Whereas in 2020 the tax-benefit system absorbed 74.4% of the income shock generated by the pandemic, in 2021 this declined to 67.1%. In 2020, the component of the tax-benefit system that had the greatest cushioning effect on household incomes was job retention schemes, absorbing 37.4%. The impact of job retention schemes on income protection was greatest at the bottom of the income distribution, suggesting that the schemes were indeed targeted at those workers whose incomes were most affected by the pandemic. The incomes of those in the bottom quintile of income distribution were also protected by automatic stabilisers, including tax, unemployment benefit and



Figure 6: Income stabilisation coefficient for the EU, 2020–2021



**Note:** Q1 to Q5 denote income quintiles, with Q1 representing 20% of the population with the lowest income (bottom quintile) and each additional quintile representing the 20% of the population in the respective income bracket.

**Sources:** Authors' calculations based on EUROMOD and EU Statistics on Income and Living Conditions (EU-SILC) data; results for 2020 taken from Christl et al, 2023a

social assistance systems. As expected, social assistance played a relatively larger role for workers in the first two quintiles of income distribution, while the tax system played a larger role in cushioning the impact of the

pandemic for richer households. Unemployment benefit systems also played a larger role in absorbing the shock on incomes for households in the first three quintiles of the income distribution.

### Box 5: What are income stabilisation coefficients?

The income stabilisation coefficient (ISC) is a measure that indicates the proportion of a shock on gross income that is absorbed by automatic stabilisers such as unemployment benefit systems, job retention schemes and social protection contributions as well as other benefits and pensions. Intuitively, as Dolls et al (2012) note, in the presence of a proportional income tax of 40%, a shock of 100 monetary units on a gross income leads to a decline in disposable income of only 60 monetary units. Therefore, in this simple scenario, the tax system absorbs 40% of the shock to gross income. Christl et al (2023a) adjust the methodology developed by Dolls et al (2012) to compute the ISC adjusted to include the effect of job retention schemes. The ISC is defined as follows:

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

where  $\Delta Y_i^D$  is the change in disposable income and  $\Delta Y_i^M$  is the change in market income for individual  $i$ . To facilitate interpretation, the coefficient is reported as a percentage. It therefore varies between 0 and 100. An ISC of 100 indicates that there was no change in disposable income despite a change in market income. This indicates that the policies in place fully absorbed the external shock. An ISC of 0 indicates that disposable income changes exactly as much as market income. In this case, the shock is fully transmitted to disposable income.

The standard approach in the literature is to calculate the ISC for the whole population because only a theoretical or real negative shock is usually observed in market income. However, in 2021, some households experienced an increase in market income due to transitions from unemployment to employment. For this reason, the analysis excludes households with individuals who moved to employment and calculates ISCs only for households that experienced a negative shock on market income.

In addition, the analysis provides a breakdown of disposable income by separate tax–benefit components. Therefore, the role played by each component in the stabilisation of household disposable income in the aftermath of the pandemic-related labour market transition can be estimated. The analysis breaks down the ISC into parts attributed to taxes and social insurance contributions, unemployment benefits and benefits paid by job retention schemes as well as other benefits and pensions:

$$ISC = \frac{\sum_i \Delta Y_i^M - \sum_i \Delta Y_i^D}{\sum_i \Delta Y_i^M} = \frac{\sum_i \Delta T_i - \sum_i \Delta UB_i - \sum_i \Delta JR_i - \sum_i \Delta OB_i}{\sum_i \Delta Y_i^M}$$

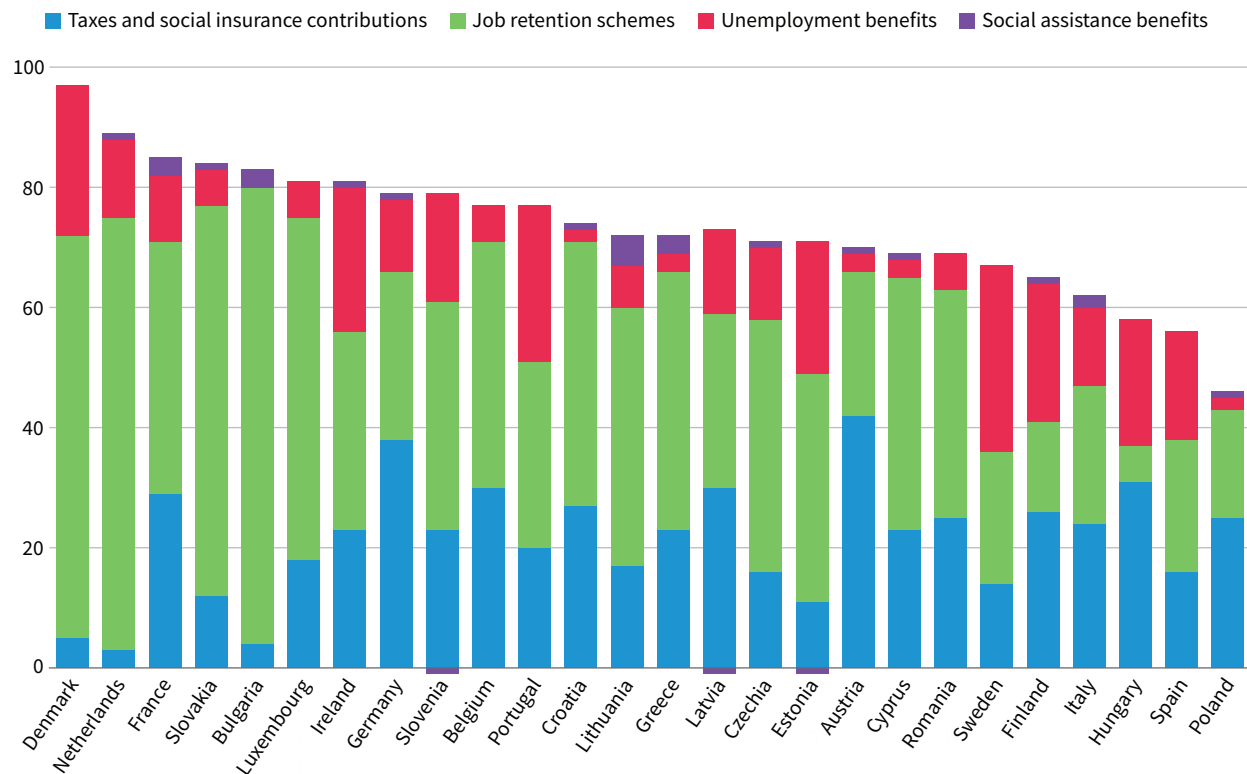
where  $T_i$  denotes the component of taxes and social insurance contributions paid by individual  $i$ ,  $UB_i$  captures the unemployment benefits and  $JR_i$  the benefits paid by job retention schemes, while  $OB_i$  covers the other benefits, including pensions. The ISC and its components are estimated for the entire population affected by a negative shock on market income and for each income quintile group. Separate ISCs are also calculated for employees and for self-employed households. Self-employed households are defined as those households in which self-employment income is higher than employment income.

The effects of job retention schemes on protecting incomes subsided somewhat in 2021, when participation rates were lower and a phasing out took place in several countries. At EU level, the main instruments responsible for absorbing the effect of the pandemic on income were taxes and social insurance contributions, which accounted for 26.4% of the shock. Lower taxable income combined with the progressive taxation schemes in some countries contributed to lower personal social insurance contributions and lower tax liabilities. The other two important instruments were job retention schemes and unemployment benefits, which absorbed 22.1% and 18.0% of the income shock, respectively. The role of job retention schemes remained progressive throughout 2021, cushioning a larger share of the income shock for poorer households. Furthermore, the role of unemployment benefit systems in protecting incomes for these households increased significantly between 2020 and 2021. Social assistance benefits and pensions played a minor role in both years. However, since this category of benefits mainly includes targeted social assistance, it tended to be more important for those in the first income quintile.

Figure 7 demonstrates that in 2021 the role played by each component of the ISC in cushioning the impact of the COVID-19 pandemic on incomes varied by country. In the second year of the pandemic, job retention schemes were the main component of the ISC in many countries. In Bulgaria, Denmark, Luxembourg, the Netherlands and Slovakia, enrolment in job retention schemes absorbed more than half of the shock of the pandemic on household incomes. In Belgium, Croatia, Cyprus, Czechia, Estonia, France, Greece, Ireland, Lithuania, Portugal, Romania and Slovenia, job retention schemes absorbed more than one-third of the shock. By comparison, job retention schemes played a more marginal role in Finland, Hungary and Poland.

Taxes and social benefits also absorbed more than one-third of the income shock in several countries (Austria, Belgium, Germany, Hungary and Latvia). In most countries, taxes and social insurance contributions absorbed between one-fifth and one-third of the income shock. In Bulgaria, Denmark and the Netherlands, the role of this component was only marginal. Unemployment benefit systems also contributed to the protection of household incomes in

Figure 7: Income stabilisation coefficient, by component and Member State, 2021



Note: Data for Malta are not available.

Source: Authors' calculations based on EUROMOD and EU-SILC data

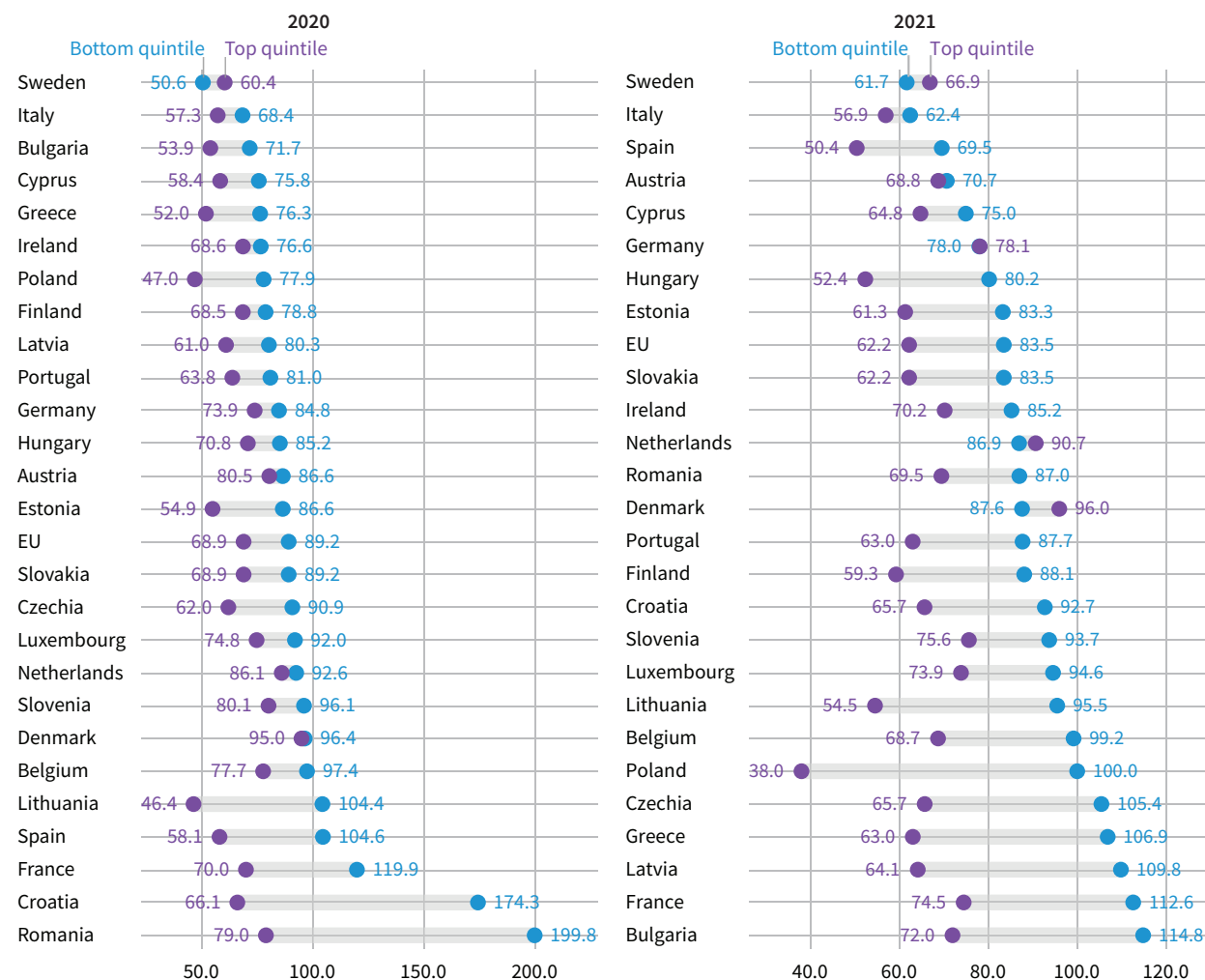
2021, especially in Denmark, Estonia, Finland, Hungary, Ireland, Portugal and Sweden. In all these countries the unemployment benefit system contributed more than 20 percentage points to the ISC.

Figure 8 further disaggregates the ISC by country and quintile for the first two years of the pandemic. At EU level, the ISC for the bottom quintile was 89.2% in 2020 and 83.5% in 2021. The difference between the ISC for the bottom and the top quintiles was similar in magnitude in both years, indicating that policies maintained their goals of providing income protection throughout the pandemic.

Figure 8 also shows that important differences exist between countries and years with respect to the size of the ISC. In the majority of countries, the incomes of the bottom quintile of the income distribution were better protected than the incomes of the richest households. The exceptions are Denmark, Germany and the Netherlands in 2021 and Sweden in both 2020 and 2021. However, in all these cases the difference between the ISC for low- and high-income households is small. In the remaining countries, households in the bottom income quintile were those best protected against the income

shock generated by the COVID-19 pandemic. Targeting towards lower-income households is also evident in more disaggregated analyses that estimate the effects of income support policies by decile (see Box 6). In 2020, the ISC for low-income earners varied between 50.6% in Sweden and 199.8% in Romania. The ISC for Croatia and Romania is particularly high, suggesting an effect driven by the typically low wages declared in these countries. In several other countries, including France, Lithuania and Spain in 2020 and Bulgaria, Czechia, France, Greece and Latvia in 2021, the ISC for the first income quintile was also above 100. This is driven by emergency policies that targeted poorer income households during the pandemic. For example, in France, public support for low-income households during the pandemic included the emergency solidarity assistance benefit (amounting to €150/household), to which €100 was added for each additional child in May and November 2020 (Ministère de l'économie, 2020). In Bulgaria, the minimum unemployment benefits were increased at the end of 2020, while several other measures, including the 'Keep Me' measure, subsidised those employees working in sectors particularly hard hit by the pandemic (Bogdanov and Zahariev, 2021).

Figure 8: Income stabilisation coefficient, by Member State, bottom and top quintiles, 2020–2021



Note: Data for Malta are not available.

Source: Authors' calculations based on EUROMOD and EU-SILC data; results for 2020 taken from Christl et al, 2023a

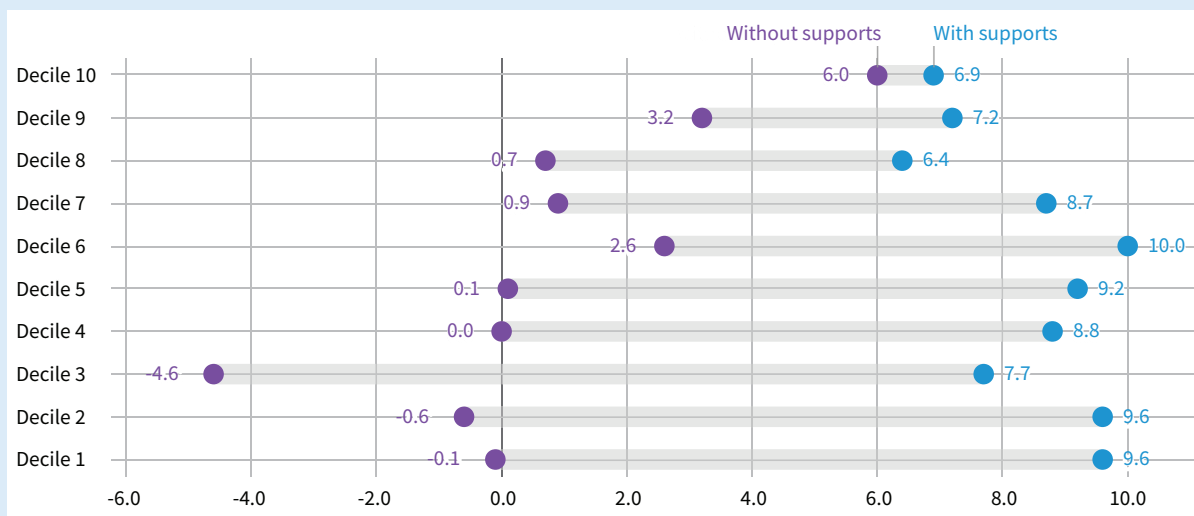
Aside from the countries for which the ISC surpassed 100 for the low-income group, differences between low- and high-income households were the most pronounced in Estonia and Poland in 2020. In these countries, the difference in the ISC between these groups was larger than 30 percentage points. The ranking of countries along this dimension changed in 2021 as between-group differences in Belgium, Lithuania and Poland also passed the 30-percentage-point threshold.

The targeting of discretionary policy measures towards lower-income groups had broader effects in the labour market, contributing to the reduction in the gender income gap in the working-age population (EIGE, 2023), while also protecting more the incomes of more vulnerable groups. Estimates obtained using a methodology similar to that employed in this chapter demonstrate that the incomes of young workers and lower-educated workers, as well as workers in contact-intensive sectors, which were those most affected by lockdowns, were also better protected against the pandemic shock than incomes in other groups (Lam and Solovyeva, 2023).

## Box 6: Impact of COVID-19 support measures in Ireland

Analyses by the Irish Central Statistics Office show that net equivalised disposable income increased by 8% in Ireland between 2020 and 2022. In the absence of COVID-19 support measures, the net equivalised disposable income would have grown by 1.9% over the same period – a net difference of 6.1 percentage points. Figure 9 shows that the magnitude of the effect of the Pandemic Unemployment Payment and the two wage subsidy schemes differed across income deciles. Consistent with the findings of the analysis based on EUROMOD, the Central Statistics Office study shows that pandemic support measures contributed to the growth of incomes, especially at the bottom of the income distribution. In the absence of these policies, the incomes of the bottom three deciles would have declined between 2020 and 2022. Households in the third decile would have experienced the largest drop in net equivalised disposable income.

**Figure 9: Year-on-year percentage change in net equivalised disposable income in Ireland, with and without COVID-19 income supports, by decile, 2020–2022**



Source: Central Statistics Office, 2023

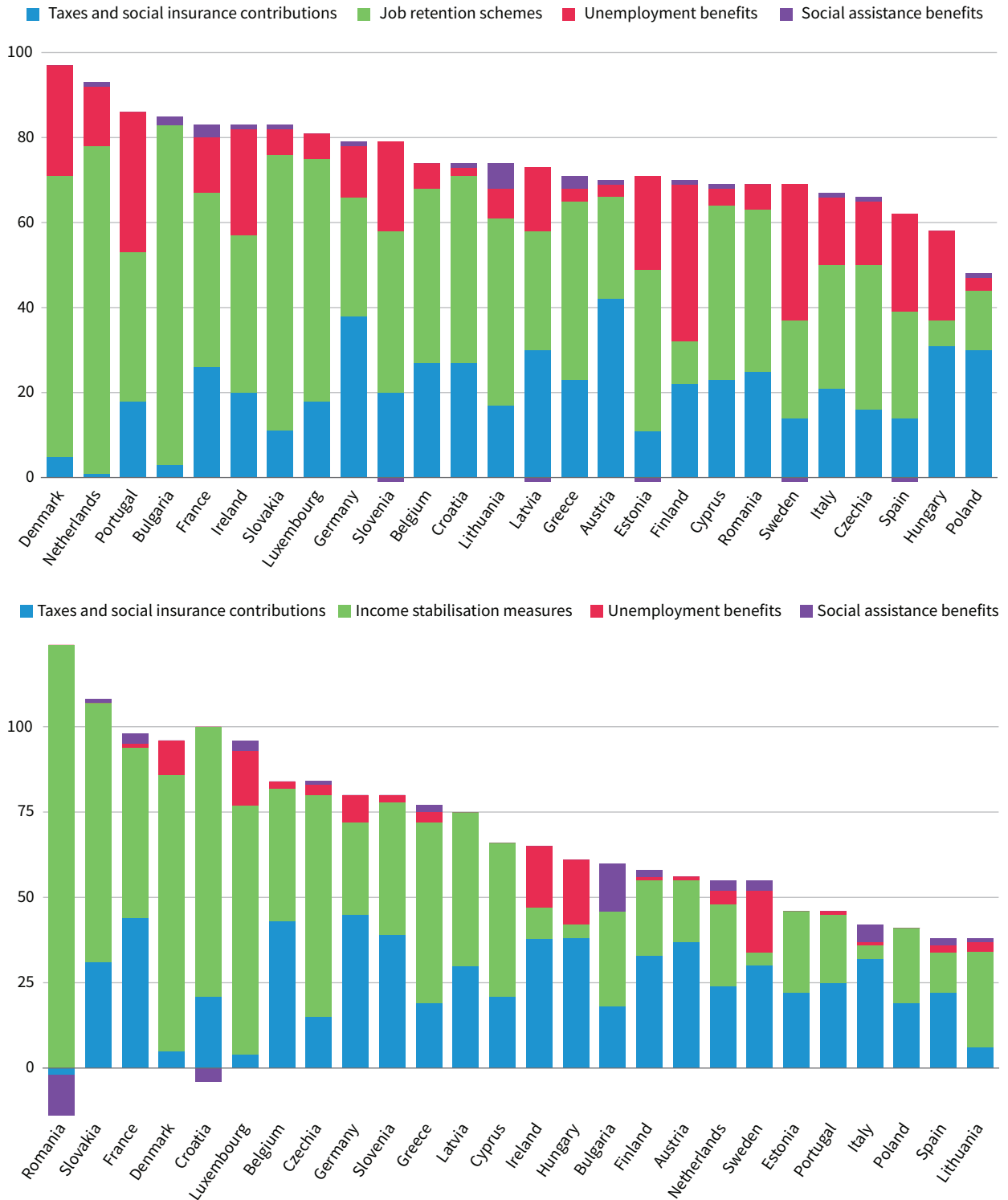
## Protecting the incomes of employees and the self-employed during the pandemic

National tax regimes and social protection systems treat employees and the self-employed very differently. In general, compared with employees, the self-employed tend to have more limited access to social protection. This means that self-employed people are more vulnerable to unexpected events such as the COVID-19 pandemic and associated restrictions. National policy responses to the pandemic took into account some of the existing gaps in coverage and the less generous social protection systems that were available to the self-employed, and sought to address these gaps through temporary changes in existing regulations or through entirely new schemes targeted at the self-employed. Income stabilisation measures for the self-employed similar to job retention schemes were implemented in most Member States (see Chapter 1). While the benefits were less generous and the duration of support was shorter for the self-employed than for

employees, these measures were often accompanied by additional supports that targeted businesses (Eurofound, 2024a). These included loans at preferential rates, deferrals of social security contributions, government-guaranteed loans and one-off grants.

Existing differences between dependent employees and the self-employed in terms of social protection regimes and emergency support measures are reflected in the ISC and its components for 2021. As Figure 10 demonstrates, the role of unemployment benefits in cushioning the impact of the pandemic on income was much greater for employees than for self-employed workers. Instead, self-employed workers were given access to income stabilisation measures, which in the majority of countries accounted for the largest part of the ISC. In Croatia, Denmark, Luxembourg, Romania and Slovakia, income stabilisation measures absorbed more than 70% of the market income drop. Furthermore, in the majority of Member States, these measures absorbed between one-fifth and two-thirds of the pandemic shock on the self-employed.

Figure 10: Income stabilisation coefficient for employees (upper panel) and self-employed workers (lower panel), by component and Member State, 2021



**Note:** The ISC for self-employed workers in Romania is estimated to be 180. As noted above, this effect is driven by the low level of declared income for self-employed people in the country, which drives up the income stabilisation effect of the COVID-19 measures.

**Source:** Authors' calculations based on EUROMOD and EU-SILC data

By comparison, in Hungary, Ireland, Italy and Sweden, income stabilisation measures played only a marginal role in protecting the incomes of the self-employed. Instead, taxes and social insurance contributions accounted for the lion's share of the ISC. Relative to other Member States, unemployment systems in Hungary, Ireland and Sweden also contributed more to protecting the incomes of self-employed workers. The enhanced role of unemployment systems is explained by emergency measures that extended access to unemployment benefits to the self-employed or introduced new measures for the self-employed that were paid through the social security budget. For example, Sweden has the lowest unemployment coverage among the Nordic countries (OECD, 2023). To address coverage gaps, the government relaxed access to unemployment benefits, allowing the self-employed whose business activities were affected by the pandemic to draw unemployment benefits while continuing some activities that could contribute to the resumption of operations once the epidemiological situation improved (Eurofound, 2020). Sweden also temporarily abolished the 'five-year rule', which bans self-employed workers from accessing unemployment insurance for five years following the receipt of benefits (Fritzell et al, 2021). Furthermore, in 2021, Italy introduced a new income support scheme for the self-employed: the Extraordinary Allowance to Guarantee Income and Operational Continuity (*Indennità Straordinaria di Continuità Reddituale e Operativa*). The support is paid through the National Social Security Institute and is available for those self-employed workers who have suffered a substantial drop in income (at least 50%) relative to their average income in the last three years (Belletti and Norbiato, 2021). Although the support was initially designed as a temporary measure to be implemented for a period of two years, in 2024 it became permanent (Informazione Fiscale, 2024).

For employees, unemployment benefit systems absorbed more than one-third of the shock on market incomes in Finland, Portugal and Sweden. In Finland, access to unemployment benefits was facilitated through the removal of the five-day unpaid waiting period, extending the maximum duration of benefits,

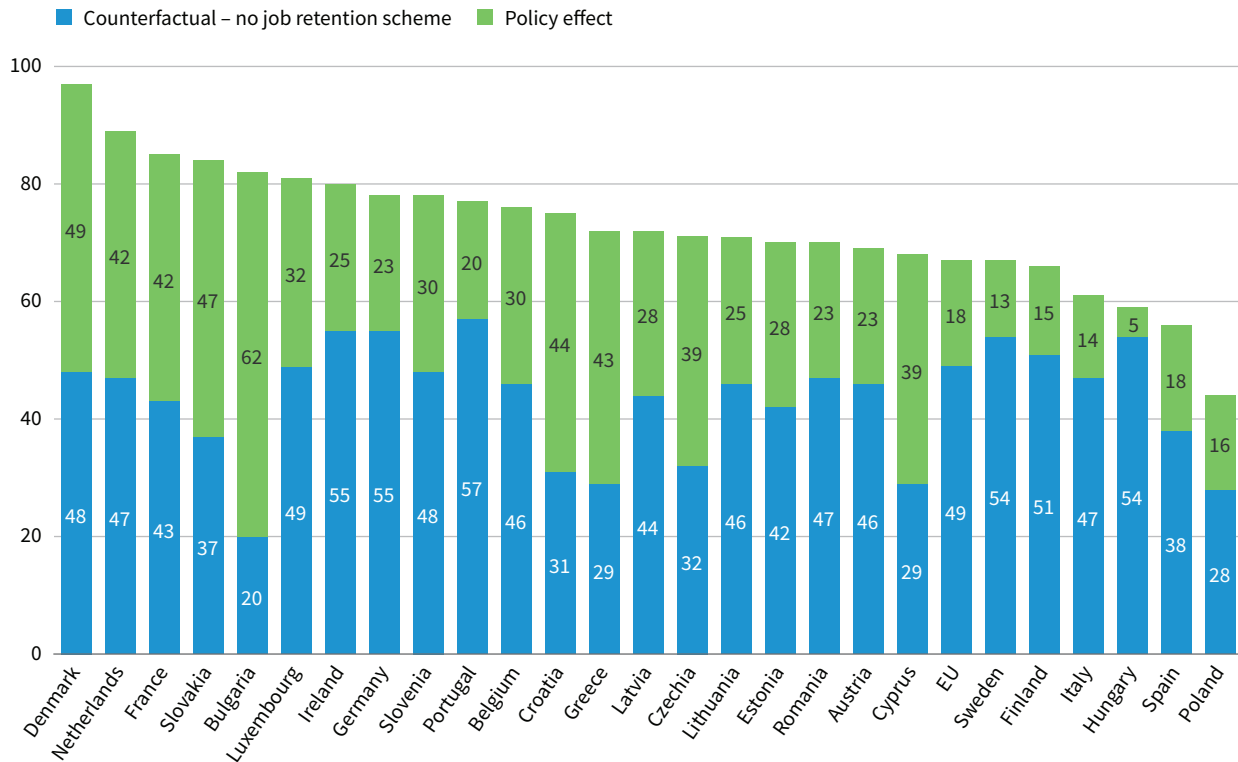
reducing the qualifying periods and increasing the earning thresholds to allow higher earners to qualify for unemployment benefits (Kangas and Kallioma-Puha, 2021). Similarly, in Portugal unemployment benefit payments were automatically extended for a period of six months; insurance periods and minimum work history for accessing benefits were also reduced (Perista, 2021).

## Impact of job retention schemes on poverty and inequality in the EU

The counterfactual analysis described above demonstrated that, in the EU, the income-cushioning effect of the tax-benefit system, which included job retention schemes, was 67.1% in 2021.<sup>5</sup> In the absence of government emergency interventions in response to the COVID-19 pandemic, the ISC would have been 49%, about 18 percentage points lower than it was. This is a slightly lower share than suggested by the breakdown by instrument described above, which found that job retention schemes were responsible for absorbing 22.1% of the shock on market incomes. This slight difference is explained by the additional effects of other components on incomes, including taxes and social insurance contributions, as well as other automatic stabilisers, in the absence of job retention schemes. These slight changes generated by the additional cushioning effects of existing stabilisers are also reflected in minor shifts in the country ranking (see Figure 11). In 2021, the effects of the policy on household incomes were largest in Bulgaria and Denmark, where more than half of the shock on market incomes was absorbed by job retention schemes. Furthermore, in Croatia, Cyprus, Czechia, France, Greece, Luxembourg, the Netherlands and Slovakia, job retention schemes absorbed between 30% and 50% of the shock on market incomes. With the exception of Hungary, where job retention schemes played a minor role in 2021, job retention schemes in all other countries helped to absorb the shock of the pandemic on households by between 10% and 30%.

<sup>5</sup> See Annex 2 for further details on the scenarios used in the counterfactual analysis.

**Figure 11: Income stabilisation coefficient without government intervention (counterfactual) and with the intervention, by Member State, 2021**



Note: Data for Malta are not available.

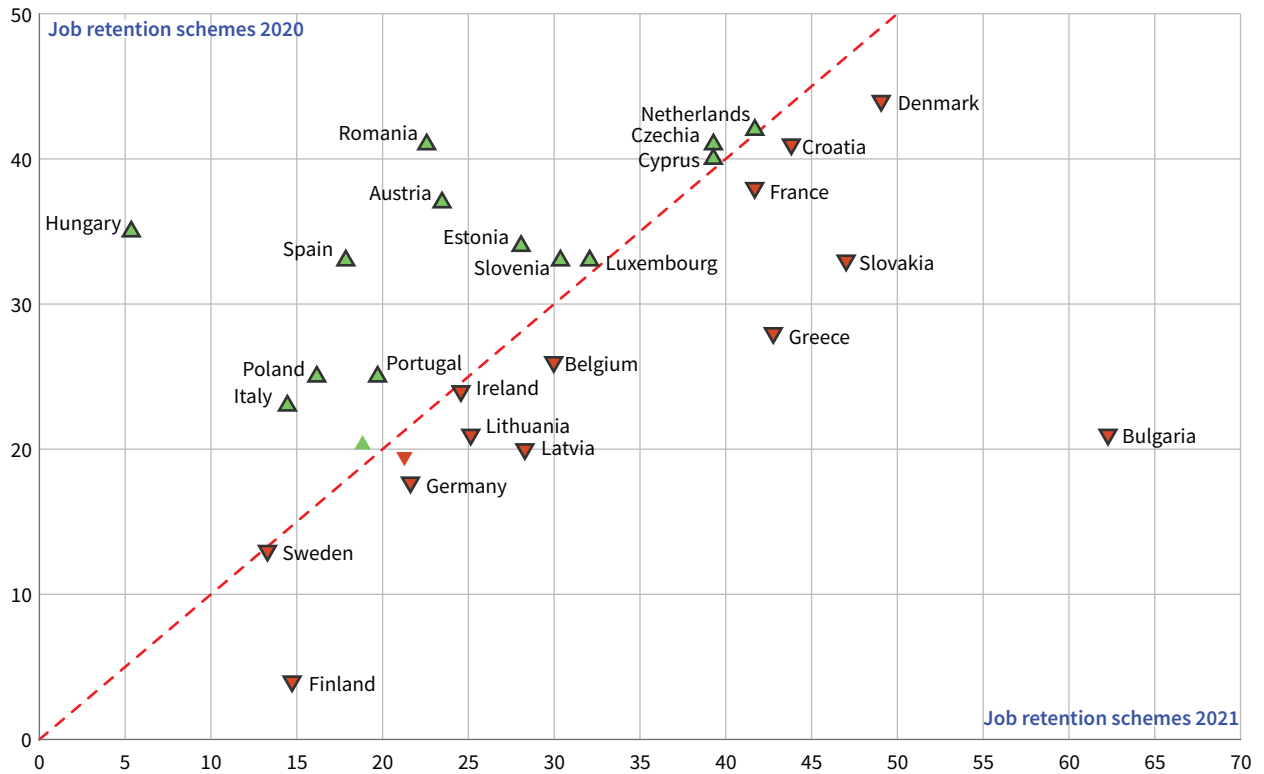
Source: Authors' calculations based on EUROMOD and EU-SILC data

Figure 12 provides a comparative description of the size of the shock absorbed by job retention schemes in 2020 and 2021. In countries above the red line, job retention schemes absorbed a larger share of the shock in 2020, whereas, in countries below the line, job retention schemes contributed more in 2021. In countries on or close to the red line, the contribution of national job retention schemes to cushioning the shock on incomes was largely the same in both years. There is no clear cross-national pattern with respect to the year in which

job retention schemes contributed more to cushioning the impact of the crisis. While in many countries the role of job retention schemes remained relatively unchanged between the two years, in others there are clear movements that highlight when the schemes were used more in response to national restrictions imposed due to the pandemic. This is clearly the case for Austria, Hungary, Romania and Spain in 2020 and for Bulgaria, Greece and Slovakia in 2021.



Figure 12: Contribution of job retention schemes to the income stabilisation coefficient, by Member State and year



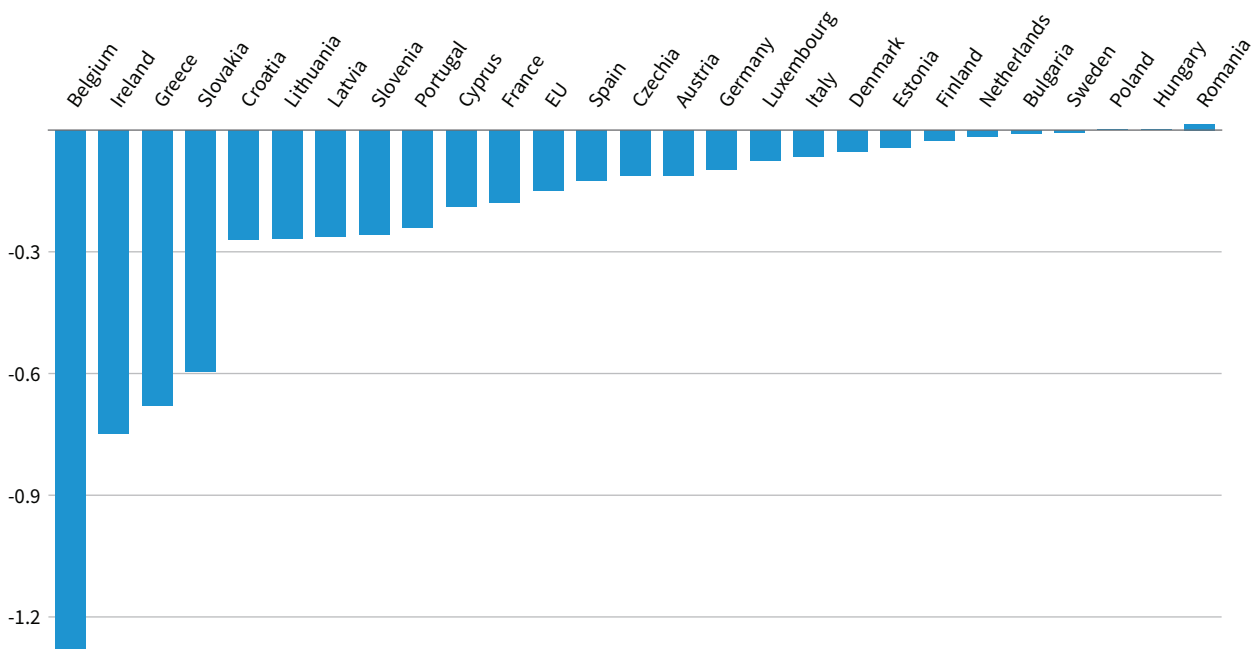
Note: Data for Malta are not available.

Source: Authors' calculations based on EUROMOD and EU-SILC data; results for 2020 taken from Christl et al, 2023a

Figure 13 shows the extent to which job retention schemes reduced income inequality, measured by the Gini coefficient of equivalised disposable household

income. Simulations suggest that, on average in the EU, job retention schemes reduced inequality by an estimated 0.15 percentage points. However, as with

Figure 13: Year-on-year change in the Gini coefficient due to government intervention, by Member State, 2021



Note: Data for Malta are not available.

Source: Authors' calculations based on EUROMOD and EU-SILC data

other indicators, the impact of job retention schemes on inequality varies by country, reflecting differences in the design of the schemes. The inequality-reducing effect of job retention schemes was largest in Belgium, where the scheme contributed to an estimated decline in inequality of about 1.3 percentage points.

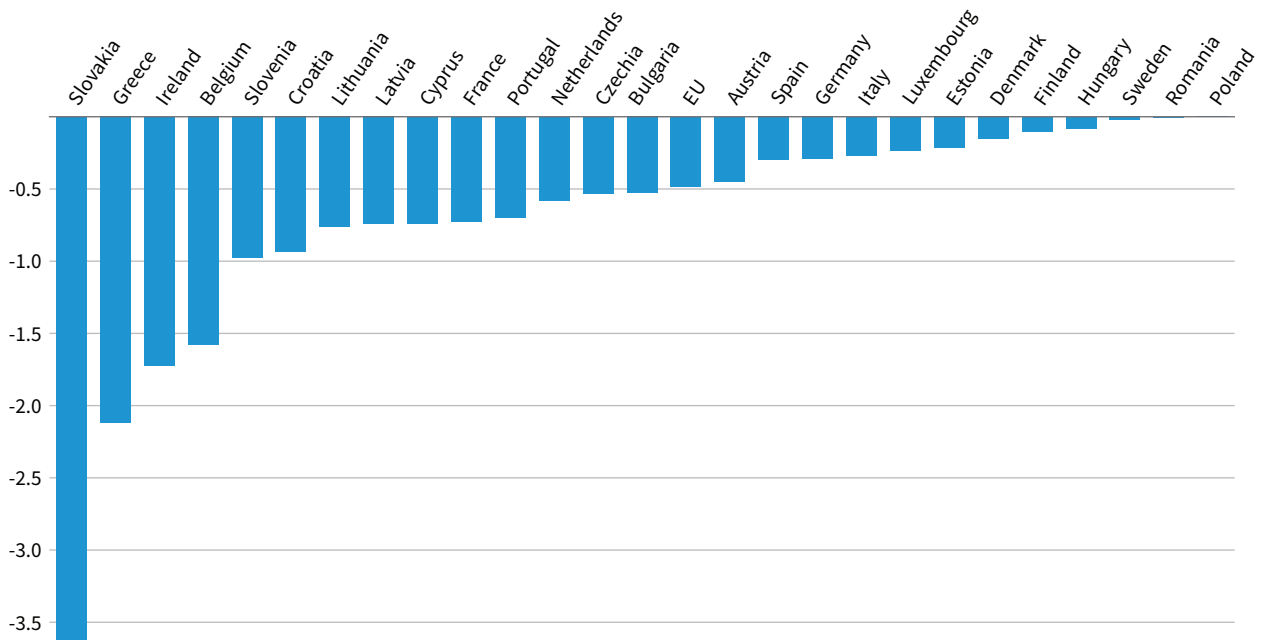
Job retention schemes also had relatively large positive effects on inequality in Greece, Ireland and Slovakia, where they contributed to a decline of between 0.60 and 0.75 percentage points. At the opposite end of the ranking, the effects of job retention schemes on income inequality were negligible in Bulgaria, Finland, Hungary, the Netherlands, Poland, Romania and Sweden.

The country ranking remains relatively similar when analysing the impact of job retention schemes on the at-risk-of-poverty (AROP) rate in 2021 (see Figure 14).<sup>6</sup> On average in 2021, job retention schemes reduced the AROP rate in the EU by around 0.5 percentage points relative to the counterfactual scenario in which these schemes were not in place. Job retention schemes had the largest effects on AROP levels in Slovakia, Greece, Ireland and Belgium (in order of magnitude), in all cases reducing the AROP rate by more than 1.5 percentage points. In contrast, the poverty-reducing effect of job retention schemes was negligible in Poland, Romania

and Sweden. The fact that the inequality- and poverty-reducing effects of job retention schemes were small in some countries can be attributed to the very small share of employees and self-employed workers moving to these schemes, the limited reduction in hours for those who entered the schemes and the relatively short amount of time workers spent in these schemes. Furthermore, the main purpose of job retention schemes was not to reduce poverty and inequality but to protect the income and consumption levels of workers when working hours had to be cut as a result of the COVID-19 pandemic. The fact that both inequality and poverty declined during the pandemic is an indication that support was effectively targeted.

In summary, the analysis demonstrates the significant effect of job retention schemes in cushioning the negative income shock caused by the COVID-19 pandemic in both 2020 and 2021. It also highlights the role played by job retention schemes in the second year of the pandemic and the significant effects job retention schemes had in protecting the incomes of dependent employees and the self-employed. While workers across the income distribution participated in the schemes, in the majority of countries the lowest income earners benefited the most. As a result, job retention schemes also helped to limit the negative effects of the COVID-19

Figure 14: Change in the AROP rate due to government intervention, by Member State, 2021



Note: Data for Malta are not available.

Source: Authors' calculations based on EUROMOD and EU-SILC data

<sup>6</sup> Eurostat defines the AROP rate as the share of people with an equivalised disposable income that is below 60% of the national median equivalised disposable income after social transfers. In other words, 60% is the AROP threshold.

pandemic on inequality and poverty. However, the effects of job retention schemes differ substantially between Member States, reflecting not only differences in the design of policy measures implemented in

response to the COVID-19 pandemic, but also cross-national differences related to the management of the health crisis (timing and duration of lockdowns, vaccination rates, sectoral measures).

## Key findings

Job retention schemes made a significant contribution to the cushioning of the impact of the COVID-19 pandemic on household incomes in both 2020 and 2021. Their relatively smaller contribution in 2021 is explained by lower take-up rates during the incipient recovery phase from the COVID-19 pandemic. In many countries, job retention schemes provided a lifeline to both dependent employees and the self-employed.

Together with other benefits, job retention schemes absorbed 74.4% of the shock of the pandemic on disposable incomes in 2020 and 67.1% in 2021. In 2021, the main instruments responsible for absorbing the effect of the pandemic on income were taxes and social insurance contributions, which accounted for 26.4%. Lower taxable income combined with the progressive taxation schemes in some countries contributed to lower personal social insurance contributions and income taxes. In contrast, job retention schemes and unemployment benefits absorbed 22.1% and 18.0% of the income shock, respectively.

Income stabilisation measures akin to job retention schemes remained the main policy intervention protecting the incomes of self-employed workers in both 2020 and 2021. While unemployment benefits helped to protect the incomes of dependent employees, they played only a marginal role for self-employed workers. This reflects existing gaps in social protection for the self-employed and the vulnerability of this group of workers to labour market shocks. In the absence of income stabilisation measures, the incomes of self-employed workers would have declined by 36 percentage points relative to the baseline scenario.

During the pandemic, job retention schemes played a redistributive role, doing more to protect the incomes of the bottom income earners than those in other income groups. This effect is present in both years of the pandemic and between countries. The magnitude of the redistributive role of job retention schemes and income stabilisation measures varies substantially between Member States. Nevertheless, at EU level, there is on average a 20-percentage-point difference in the income-cushioning effect of these interventions between the bottom and top quintiles of the income distribution. This effect, which was driven by the design features of job retention schemes, such as income thresholds and replacement rates, suggests that job retention schemes were targeted at those groups most in need of support.

The redistributive role of job retention schemes and income stabilisation measures for the self-employed is reflected in the overall poverty and inequality indicators. On average, in 2021, job retention schemes reduced inequality by an estimated 0.15 percentage points while also reducing the AROP rate by 0.5 percentage points.



## 4 | Conclusions

This report provides a comprehensive overview of the use of job retention schemes and income support measures for employees and the self-employed during the first two years of the pandemic, demonstrating the effectiveness of such measures in preserving employment and stabilising income levels amidst an unprecedented health and economic crisis. The expansion of these measures during the COVID-19 pandemic was a result of policy learning from the global financial crisis, when job retention schemes proved to be an important instrument in preserving employment levels in some Member States. In addition, the rapid mobilisation of funds at EU level through the SURE mechanism guaranteed that Member States could develop policy interventions that were suited to their needs and fell within the broad category of job retention schemes. This flexibility afforded by the availability of funding contributed to swift deployment of the schemes in the initial phases of the crisis but also ensured that support was sufficiently generous to have a large cushioning effect on household incomes.

The leeway that Member States had in using funds provided through SURE was also reflected in the different policy design choices for job retention schemes. National schemes varied substantially in their key parameters, including in their generosity towards workers, the eligibility of different categories of workers, the conditionality criteria for firms and the costs for employers. In general, these criteria tended to be very broad in the initial phases of the pandemic and became increasingly stricter as pandemic-related restrictions were relaxed. In some cases, broad schemes were gradually transformed into more narrow interventions that targeted only specific sectors affected by further lockdowns.

The coverage of self-employed workers by schemes similar to job retention schemes was one of the policy innovations developed during the pandemic. Although the support granted to self-employed workers, in terms of the number of individuals who benefited and the level of support provided, remained below that offered to employees, the distributional analysis revealed that

income support measures for the self-employed also resulted in substantial stabilisation effects for this category of workers. Interventions that sought to stabilise the incomes of self-employed workers were particularly important during the pandemic given the existing gaps in social protection coverage for the self-employed.

The relaxation of the eligibility criteria and conditionality of the schemes contributed to a large take-up, especially during the first two quarters of 2020. An estimated 52 million employees received support through job retention schemes during this period, exceeding by far the scale of job retention schemes during previous crises. The broad-based participation in the schemes also resulted in significant employment effects. This report provides comprehensive estimates of the number of jobs saved by job retention schemes during the first two years of the pandemic, showing that 26.9 million jobs were saved by the schemes. This is a significant effect that demonstrates the effectiveness of such policies at times of economic crisis and their capacity to prevent the lay-off of potentially large numbers of workers, thus avoiding the consequent detrimental effects for individuals, firms and labour markets. The positive contribution of job retention schemes to employment levels is also reflected in the swift recovery of employment levels in the aftermath of the pandemic and the historically low levels of unemployment in the EU as of 2024.

This report has also documented the wider distributional effects of job retention schemes, showing that schemes worked as intended by cushioning the effect of the COVID-19 pandemic on household incomes in both 2020 and 2021. The redistributive nature of job retention schemes means that, aside from maintaining incomes, the schemes also had broader effects, reducing inequality and poverty in the EU. This suggests that, given their flexibility and far-reaching effects on employment and incomes, job retention schemes can be institutionalised as part of a crisis response framework that governments can leverage in future crises.



# References

All Eurofound publications are available at [www.eurofound.europa.eu](http://www.eurofound.europa.eu)

- Aiyar, S. and Dao, M. C. (2021), *The effectiveness of job-retention schemes: COVID-19 evidence from the German states*, Working Paper No. 2021/242, International Monetary Fund (IMF), Washington, DC.
- Albertini, J., Fairise, X., Poirier, A. and Terriau, A. (2022), 'Short-time work policies during the COVID-19 pandemic', *Annals of Economics and Statistics*, No. 146, pp. 123–172.
- Almeida, V., Barrios, S., Christl, M., De Poli, S., Tumino, A. and Van der Wielen, W. (2021), 'The impact of COVID-19 on households' income in the EU', *Journal of Economic Inequality*, Vol. 19, No. 3, pp. 413–431.
- Andrews, D., Charlton, A. and Moore, A. (2021a), *COVID-19, productivity and reallocation: Timely evidence from three OECD countries*, Economics Department Working Paper No. 1676, OECD Publishing, Paris.
- Andrews, D., Bahar, E. and Hambur, J. (2021b), *The COVID-19 shock and productivity-enhancing reallocation in Australia: Real-time evidence from Single Touch Payroll*, Economics Department Working Paper No. 1677, OECD Publishing, Paris.
- Angelov, N. and Waldenström, D. (2023), *The economic effects of COVID-19 in Sweden: A report on income, taxes, distribution, and government support policies*, Working Paper No. 10547, Center for Economic Studies and ifo Institute for Economic Research (CESifo), Munich.
- Aspachs, O., Durante, R., Graziano, A., Mestres, J., Montalvo, J. G. and Reynal-Querol, M. (2022), 'Real-time inequality and the welfare state in motion: Evidence from COVID-19 in Spain', *Economic Policy*, Vol. 37, No. 109, pp. 165–199.
- Bělin, M. and Veselková, M. (2022), *Job retention scheme in Slovakia: Impact on dismissals and firm survival in the COVID-19 pandemic*, Ministry of Labour and Social Affairs, Social Policy Institute, Bratislava.
- Belletti, C. and Norbiato, R. (2021), 'Country chapter Italy', in Spasova, S., Ghailani, D., Sabato, S. and Vanhercke, B. (eds.), *Social protection of non-standard workers and the self-employed during the pandemic – Country chapters: Belgium, France, Ireland, Italy, Lithuania, Portugal, Romania, Sweden*, European Trade Union Institute (ETUI), Brussels, pp. 53–62.
- Benkovskis, K., Tkacevs, O. and Vilerts, K. (2023), *Did job retention schemes save jobs during the COVID-19 pandemic? Firm-level evidence from Latvia*, Working Paper No. 03/2023, Latvijas Banka, Riga.
- Bennedsen, M., Larsen, B., Schmutte, I. and Scur, D. (2020), 'Preserving job matches during the COVID-19 pandemic: Firm-level evidence on the role of government aid', *Covid Economics*, No. 27, pp. 1–30.
- Bighelli, T., Lalinsky, T. and Vanhala, J. (2022), *Covid-19 pandemic, state aid and firm productivity*, Working Paper No. 1/2022, Bank of Finland, Helsinki.
- Boeri, T. and Bruecker, H. (2011), 'Short-time work benefits revisited: Some lessons from the Great Recession', *Economic Policy*, Vol. 26, No. 68, pp. 697–765.
- Bogdanov, G. and Zahariev, B. (2021), *ESPN thematic report: Social protection and inclusion policy responses to the COVID-19 crisis – Bulgaria*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Brussels.
- Bruckmeier, K., Peichl, A., Popp, M., Wiemers, J. and Wollmershäuser, T. (2021), 'Distributional effects of macroeconomic shocks in real-time: A novel method applied to the COVID-19 crisis in Germany', *Journal of Economic Inequality*, Vol. 19, No. 3, pp. 459–487.
- Bruegel (2020), 'COVID-19: The self-employed are hardest hit and least supported', blog post, 8 April.
- Buresi, G. and Cornuet, F. (2021), *Flash estimate of the income poverty rate and inequality indicators*, Analysis No. 70, Institut national de la statistique et des études économiques (INSSE), Montrouge.
- Cahuc, P. (2019), 'Short-time work compensation schemes and employment', *IZA World of Labor*, No. 11.
- Cahuc, P. and Carcillo, S. (2011), *Is short-time work a good method to keep unemployment down?* Discussion Paper No. 5430, Institute of Labor Economics, Bonn.
- Cahuc, P., Kramarz, F. and Nevoux, S. (2021), *The heterogeneous impact of short-time work: From saved jobs to windfall effects*, Discussion Paper No. 14381, Institute of Labor Economics, Bonn.
- Calligaris, S., Ciminelli, G., Costa, H., Criscuolo, C., Demmou, L., Desnoyers-James, I. et al (2023), *Employment dynamics across firms during COVID-19: The role of job retention schemes*, Economics Department Working Paper No. 1788, OECD Publishing, Paris.
- Central Statistics Office (2023), *Impact of COVID-19 income supports on poverty*, web page, accessed 1 July 2024.

- Christl, M., De Poli, S., Kucsera, D. and Lorenz, H. (2022), 'COVID-19 and (gender) inequality in income: The impact of discretionary policy measures in Austria', *Swiss Journal of Economics and Statistics*, Vol. 158, No. 4, pp. 1–17.
- Christl, M., De Poli, S., Figari, F., Hufkens, T., Leventi, C., Papini, A. et al (2023a), 'Monetary compensation schemes during the COVID-19 pandemic: Implications for household incomes, liquidity constraints and consumption across the EU', *Journal of Economic Inequality*, Vol. 22, pp. 411–431.
- Christl, M., De Poli, S., Hufkens, T., Peichl, A. and Ricci, M. (2023b), 'The role of short-time work and discretionary policy measures in mitigating the effects of the COVID-19 crisis in Germany', *International Tax and Public Finance*, Vol. 30, pp. 1107–1136.
- Colussi, T. (2020), *IZA COVID-19 crisis response monitoring: Italy (October 2020)*, discussion paper, Institute of Labor Economics, Bonn.
- Corti, F. and Huguenot-Noël, R. (2024), 'Towards a re-insurance union? SURE as an EU response to preserve jobs in the COVID-19 pandemic', *Journal of European Social Policy*, Vol. 34, No. 2, pp. 237–252.
- Corti, F., Ounnas, A. and Ruiz de la Ossa, T. (2023), *Job retention schemes between the Great Recession and the COVID-19 crises*, In-Depth Analysis Working Paper No. 2, Centre for European Policy Studies (CEPS), Brussels.
- Costa Dias, M., Joyce, R., Postel-Vinay, F. and Xu, X. (2020), 'The challenges for labour market policy during the COVID-19 pandemic', *Fiscal Studies*, Vol. 41, No. 2, pp. 371–382.
- Cros, M., Epaulard, A. and Martin, P. (2021), *Will Schumpeter catch COVID-19?* Discussion Paper No. 15834, Centre for Economic Policy Research (CEPR), Paris.
- De Gregorio, C., Giordano, A. and Siciliani, I. (2021), 'Intensity and income distribution effects of job retention schemes in Italy during the COVID-19 pandemic', conference presentation, *Meeting of the Group of Experts on Quality of Employment*, Istituto Nazionale di Statistica (Istat), 9–18 November, online sessions.
- Dolls, M., Fuest, C. and Peichl, A. (2012), 'Automatic stabilizers and economic crisis: US vs. Europe', *Journal of Public Economics*, Vol. 96, Nos. 3–4, pp. 279–294.
- Drahokoupil, J. and Müller, T. (2021), *Job retention schemes in Europe: A lifeline during the COVID-19 pandemic*, Working Paper No. 2021.07, ETUI, Brussels.
- ECA (European Court of Auditors) (2022), *Support to mitigate Unemployment Risks in an Emergency SURE (special report)*, Publications Office of the European Union, Luxembourg.
- Eichhorst, W., Marx, P., Rinne, U. and Brunner, J. (2022), *Job retention schemes during COVID-19: A review of policy responses*, Policy Paper No. 187, Institute of Labor Economics, Bonn.
- EIGE (European Institute for Gender Equality) (2023), *Evidence to action: Gender equality and gender mainstreaming in the COVID-19 recovery*, Publications Office of the European Union, Luxembourg.
- Eurofound (2010), *Extending flexicurity – The potential of short-time working schemes: ERM report 2010*, Publications Office of the European Union, Luxembourg.
- Eurofound (2020), *Self-employed can pause their business in order to receive unemployment insurance, measure SE-2020-16/1261 (measures in Sweden)*, EU PolicyWatch, Dublin.
- Eurofound (2021), *COVID-19: Implications for employment and working life*, Publications Office of the European Union, Luxembourg.
- Eurofound (2024a), *Self-employment in the EU: Job quality and developments in social protection*, Publications Office of the European Union, Luxembourg.
- Eurofound (2024b), *Company practices to tackle labour shortages*, Publications Office of the European Union, Luxembourg.
- Eurofound (2024c), *Developments in income inequality and the middle class in the EU*, Publications Office of the European Union, Luxembourg.
- Eurofound and JRC (European Commission Joint Research Centre) (2021), *What just happened? COVID-19 lockdowns and change in the labour market*, Publications Office of the European Union, Luxembourg.
- European Commission (2022), *Report on the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) following the COVID-19 outbreak pursuant to Article 14 of Council Regulation (EU) 2020/672 – SURE: Two years on*, COM(2022)483 final, Brussels.
- European Commission (2023), *Report on the European instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) following the COVID-19 outbreak pursuant to Article 14 of Council Regulation (EU) 2020/672 – SURE after its sunset: Final bi-annual report*, COM(2023)291 final, Brussels.
- Eurostat (2022), *Flash estimates of income inequalities and poverty indicators for 2021 (FE 2021): Methodological note*, Publications Office of the European Union, Luxembourg.
- Fréhaut, P. (2012), 'Short-time working schemes in France and Germany: How do they differ?' *Trésor-Economics*, No. 107, pp. 1–8.



- Fritzell, J., Nelson, K., Heap, J. and Palme, J. (2021), *ESPN thematic report: Social protection and inclusion policy responses to the COVID-19 crisis – Sweden*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Brussels.
- Gallo, G. and Raitano, M. (2023), ‘SOS incomes: Simulated effects of COVID-19 and emergency benefits on individual and household income distribution in Italy’, *Journal of European Social Policy*, Vol. 33, No. 1, pp. 101–116.
- Gasior, K. and Rastrigina, O. (2017), *Nowcasting: Timely indicators for monitoring risk of poverty in 2014–2016*, EUROMOD working paper, Institute for Social and Economic Research (ISER), University of Essex, Colchester, UK.
- Hijzen, A. and Martin, S. (2013), ‘The role of short-time work schemes during the global financial crisis and early recovery: A cross-country analysis’, *IZA Journal of Labor Policy*, Vol. 2, pp. 1–31.
- Hijzen, A. and Venn, D. (2011), *The role of short-time work schemes during the 2008–09 recession*, Social, Employment and Migration Working Paper No. 115, OECD Publishing, Paris.
- Informazione Fiscale (2024), ‘ISCRO 2024: Importo, come fare domanda e novità della Legge di Bilancio’, 16 January.
- Jongen, E., Ebregt, J. and Verstegen, L. (2021), *IZA COVID-19 crisis response monitoring: Netherlands (December 2021)*, discussion paper, Institute of Labor Economics, Bonn.
- Kallaste, E. (2021), *Job retention schemes in Europe: Estonia*, Working Paper No. 2021.07 – Online annex: Country reports, ETUI, Brussels.
- Kangas, O. and Kalliomaa-Puha, L. (2021), *ESPN thematic report: Social protection and inclusion policy responses to the COVID-19 crisis – Finland*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Brussels.
- Knotek, E. (2007), ‘How useful is Okun’s law?’ *Economic Review*, Vol. 92, No. 4, pp. 73–103.
- Konle-Seidl, R. (2020), *Short-time work in Europe: Rescue in the current COVID-19 crisis?* Research Report No. 4/2020, Institut für Arbeitsmarkt- und Berufsforschung (IAB), Nuremberg.
- Kozeniauskas, N., Moreira, P. and Santos, C. (2022), ‘On the cleansing effect of recessions and government policy: Evidence from COVID-19’, *European Economic Review*, Vol. 144, e104097.
- Krekó, J. and Varga, J. (2022), ‘Job retention wage subsidies during the pandemic in Hungary’, in Szabó-Morvai, Á., Kónya, I. and Krekó, J. (eds.), *The Hungarian labour market 2020: The COVID-19 pandemic*, Centre for Economic and Regional Studies, Institute of Economics, Budapest, pp. 190–194.
- Lam, W. R. and Solovyeva, A. (2023), *How effective were job-retention schemes during the COVID-19 pandemic? A microsimulation approach for European countries*, Working Paper No. 2023/003, IMF, Washington, DC.
- Laurimäe, M., Paas, T. and Paulus, A. (2022), ‘The effect of COVID-19 and the wage compensation measure on income-related gender disparities’, *Baltic Journal of Economics*, Vol. 22, No. 2, pp. 146–166.
- Meriküll, J. and Paulus, A. (2024), ‘Were jobs saved at the cost of productivity in the COVID-19 crisis?’ *European Economic Review*, Vol. 161, e104618.
- Ministère de l’économie (2020), ‘Public support to low-income households in covid times in France’, blog post, 28 December.
- Monteduro, M. T., De Rosa, D. and Subrizi, C. (2023), ‘How to nowcast uncertain income shocks in microsimulation models? Evidence from COVID-19 effects on Italian households’, *Italian Economic Journal*, Vol. 10, pp. 871–900.
- Müller, T., Schulten, T. and Drahokoupil, J. (2022), ‘Job retention schemes in Europe during the COVID-19 pandemic: Different shapes and sizes and the role of collective bargaining’, *Transfer: European Review of Labour and Research*, Vol. 28, No. 2, pp. 247–265.
- OECD (Organisation for Economic Co-operation and Development) (2020), *Job retention schemes during the COVID-19 lockdown and beyond*, OECD Publishing, Paris.
- OECD (2023), *Nordic lessons for an inclusive recovery? Responses to the impact of COVID-19 on the labour market*, OECD Publishing, Paris.
- Perista, P. (2021), *ESPN thematic report: Social protection and inclusion policy responses to the COVID-19 crisis – Portugal*, European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Brussels.
- Preisa, N. (2021), *Job retention schemes in Europe: Latvia*, Working Paper No. 2021.07 – Online annex: Country reports, ETUI, Brussels.
- Ragacs, C. and Reiss, L. (2021), ‘Austria’s labor market during the COVID-19 crisis’, *Monetary Policy & the Economy*, Vol. 21, No. 2, pp. 59–78.

Schulten, T. (2021), *Collective bargaining in Germany 2020: Annual report of the WSI collective agreement archive*, Wirtschafts- und Sozialwissenschaftliches Institut (WSI), Düsseldorf.

Spasova, S., Ghailani, D., Sabato, S., Coster, S., Fronteddu, B. and Vanhercke, B. (2021), *Non-standard workers and the self-employed in the EU: Social protection during the COVID-19 pandemic*, Report No. 2021.02, ETUI, Brussels.

Tamesberger, D. and Theurl, S. (2021), *Design and take up of Austria's coronavirus short time work model*, Working Paper No. 127, Institute for Comprehensive Analysis of the Economy (ICEA), Johannes Kepler University Linz, Linz, Austria.

Vincent, C. (2021), *Job retention schemes in Europe: France*, Working Paper No. 2021.07 – Online annex: Country reports, ETUI, Brussels.

# Annexes

## Annex 1: Instrument diagnostics

The test for weak instruments for both take-up and the interaction between take-up and GDP turns out to be rather large and statistically significant, as shown in Table A1. This suggests that the two instruments used are heavily correlated with the endogenous variable (take-up). The Wu–Hausman test also has a small  $p$ -value, indicating that the 2SLS model is to be preferred to an ordinary least squares model (since the latter is expected to be inconsistent).

**Table A1: Instrument diagnostics**

Test	Statistic	$p$ -value
Weak instruments (take-up)	9.67	< 0.001
Weak instruments (GDP * take-up)	19.36	< 0.001
Wu–Hausman	39.2	< 0.001

## Annex 2: Methodology

### Formal definitions of the three scenarios and data

The effect of the COVID-19 pandemic on household disposable income and on inequality indices, such as the Gini index and the AROP rate, can be assessed using EU-SILC data, which are already available for the pandemic years. However, the EUROMOD microsimulation model enables an in-depth analysis of the contribution of fiscal policies to the absorption of the income shock generated by the pandemic through the use of counterfactual scenarios.

EUROMOD presents several advantages over analyses relying solely on survey data. First, survey data do not allow the identification of the real effect of the pandemic on market income. In several countries, benefits paid through job retention schemes for employees are reported as general earnings. In the absence of precise information on the extent of benefits paid through job retention schemes, it is impossible to assess the size of the shock generated by the COVID-19 pandemic on market income or the share of the shock absorbed by job retention schemes and by the other components of the tax-benefit system.

Second, surveys do not allow the impact of job retention schemes on incomes to be isolated from the impact of other benefits. In contrast, EUROMOD provides a level of disaggregation that is unavailable in survey analyses, enabling a detailed comparative analysis of the role that each component of the tax-benefit system played in absorbing the income shock generated by the COVID-19 pandemic.

Third, microsimulation techniques allow relevant counterfactual scenarios to be generated. These scenarios serve to answer hypothetical questions, such as what would have happened to key policy indicators had the government not intervened by implementing job retention schemes.

To define the scenarios, the following notations are used: let  $t$  be the tax-benefit function that depends on the tax-benefit system ( $P$ ) as well as the labour market condition ( $LM$ ), including COVID-19-related labour market transitions ( $LM^{Trans}$ ) or not ( $LM^{NoTrans}$ ). The ( $JR$ ) superscript denotes a job retention scheme. The three scenarios can be defined as follows:

**Baseline (no COVID-19 scenario):**  $t(P_{2021}, LM_{2021}^{NoTrans})$

**COVID-19 scenario:**  $t(P_{2021}, LM_{2021}^{Trans})$

**No government intervention scenario:**  $t(P_{2021}^{NoJR}, LM_{2021}^{Trans})$

Since the analysis seeks to single out the policy effect ( $PE^I$ ) of job retention schemes on several indicators, the policy effect of indicator  $I$  ( $PE^I$ ) is defined as:

$$PE^I = I\left(t(P_{2021}, LM_{2021}^{Trans})\right) - I\left(t(P_{2021}^{NoJR}, LM_{2021}^{Trans})\right)$$

An important assumption of the analysis is that the number of lay-offs observed in the scenario with no government intervention is equal to the number of lay-offs observed in the COVID-19 scenario. This is a strong assumption embedded in the model and implies that the estimated impact of the COVID-19 pandemic on household income in the absence of job retention schemes should be understood as an extreme value (see Christl et al, 2023a, for further details).

To simulate the 2021 income distribution, a nowcasting approach is used. This methodology, first developed by Gasior and Rastrigina (2017), was extended in the context of the pandemic by Christl et al (2022) to account for monthly changes in labour market status and transitions to job retention schemes.

### Data sources

The analysis relies on two sources of data: Eurostat data on employment and labour market transitions and EU-SILC. Employment statistics are based on information from the quarterly labour force survey, while statistics on transitions to job retention schemes combine information from quarterly labour force surveys and monthly administrative data on the number of individuals who entered these schemes. In the context of the COVID-19 pandemic, it is important to also consider the duration of these transitions. For this purpose, Eurostat also provided information on the number of months spent in unemployment and monetary compensation schemes, as well as the reduction in the share of hours worked.

To replicate the 2021 labour market conditions in the base dataset, the characteristics of the individuals undergoing a transition are considered. First, transitions from employment to unemployment by gender and level of education are modelled separately for employees and the self-employed. Second, transitions from employment to monetary compensation schemes by sector of activity and gender are modelled separately for employees and the self-employed. Within each subgroup of workers, individuals are selected randomly to be granted new labour market status until the target number of individuals is reached. Statistics on the duration of the transitions and the characteristics of the workers are estimated by Eurostat based on quarterly labour force survey data (see Eurostat, 2022).

Furthermore, to estimate the effects of job retention schemes as well as taxes and other benefits on incomes, data from the 2019 EU-SILC survey are used. The data rely on 2018 incomes, which are updated with relevant uprating factors to arrive at realistic incomes for 2021. Detailed information on national uprating factors is available in the EUROMOD country reports.

## Annex 3: Network of Eurofound Correspondents

**Table A2: Correspondents who contributed to this study**

Member State	Correspondent	Organisation
Austria	Bernadette Allinger	Working Life Research Centre (FORBA)
Belgium	Dries Van Herreweghe	HIVA – Research Institute for Work and Society, KU Leuven
Bulgaria	Ekaterina Markova	Institute of Philosophy and Sociology, Bulgarian Academy of Sciences
Croatia	Predrag Bejaković	University of Split
	Irena Klemenčić	University of Zagreb
Cyprus	Loucas Antoniou	Cyprus Labour Institute
Czechia	Aleš Kroupa	Research Institute for Labour and Social Affairs
Denmark	Amanda Thor Andersen and Vilte Maldziute	Oxford Research AB
Estonia	Anni Kurmiste	Praxis Think Tank
Finland	Elina Härmä	Oxford Research AB
France	Frédéric Turlan	IR Share
Germany	Sandra Vogel	German Economic Institute
Greece	Elena Kousta	Labour Institute of the General Confederation of Greek Workers (INE GSEE)
Hungary	Nóra Krokovay	Kopint-Tárki Institute for Economic Research
Ireland	Roisin Farrelly	IRN Publishing
Italy	Michele Faioli and Silvio Bologna	Fondazione Giacomo Brodolini
Latvia	Krišs Karnītis	Economic Prognosis Centre (EPC)
Lithuania	Julija Moskvina and Inga Blaziene	Lithuanian Centre for Social Sciences
Luxembourg	Gaetan de Lanchy	Luxembourg Institute of Socio-Economic Research (LISER)
Malta	Luke Fiorini	Centre for Labour Studies, University of Malta
Netherlands	Eveline de Weerd	Panteia BV
Poland	Hanna Cichy	Polityka Insight
Portugal	Maria da Paz Campos Lima	Centre for Studies for Social Intervention (CESIS)
Romania	Raluca Dimitriu	Academia de Studii Economice
	Nicoleta Voicu	Centrul pentru Inovare Publică
Slovakia	Miroslava Kordošová and Daniela Kešelová	Institute for Labour and Family Research (IVPR)
Slovenia	Maja Breznik	Faculty of Social Science, University of Ljubljana
Spain	Alejandro Godino	Universitat Autònoma de Barcelona
Sweden	Nils Brandsma	Oxford Research AB

## Getting in touch with the EU

### In person

All over the European Union there are hundreds of Europe Direct information centres. You can find the address of the centre nearest you at: [https://european-union.europa.eu/contact-eu\\_en](https://european-union.europa.eu/contact-eu_en)

### On the phone or by email

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls)
- at the following standard number: +32 22999696
- by email via: [https://european-union.europa.eu/contact-eu\\_en](https://european-union.europa.eu/contact-eu_en)

## Finding information about the EU

### Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: <https://europa.eu>

### EU publications

You can download or order free and priced EU publications at: <https://op.europa.eu/publications>

Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see [https://european-union.europa.eu/contact-eu\\_en](https://european-union.europa.eu/contact-eu_en)).

### EU law and related documents

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <https://eur-lex.europa.eu>

### Open data from the EU

The EU Open Data Portal (<https://data.europa.eu>) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

This report describes the implementation and changing features of job retention schemes in the EU between 2020 and 2022. In response to the COVID-19 health emergency, EU governments swiftly deployed job retention schemes to preserve employment, support businesses and maintain individual incomes. The report shows that, following an initial period during which job retention schemes underwent numerous changes in their eligibility and conditionality criteria, the institutional features of job retention schemes stabilised as the pandemic progressed. Furthermore, the report demonstrates that a high degree of heterogeneity in the features of the schemes was maintained throughout the pandemic and its aftermath. While some of the schemes expired with the end of the pandemic, others were transformed into permanent institutions of the labour market. The report also analyses the employment and distributional effects of job retention schemes, highlighting their significant effects in terms of number of jobs saved and share of personal incomes maintained during the pandemic. An estimated 24.8 million jobs were saved in the EU in 2020 through the use of such schemes. Furthermore, the schemes absorbed more than one-third of the income shock produced by the COVID-19 pandemic in 2020 and more than one-fifth of the income shock in 2021.

---

**The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.**

