

How Effective were Job-Retention Schemes during the COVID-19 Pandemic? A Microsimulation Approach for European Countries

W. Raphael Lam and Alexandra Solovyeva

IMF Working Papers describe research in progress by the author(s) and are published to elicit comments and to encourage debate.

The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

**2023
JAN**



IMF Working Paper
Fiscal Affairs Department

**How Effective were Job-Retention Schemes during the COVID-19 Pandemic? A Microsimulation
Approach for European Countries**

Prepared by W. Raphael Lam and Alexandra Solovyeva¹

Authorized for distribution by Paulo Medas
January 2023

IMF Working Papers describe research in progress by the author(s) and are published to elicit comments and to encourage debate. The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

ABSTRACT: The COVID-19 pandemic had posed a dramatic impact on labor markets across Europe. Forceful fiscal responses have prevented an otherwise sharper contraction. Many countries introduced or expanded job-retention schemes to preserve jobs and support households. This paper uses a microsimulation approach (EUROMOD) and household data to assess the effectiveness of those schemes in stabilizing household income during the pandemic across European countries. Empirical evidence shows that job-retention schemes were effective in stabilizing income and, along with other measures, absorbed nearly 80 percent of market income shocks—almost doubling the extent of the automatic stabilization of the pre-pandemic tax and benefit systems. The large effects are related to the widespread use and scaling up of those schemes and a deep but short-lived disruption to labor markets during the pandemic. Along with other fiscal support measures, job-retention schemes helped mitigate the rise in the unemployment rate, by about 3 percentage points, and income inequality during the pandemic. Our results show that job-retention schemes were largely targeted, in which households more vulnerable to income losses, such as lower-income families, youth, and low-skilled workers, are able to stabilize their income.

RECOMMENDED CITATION: Lam, W. Raphael and Solovyeva, Alexandra. 2023. *How Effective were Job-Retention Schemes during the COVID-19 Pandemic? A Microsimulation Approach for European Countries*. IMF Working Paper 23/3, International Monetary Fund, Washington DC.

JEL Classification Numbers:	D1, D12, D31, D61; E2, E21, E24, E64, E65; H3, H31; J3, J6
Keywords:	Job-retention schemes; COVID-19 pandemic; short-time work; inequality; income stabilization; Okun's Law
Author's E-Mail Address:	WLam@imf.org ; ASolovyeva@imf.org

¹ The authors would like to thank Vitor Gaspar, Paolo Mauro, Paulo Medas, Ricardo Reis, Camille Landais, Alberto Tumino, and participants in IMF-FAD seminar and July 2022 Fiscal Monitor Workshop for their constructive comments and suggestions. Andrew Womer and Andre Vasquez provided excellent research assistance and editorial support. The paper is based on data from Eurostat, 2019 European Statistics on Income and Living Conditions (2018 reference year). The responsibility for all conclusions drawn from the data lies entirely with the authors. The results presented in the paper are based on EUROMOD version I4.0+. Originally maintained, developed and managed by the Institute for Social and Economic Research (ISER), since 2021 EUROMOD is maintained, developed and managed by the Joint Research Centre (JRC) of the European Commission, in collaboration with EUROSTAT and national teams from the EU countries. We are indebted to the many people who have contributed to the development of EUROMOD. The report is based on data from Eurostat 2018-20.

WORKING PAPERS

How Effective were Job-Retention Schemes During the COVID-19 Pandemic? A Microsimulation Approach for European Countries

Prepared by W. Raphael Lam and Alexandra Solovyeva

Contents

I.	INTRODUCTION	<u>3</u>
II.	IMPACT OF THE PANDEMIC ON EU LABOR MARKETS	<u>4</u>
III.	DATA AND METHODOLOGY	<u>8</u>
IV.	SIMULATION RESULTS	<u>9</u>
A.	Income stabilization before the pandemic	<u>9</u>
B.	Income stabilization during the pandemic	<u>11</u>
C.	Regression analysis	<u>16</u>
V.	POLICY IMPLICATIONS AND CONCLUSIONS	<u>17</u>
	ANNEX I. SIMULATIONS OF SHOCKS IN EUROMOD	<u>19</u>
	REFERENCES	<u>20</u>

FIGURES

1.	Labor Market Developments in the European Union During the COVID-19	<u>5</u>
2.	Relationship between Output Fluctuations and Labor Market Dynamics	<u>7</u>
3.	EU-27: Changes in Unemployment	<u>7</u>
4.	Income Stabilization in EU before the COVID-19 Pandemic, 2019	<u>10</u>
5.	Simulated Changes in Market and Disposable Incomes During the Pandemic	<u>11</u>
6.	Income Stabilization after the COVID Shock, by Country and Income Level	<u>12</u>
7.	Correlation of Simulated Income	<u>13</u>
8.	Income Stabilization During the Pandemic across Households	<u>13</u>
9.	Redistribution Effects of Fiscal Measures During the Pandemic	<u>14</u>
10.	Simulated Income Stabilization Coefficients by Worker Groups and Sectors	<u>15</u>

TABLES

1.	Features of Job-Retention Schemes in Selected European Countries During the COVID-19 Pandemic	<u>6</u>
2.	Regression Results on Differences of Income Stabilization across EU Households	<u>17</u>