

Jestl, Stefan; Tverdostup, Maryna

**Working Paper**

## The path through: Early COVID-19 job loss and labour market trajectories in Austria

wiiw Working Paper, No. 246

**Provided in Cooperation with:**

The Vienna Institute for International Economic Studies (wiiw) - Wiener Institut für Internationale Wirtschaftsvergleiche (wiiw)

*Suggested Citation:* Jestl, Stefan; Tverdostup, Maryna (2024) : The path through: Early COVID-19 job loss and labour market trajectories in Austria, wiiw Working Paper, No. 246, The Vienna Institute for International Economic Studies (wiiw), Vienna

This Version is available at:

<https://hdl.handle.net/10419/296624>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

# The Path Through:

## Early COVID-19 Job Loss and Labour Market Trajectories in Austria

Stefan Jestl and Maryna Tverdostup





# The Path Through:

## Early COVID-19 Job Loss and Labour Market Trajectories in Austria

STEFAN JESTL

MARYNA TVERDOSTUP

Stefan Jestl and Maryna Tverdostup are Economists at The Vienna Institute for International Economic Studies (wiiw).

Research for this paper was financed by the Austrian Science Fund (Project No. P 35180-G). Support provided by the Austrian Science Fund for this research is gratefully acknowledged.

The authors would like to thank Michael Landesmann and Hermine Vidovic for helpful comments and discussions.



# Abstract

This paper examines the socio-demographic disparities evident in the early labour market response to the COVID-19 pandemic in Austria, relying on the register-based labour market career dataset from the Austrian Micro Data Center (AMDC) for the 2018-2021 period. The analysis focuses on the divergences in out-of-unemployment transitions and medium-term employment stability among those who lost their jobs early in the pandemic in contrast to the group of the longer-term unemployed. We document that individuals affected by job loss during the initial phases of the pandemic did not exhibit enduring scarring effects. Unlike their longer-term unemployed counterparts, they did not demonstrate persistent labour market detachment, prolonged periods of unemployment or a diminished success rate in re-employment. However, certain socio-demographic cohorts – notably, women, parents with two or more young children, and individuals with lower levels of education – faced disproportionate challenges during the pandemic. They were more inclined to transition into precarious employment arrangements and experienced lower levels of employment stability in the months following re-employment.

**Keywords:** COVID-19; employment stability; gender inequalities; labour market transitions; unemployment

**JEL classification:** E24, J16, J21, I24



## CONTENTS

Abstract.....	5
1. Introduction.....	9
2. Data and Method.....	12
2.1. Data and Sample Construction.....	12
2.2. Empirical Strategy.....	13
3. Results and Discussion .....	15
3.1. Duration of unemployment.....	15
3.2. Transition from unemployment .....	20
3.3. Job stability .....	27
4. Conclusions .....	31
References .....	34
Appendix.....	37



## TABLES AND FIGURES

Table 1 / Proportional Cox regression – Unemployment duration .....	19
Table 2 / Proportional Cox regression – Unemployment duration by type of out-of-unemployment transition .....	25
Table 3 / Proportional Cox regression – Duration of the first labour market status upon out-of-unemployment transition .....	26
Table 4 / Least squares regression – Medium-term job stability .....	28
Figure 1 / Unemployment duration by socio-demographic characteristics.....	16
Figure 2 / Gender gaps in unemployment duration by socio-demographic characteristics, sample A (COVID-19 unemployed), number of days.....	17
Figure 3 / Gender gaps in unemployment duration by socio-demographic characteristics, sample B (longer-term unemployed), number of days .....	18
Figure 4 / Cumulative share of individuals, by type of labour-market transition in the period between April 2020 and December 2021, % .....	21
Figure 5 / Probability of transitioning into different labour-market statuses across socio-demographic characteristics in sample A (COVID-19 unemployed), marginal effects from a multinomial logit regression.....	22
Figure 6 / Probability of transitioning into different labour-market statuses across socio-demographic characteristics in sample B (longer-term unemployed), marginal effects from a multinomial logit regression.....	23
Table A1 / Structure among individuals who lost their jobs during the COVID-19 pandemic and transitioned to other labour market status, % .....	38
Table A2 / Structure among individuals who lost their jobs before the COVID-19 pandemic and transitioned to another labour market status, % .....	38
Table A3 / Proportional Cox regression – Duration of first labour market status upon unemployment exit by type of out-of-unemployment transition .....	39
Table A4 / Average number of days in different labour market statuses upon initial transition from unemployment, sample A (COVID-19 unemployed), number of days .....	40
Table A5 / Average number of days in different labour market statuses upon initial transition from unemployment, sample B (longer-term unemployed), number of days .....	41
Table A6 / Least squares regression – Medium-term job stability, sample A (COVID-19 unemployed), by gender .....	42
Table A7 / Least squares regression – Medium-term job stability, sample B (longer-term unemployed), by gender .....	43
Table A8 / Least squares regression – Medium-term job stability, sample A (COVID-19 unemployed), by education level .....	44
Table A9 / Least squares regression – Medium-term job stability, sample B (longer-time unemployed), by education level .....	45
Figure A1 / Duration of the first employment spell upon unemployment exit, number of days .....	37

# 1. Introduction

The COVID-19 pandemic exerted significant pressure on labour markets. As a result of the pandemic and associated containment measures, the European Union (EU) experienced substantial disruptions in employment and total hours worked. During the first half of 2020, the labour force contracted by approximately 5 million people (Anderton et al. 2020). In Austria, the number of unemployed individuals nearly doubled in the initial months of the pandemic following the imposition of lockdown measures (Ragacs and Reiss 2021). Due to its sizeable tourism sector, which was among the hardest hit by the pandemic (Bock-Schappelwein et al. 2021), Austria's economic outlook at the end of 2020 was much worse than those of other EU economies. Upsurges of long-term unemployment, inactivity and precarious employment resulting from ample job displacements in the first months of the pandemic were anticipated, as was overall economic decline (Poledna et al. 2020). This makes Austria an interesting case to study unemployment dynamics at the beginning of the pandemic as well as unemployment-withdrawal paths and the subsequent employment stability of affected workers.

This crisis, unprecedented in terms of its speed and scale of employment distortions, amplified existing socio-demographic divides within the labour market. The pandemic's impact on employment was strongly skewed towards specific groups of workers, as they appeared segregated in occupations, industries and types of employment contracts that were most vulnerable to the crisis. A worker's gender, origin, age, education level, industry and occupation were closely associated with the uneven economic impact of the pandemic. Specifically, women, foreign-born workers, and those with lower education levels were more likely to work in vulnerable jobs and were therefore more susceptible to layoffs (Drozd et al. 2024; Lee et al. 2021; Blundell et al. 2020; von Wachter 2020). Moreover, increased childcare and home-schooling needs, amplified by an asymmetric division of these responsibilities among parents, further undermined the employment of mothers, forcing them to reduce their work hours or withdraw from the labour market entirely (Chung et al. 2021; Fodor et al. 2021; Blundell et al. 2020; Özkazanç-Pan and Pullen, 2020; Manzo and Minello 2020; Cowan 2020).

Unlike previous recessions, the major factors defining the vulnerability of jobs in the face of the COVID-19 crisis were the essential/non-essential classification of occupation, teleworkability and the type of employment contract (Adams-Prassl et al. 2020). While workers with essential jobs were largely shielded against layoffs, those in non-essential industries and occupations faced the highest risks of dismissal or reduction in work hours (Cortes and Forsythe 2023; Lopes and Carreira 2022). With lockdowns and strict social-distancing measures, the ability to perform telework emerged as a crucial job characteristic, primarily levelling employment and wage declines in certain occupations and industries (Aloisi and De Stefano 2022; Forsythe et al. 2022). Telework played the most significant role in safeguarding the employment of mothers with small children, enabling them to balance childcare and work responsibilities (Möhring et al. 2021; Brynjolfsson et al. 2020). Furthermore, workers in precarious employment relations – including part-time jobs, short fixed-term contracts and marginal jobs – faced the highest risks of dismissal due to low employment security and the legal ease of contract distortion (Casarico and Lattanzio 2022; Almeida and Santos 2020).

Additionally, various job-retention schemes, such as short-time work and temporary layoffs, played a crucial role in mitigating the impact on employment (Meriküll and Paulus 2023; Osuna and García Pérez 2022; Mayhew and Anand 2020). While unemployment increased, it did so more slowly and to a lesser extent due to the high take-up rate of job-retention schemes and transitions into inactivity. The latter was prevalent among women with children, who assumed major childcare and home-schooling responsibilities (Cortes and Forsythe 2023; Blundell et al. 2020).

In this analysis, we explore the labour market trajectories of groups of unemployed individuals during the 2020-2021 period in Austria. In doing so, we focus on the persons who experienced job disruptions during the first lockdown, in March/April 2020, and individuals who were unemployed continuously for at least six months prior to the pandemic. The use of population-wide administrative micro data for Austria allows us to track those individuals and to capture their labour market trajectories until the end of 2021.

The objective of this paper is fourfold. First, the paper examines the dynamics and patterns of job loss at the onset of the COVID-19 pandemic in Austria. Specifically, we analyse the profiles of individuals who experienced job loss at the beginning of the pandemic and estimate the average duration of unemployment across various key socio-demographic characteristics. Second, we study the labour market transitions of these individuals and identify their paths out of unemployment. In doing so, we consider a comprehensive set of transitions, distinguishing between unemployment-to-job and unemployment-to-inactivity transitions. Specifically, we explore different types of unemployment-to-job transitions, including full-time employment, part-time employment, marginal employment and self-employment. Additionally, we empirically analyse the likelihoods of these different transition types across socio-demographic groups. Third, the research evaluates the medium-term employment stability of individuals who lost their jobs early in the pandemic, with a focus on the role of the unemployment exit path in subsequent employment stability. Further, we look into gender and education disparities in longer-term job stability of those who lost jobs at the onset of the pandemic. Fourth, we compare the patterns of unemployment exit and subsequent employment stability of individuals who lost their jobs early in the pandemic with those of long-term unemployed individuals. Comparing these two groups of unemployed individuals allows us to identify divergences in unemployment exit strategies and factors associated with better employment stability.

Analysis of unemployment withdrawal and subsequent employment dynamics of individuals affected by the early COVID-19 layoff wave is highly relevant for several reasons. A vast body of literature documents disproportionately stronger effects of crises on vulnerable population groups, exposing them to a higher risk of long-lasting scarring effects (e.g. Hoynes et al. 2012, on the global financial and economic crisis). In addition to resulting in a depreciation of human and social capital, being jobless for an extended period may also affect mental health (Nichols et al. 2013). Longer spells of unemployment therefore tend to reduce the likelihood of finding a new job (Abraham et al. 2019). However, hysteresis effects can extend beyond persistent effects on unemployment and may also relate to changes in labour market participation (Blanchard and Summers 1986), thereby affecting movements between unemployment and nonparticipation in the labour force (e.g. Elsby et al. 2011, on the global financial and economic crisis). As a result of the high number of unemployed individuals and increasing pessimistic expectations, unemployed individuals may become discouraged from continuing their job search and eventually drop out of the labour force over time. Being away from the labour market for an extended period also appears to have negative effects on employment prospects and to undermine longer-term employment stability (Autor et al. 2015).

A body of empirical literature, mostly focused on the United States, has explored the labour market dynamics of the unemployed during past recessions. Krueger et al. (2014) document that although the long-term unemployed generally showed a higher probability of exiting the labour market compared to their short-term counterparts, labour market exits, particularly of the long-term unemployed, strongly declined during recessions in the US. Moreover, Kroft et al. (2016) showed, among other things, that the transition from unemployment to nonparticipation is important for explaining the evolution of the US long-term unemployment rate. Overall, these results suggest that crises produce hysteresis effects, most likely because of more labour force withdrawals in the post-crisis period.

Given the specific features of the COVID-19 crisis and its disproportional impact on certain socio-demographic groups (as discussed above), it is possible that the out-of-unemployment transitions and longer-run employment paths of affected individuals were severely disrupted both during and after the pandemic. However, there is still limited empirical evidence on labour market dynamics in the later periods of the COVID-19 pandemic and during its wake. Empirical research has predominantly analysed short-term effects on (un-)employment by considering dynamics over the first months of the pandemic (e.g. Abugamza et al. 2024; Béland et al. 2023; Reuschke and Houston 2023; Casarico and Lattanzio 2022; Cortes and Forsythe 2023). Research on the subsequent re-employment of affected workers in the later periods of the COVID-19 crisis is limited. Several earlier studies, including Qian et al. (2023), Bell et al. (2021), and Cheng et al. (2020) address re-employment patterns of individuals who lost their jobs early into the pandemic. However, their analyses do not include individuals staying in unemployment longer following the initial job distortion in the first months of the pandemic and do not take withdrawal to inactivity into account. Furthermore, these studies rely on survey data.

The paper contributes to an established strand of literature on the heterogeneous job loss dynamics of workers at the onset of the pandemic, with a focus on vulnerable population groups at risk of experiencing long-lasting scarring effects. To the best of our knowledge, there is only limited research on the socio-demographic heterogeneities in unemployment exit paths of individuals who lost their jobs at the onset of the pandemic that relies on population-wide register data and incorporates various types of out-of-unemployment transitions. Furthermore, empirical evidence regarding the medium-term employment outcomes and job stability of workers dismissed in the first months of the pandemic is missing.

The rest of the paper is organised as follows. Section two discusses the data and empirical strategy we use. Section three presents the research results on the unemployment duration, unemployment exit paths and subsequent employment stability of individuals who lost their jobs early in the pandemic and those who were continuously unemployed for at least six months before March 2020. The final section provides a summary and conclusion.

## 2. Data and Method

### 2.1. DATA AND SAMPLE CONSTRUCTION

This research relies on the novel register-based labour market career dataset from the Austrian Micro Data Center (AMDC). The dataset provides information on the activity statuses of the Austrian resident population over time, which makes it possible to track individual labour market paths. Specifically, it combines information from various administrative registers, including the central social security register, the unemployment register and the central population register. These data are further augmented with additional register-based information, such as gender, age, origin, marital status, education level, family status, household structure (including the number of children under the age of six), and the district of the primary residence. Based on this comprehensive data, we construct a monthly panel dataset that allows us to track individuals over time and obtain information on their labour market status in the period between March 2018 and December 2021.

We split out entire observation period into two sub-periods: (i) from March 2018 until February 2020 and (ii) from March 2020 until December 2021. The first sub-period is used to derive individual employment history, including type (full-time job, part-time job, marginal job and self-employment) and industry of last employment before job loss as well as the number of jobs and days spent in employment over given period. Furthermore, we identify the longer-term unemployed by relying on the data from the first sub-period. More specifically, the longer-term unemployed are defined as those being continuously unemployed for at least six months before the onset of the pandemic in Austria (i.e. individuals who lost their jobs between 1 March 2018 and 1 September 2020 and remained unemployed until 1 March 2020).<sup>1</sup> The data from the second span is utilised to identify our primary sample, namely, individuals who lost their jobs in March/April 2020 at the time of the first lockdown in Austria, who are referred to as 'COVID-19 unemployed'. We further exploit the employment records from the second sub-period to identify the duration of unemployment, exit paths and subsequent employment stability of individuals from both samples.

The sample selection criteria are not arbitrary. The period of March/April 2020 saw the immense unexpected shock to the economy and society. During this period, subsequent lockdowns were largely anticipated and the economy gradually adjusted to the restrictions imposed.<sup>2</sup> Hence, in our *sample A*, we only include individuals who moved from employment of any kind to unemployment between 1 March 2020 and 30 April 2020 (i.e. those who lost their jobs at the onset of the pandemic). For our *sample B*, we consider six months as the minimum period to be classified as longer-term unemployed. Although the standard definition of long-term unemployment assumes a 12-month period of joblessness, a six-month period is sufficient to account for seasonal variations and, given the extensive job-search support provided by Austria's labour market service, it also ensures that those unemployed for longer than six months have genuinely faced difficulties re-entering employment. Furthermore, both samples only

<sup>1</sup> We exclude individuals who lost their jobs before 1 March 2018 and remained continuously unemployed until 1 March 2020.

<sup>2</sup> The first COVID-19 lockdown in Austria, which lasted from mid-March to mid-April 2020, largely halted all economic activities apart from essential ones in addition to dramatically reducing mobility and access to non-essential services.

include working-age individuals (i.e. those between 16 and 65 years old) who lived in Austria continuously in the period from 1 March 2018 and 31 December 2021 and who transitioned to a labour market status other than unemployment between April 2020 and December 2021.<sup>3</sup>

In total, we identified (i) 201,125 individuals who moved from various types of employment to unemployment within the first two months of the pandemic (referred to as ‘COVID-19 unemployed’) and (ii) 11,998 individuals who lost their jobs between 1 March 2018 and 1 September 2020 and remained continuously unemployed until 1 March 2020 (referred to as ‘longer-term unemployed’). For both samples, we estimate the following set of labour market outcomes:

- › length of an unemployment spell, measured as the difference (in days) between the date of ending a job and the date of starting a new one;<sup>4</sup>
- › unemployment exit path (i.e. the first out-of-unemployment transition), which occurred between 1 April 2020 and 31 December 2021 and which classifies as transition to (i) a full-time job, (ii) a part-time job, (iii) a marginal job, (iv) self-employment, or (v) inactivity;
- › subsequent employment stability following unemployment exit, measured as the number of days spent in employment, unemployment and inactivity in the period between 1 April 2020 and 31 December 2021.

## 2.2. EMPIRICAL STRATEGY

The empirical analysis is conducted in three steps. First, we analyse the duration of unemployment spell employing proportional Cox hazard specification of the following form separately for individuals who lost their jobs early in the pandemic (COVID-19 unemployed) and for the longer-term unemployed:

$$h(t) = h_0(t) \exp\{X\beta + \gamma_h + \delta_t + \mu_d\}, \quad (1)$$

where  $t$  captures the number of days from job loss until unemployment exit,  $h_0(t)$  denotes the baseline hazard, and the vector  $X$  includes a rich set of demographic variables, including gender, five-year age group, origin, marital status, number of children aged under six, and education level. The estimation procedure also incorporates individual recent labour market history ( $\gamma_h$ ), including the last type of employment contract (full-time job, part-time job, marginal job or self-employment) and industry of employment before the job loss,<sup>5</sup> the number of jobs, and the total number of days spent in employment between 1 March 2018 and 1 February 2020. To account for systematic differences in unemployment duration across out-of-unemployment transition types, we consider the type of transition fixed effect ( $\delta_t$ ). Furthermore,  $\mu_d$  controls for district-specific time-invariant labour market characteristics, namely, unemployment rate and the shares of the manufacturing, agriculture and tourism sectors. All time-varying demographic variables refer to the onset of the pandemic (i.e. March 2020) for both samples.

<sup>3</sup> Excluding individuals with unemployment spells lasting longer than until the end of 2021 may bias our estimation results on the duration of unemployment downward and overestimate subsequent employment stability both among those who lost their jobs at the onset of the pandemic and among the longer-term unemployed. Hence, one has to account for potential underestimation of unemployment duration and overestimation of subsequent employment stability.

<sup>4</sup> We consider employment lasting over 10 days as unemployment exit.

<sup>5</sup> We differentiate between agriculture, manufacturing, wholesale and retail trade, transportation, tourism, IT and financial services, administrative and support services, and a group of other industries.

We further conduct a heterogeneity analysis of unemployment duration across various types of out-of-unemployment transitions.

Second, we investigate out-of-unemployment transition and duration of labour market status upon unemployment, differentiating by the type of transition. Specifically, our analysis explores the first transition following job loss.<sup>6</sup> To analyse how labour market transitions differ across socio-demographic groups, we employ a multinomial logit regression of the following form for both samples:

$$P(t_i = \{1,2,3,4,5\}|X_i) = \mathbf{X}_i\boldsymbol{\beta} + \gamma_h + \mu_d + \varepsilon_i, \quad (2)$$

where  $t_i$  is a realisation of random variable  $T_i$  identifying transition from unemployment to (1) a full-time job; (2) a part-time job; (3) a marginal job; (4) self-employment; or (5) inactivity.  $X_i$  is the vector of individual demographic controls identical to the one used in specification (1). We consider the same set of employment history ( $\gamma_h$ ) and district-level ( $\mu_d$ ) fixed effects as applied in specification (1);  $\varepsilon_i$  is a residual term. Unlike specification (1), all time-varying demographic variables refer to the time of unemployment exit.

To investigate the duration of first labour market status upon transition from unemployment, we employ a proportional Cox hazard specification similar to the one for specification (1), but with days spent in the first labour market status upon transition as the dependent variable. We run the analysis across the transition types to identify disparities stemming from the type of unemployment exit path.

Third, we focus on the medium-term employment stability upon unemployment exit and estimate the following an ordinary least squares (OLS) specification for both samples using the cross-section data:

$$y_i = \alpha_0 + \mathbf{X}_i\boldsymbol{\beta} + \gamma_h + \delta_t + \mu_d + \varepsilon_i, \quad (3)$$

where  $y_i$  denotes our indicators for the job stability of individual  $i$ , including number of days spent in (i) employment, (ii) unemployment and (iii) inactivity. The model includes the same set of controls as specification (1). All time-varying explanatory variables refer to the onset of the pandemic. Just as in specification (2), all time-varying demographic variables refer to the time of unemployment exit. We further disaggregate the analysis by gender and education level.

---

<sup>6</sup> While the first out-of-unemployment transition does not capture further labour market transitions, it allows to specifically examine the unemployment exit path and its association with subsequent employment stability.

## 3. Results and Discussion

### 3.1. DURATION OF UNEMPLOYMENT

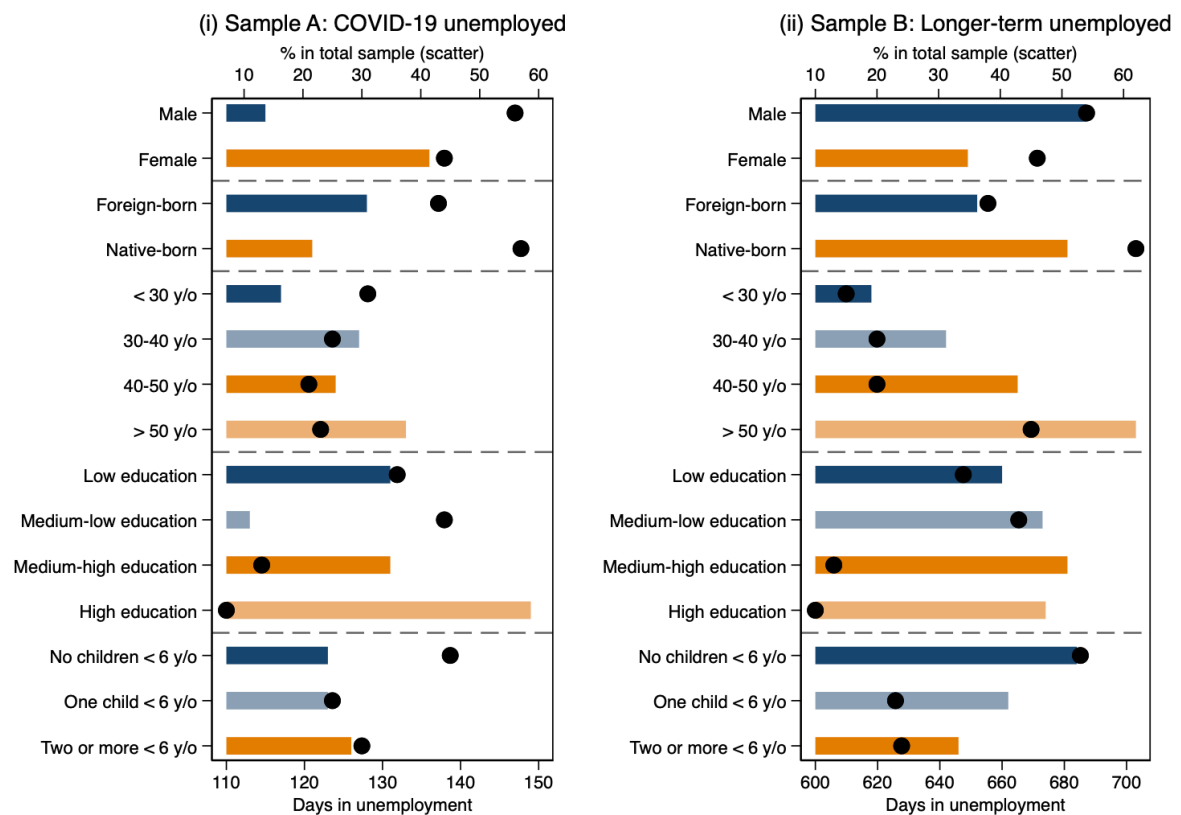
We start by examining the socio-demographic profile of workers who were dismissed at the onset of the pandemic compared to longer-term unemployed as well as by analysing the duration of their unemployment spells. Individuals who lost their jobs in March/April 2020 remained unemployed for an average of 124 days (equivalent to 4.1 months), while longer-term unemployed stayed unemployed for 670 days (equivalent to 22 months) on average.<sup>7</sup> Figure 1 illustrates the average number of days spent in unemployment across different socio-demographic groups during the period between April 2020 and December 2021, along with the socio-demographic composition of both samples. Among those who lost their jobs at the beginning of the pandemic (panel (i) of Figure 1), 44% were females, 57% were native-born, 80% had education levels lower than medium-high, and 55% had at least one child below the age of six. These findings align with earlier evidence highlighting socio-demographic disparities in early COVID-19 job loss (Casarico and Lattanzio 2022; Montenovio et al. 2022; Möhring et al. 2021). Longer-term unemployed (panel (i) of Figure 1) reveal a somewhat different socio-demographic profile, with 46% being females, 62% native-born, 77% having education levels lower than medium-high, and 47% having at least one child below the age of six. The major profile difference across the two samples concerns age, with the share of individuals aged over 50 being as high as 45% among longer-term unemployed, compared to 23% among individuals who lost their jobs early in the COVID-19 pandemic.

Among those who lost their jobs at the beginning of the pandemic, women, individuals aged over 50, and those with higher education levels experienced, on average, the longest unemployment spells following job loss. While men exited unemployment after 115 days (equivalent to 3.8 months) on average, women did so after 136 days (4.5 months). Interestingly, foreign-born individuals spent only marginally more time in unemployment than native-born individuals, with both groups remaining unemployed for approximately four months.<sup>8</sup> Younger individuals took less time to exit unemployment, although the age disparities were not as pronounced as one might expect – 117 days (3.9 months) for persons aged under 30 and 133 days (4.4 months) for persons aged over 50. The most significant variation in unemployment duration was observed across education groups. Individuals with medium-low education levels spent 113 days (3.8 months) in unemployment, while highly educated individuals remained unemployed for an average of 149 days (5 months).

<sup>7</sup> Being re-employed by previous employers is likely one of the reasons explaining faster unemployment withdrawal among those who lost jobs at the onset of the pandemic (Cheng et al. 2020).

<sup>8</sup> One reason behind the negligible gap in unemployment duration across native- and foreign-born individuals is disproportionately larger share of long-term unemployment among foreign-born individuals who lost their jobs at the onset of the pandemic.



**Figure 1 / Unemployment duration by socio-demographic characteristics**

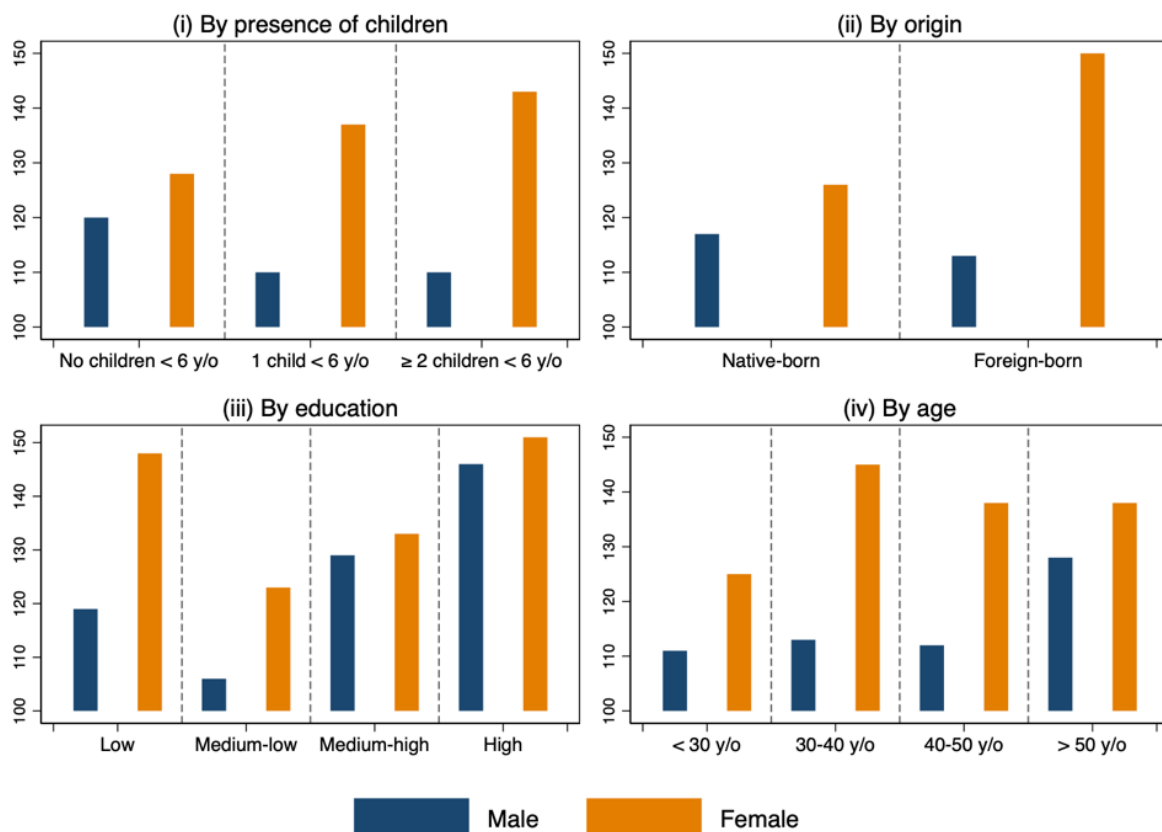
Source: Statistics Austria. Own calculations and illustration.

Unsurprisingly, patterns of unemployment duration appear dramatically different when longer-term unemployed are concerned. On average, men spent 1.5 months longer in unemployment than women, while the average unemployment spell among native-born exceeds that of foreign-born by approximately one month. The duration of unemployment increases steadily with age, with individuals aged over 50 staying, on average, 3.5 months longer in unemployment than those aged under 30. While we document no significant variation of unemployment duration across education groups among longer-term unemployed, we document a distinct association with parenthood. Longer-term unemployed individuals with no children aged under six spent around 1.5 months longer in unemployment than their counterparts with two or more children aged under six.

Figures 2 and 3 depict gender gaps in unemployment duration and disaggregate them along several key socio-demographic characteristics both for a sample of those who lost their jobs during the COVID-19 pandemic and longer-term unemployed. The results reveal fully orthogonal patterns in gender gaps in unemployment across the two samples. Panel (i) of Figures 2 illustrates the variation in average male and female unemployment spells based on the presence of children aged under six. Given the vast empirical evidence on the disproportionately negative impact of the pandemic on the employment of parents, especially mothers with small children (Petts et al. 2021; Heggeness 2020), one would expect the gender disparity to be most pronounced among those with preschool-aged children. In line with this, we observe the smallest gender gap among those with no small children. However, among individuals with one child aged under six, the unemployment spell for women was, on average, 25% longer than

that for men. Among those with two or more children under six, the gender gap stood at 30%. The opposite pattern is documented in the sample of longer-term unemployed (panel (i) of Figure 3). The gender gap is female-favouring and most pronounced among individuals with no children aged under six and one child aged below six, as men tended to stay between 6% and 7% longer in unemployment than women. While among longer-term unemployed individuals with two or more children aged under six, men experience, on average, an unemployment spell that is 3% longer. Hence, the magnitude of gender disparities is much smaller regardless of the presence of young children.

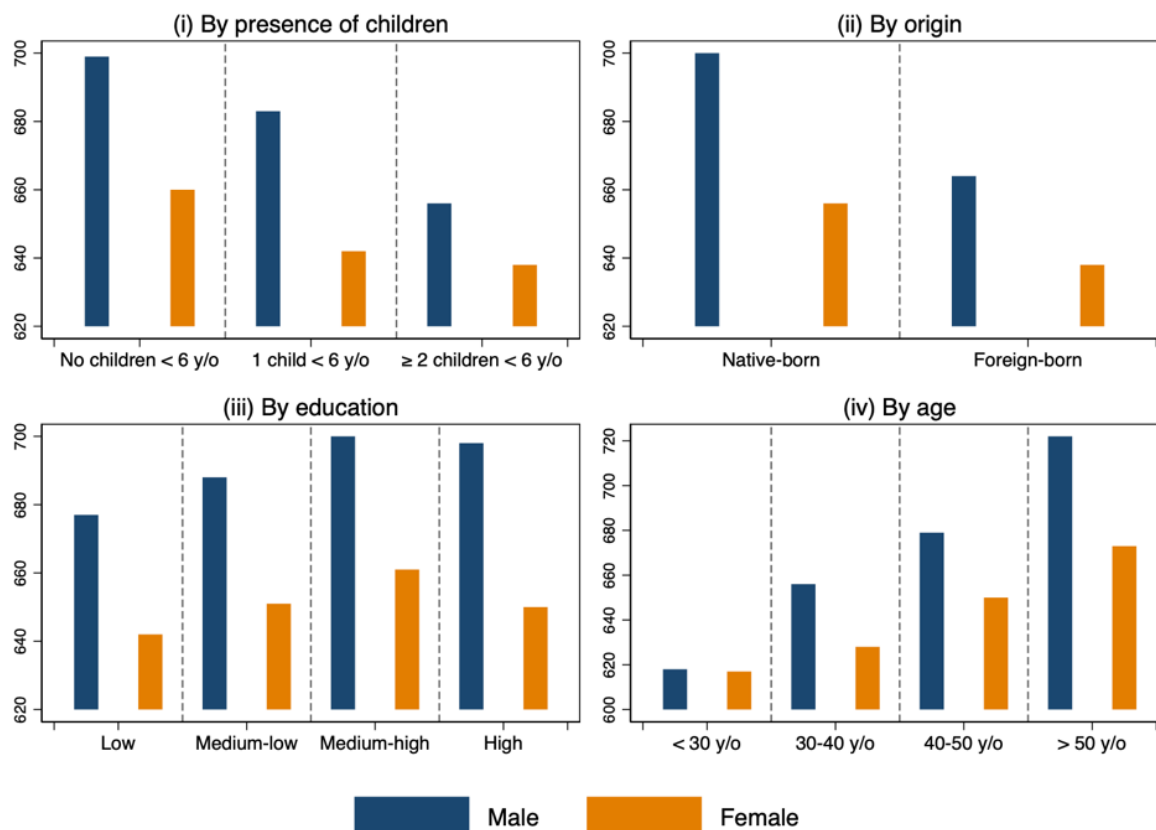
**Figure 2 / Gender gaps in unemployment duration by socio-demographic characteristics, sample A (COVID-19 unemployed), number of days**



Source: Statistics Austria. Own calculations and illustration.

Panel (ii) of Figure 2 further disaggregates the gender gap in unemployment duration by origin, revealing a strongly asymmetric effect of the pandemic on migrant men and women. While the more severe employment and wage consequences of the pandemic for immigrants have been widely documented (Auer 2022; Bossavie et al. 2022), we find that, in Austria, the effect was only negative for immigrant women. Foreign-born men spent marginally less time in unemployment than native-born men. Specifically, the unemployment spell for immigrant women was, on average, 19% longer than that for native-born women and 32% longer than that for immigrant men. Among longer-term unemployed (panel (ii) of Figure 3), native-born men tended to stay in unemployment 5% longer than immigrant men and 7% longer than native-born women.

**Figure 3 / Gender gaps in unemployment duration by socio-demographic characteristics, sample B (longer-term unemployed), number of days**



Source: Statistics Austria. Own calculations and illustration.

Two stark observations emerge from panel (iii) of Figure 2. First, we document the longest unemployment spells among highly educated individuals and women in the low-education group. The gender gap in the group of individuals with the lowest education levels appears most pronounced, as is consistent with earlier empirical evidence (Moen et al. 2020). Second, the gender disparity tends to be smaller as education levels increase, narrowing from 25% in the low-education group to a negligible 3% in the high-education group. Disaggregating by education level provides valuable insights into the nuanced dynamics of unemployment duration. Disaggregation of the gender gap in unemployment across education groups among longer-term unemployed (panel (iii) of Figure 3) documents steadily longer unemployment spells among men, with their unemployment duration being 5% to 6% longer than that of women across all education groups.

Panel (iv) of Figure 2 documents gender gap in unemployment narrowing with age among individuals who lost their jobs at the onset of the COVID-19 pandemic. The starkest gender disparity is documented among those aged between 30 and 40, with the unemployment spell among women being 32% longer than among men. In the oldest group (those aged over 50), the gender gap stood at around 9%. Among longer-term unemployed aged over 30, men tended to stay in unemployment longer than women. Furthermore, the gender gap widened with age and ranged from zero among individuals aged under 30 to 7% among those aged over 50.

**Table 1 / Proportional Cox regression – Unemployment duration**

Dependent variable: Days in unemployment	(1) A: COVID-19 unemployed	(2) B: Longer-term unemployed
<b>Type of first transition (base: full-time job)</b>		
Part-time job	0.834*** (0.006)	1.004 (0.030)
Marginal job	1.138*** (0.008)	1.214*** (0.043)
Self-employment	0.837*** (0.015)	1.174** (0.088)
Inactivity	0.602*** (0.004)	1.039 (0.025)
Female	0.881*** (0.004)	1.015 (0.021)
Native-born	0.946*** (0.005)	0.906*** (0.020)
Married	1.105*** (0.005)	1.077*** (0.022)
<b>Children aged under 6 (base: none)</b>		
One child	0.982*** (0.006)	1.009 (0.024)
Two or more children	0.962*** (0.005)	0.914*** (0.023)
<b>Age interval (base: aged under 20)</b>		
(20,25]	0.911*** (0.012)	0.659*** (0.057)
(25,30]	0.878*** (0.012)	0.706*** (0.058)
(30,35]	0.824*** (0.011)	0.675*** (0.056)
(35,40]	0.797*** (0.011)	0.628*** (0.053)
(40,45]	0.788*** (0.011)	0.596*** (0.051)
(45,50]	0.802*** (0.012)	0.601*** (0.051)
(50,55]	0.773*** (0.011)	0.572*** (0.049)
(55,60]	0.734*** (0.011)	0.532*** (0.045)
(60,65]	0.613*** (0.015)	0.443*** (0.041)
<b>Education (base: low)</b>		
Medium-low	1.061*** (0.006)	1.022 (0.023)
Medium-high	0.955*** (0.007)	0.918*** (0.027)
High	0.862*** (0.009)	0.974 (0.034)
<b>Last job type (base: full-time job)</b>		
Part-time job	0.931*** (0.006)	0.986 (0.022)
Marginal job	0.869*** (0.006)	0.993 (0.025)
Self-employment	0.869*** (0.006)	0.993 (0.025)
Observations	201,125	11,998
Employment history controls	Y	Y
District-level controls	Y	Y

Notes: Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level.

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

Next, we empirically evaluate unemployment duration across two samples employing a proportional Cox hazard specification (1). The results in Table 1 reveal significant association of unemployment duration and exit path. Both among those who lost their jobs during the COVID-19 pandemic and longer-term unemployed, a transition to a marginal job is associated with a notably faster unemployment exit than a transition to full-time job, indicating that individuals taking up precarious employment transitioned back to employment faster than those aiming at a full-time job. Women, native-born individuals, older individuals and parents of children aged under six stayed in unemployment longer upon the job loss at the onset of the pandemic. Furthermore, holding higher education levels and working under job arrangements other than full-time before the job loss in March/April 2020 is associated with a longer unemployment duration. For the longer-term unemployed, we document a consistent and statistically sizeable association only for age, indicating that older individuals stayed in unemployment longer.

### 3.2. TRANSITION FROM UNEMPLOYMENT

As we show above, unemployment duration in the sample of individuals who lost their jobs early in the pandemic varied markedly across different demographic groups. Furthermore, they appeared considerably different from longer-term unemployed in several key socio-demographic characteristics. Hence, one can expect substantial variation in unemployment exit paths both within the sample of COVID-19 unemployed and compared to longer-term unemployed.

Our further analysis focuses on five out-of-unemployment transitions: to (i) a full-time job; (ii) a part-time job; (iii) a marginal job; (iv) self-employment; or (v) inactivity. Figure 4 depicts cumulative shares of unemployed across the two samples who transitioned to another labour market status in the period between April 2020 and December 2021. Before the COVID-19 outbreak, 62.7% of individuals who lost their jobs in March/April 2020 were full-time employed, whereas 26.3% held part-time jobs. After experiencing job loss in March/April 2020, approximately 82% of all individuals in our sample withdrew from unemployment into one of five other statuses by September 2020 (panel (i) of Figure 4).<sup>9</sup> However, while only 35% secured full-time employment, 13% obtained part-time jobs, 15% engaged in marginal employment, 1.5% started their own businesses, and 17.5% transitioned to inactivity. Although the remaining 18% transitioned from unemployment by the end of our observation period, the share of those moving to inactivity increases steadily and reaches 26% by December 2021. This observation suggests an escalating likelihood of leaving the labour force following COVID-19-induced job loss, particularly when no transition to any form of employment occurs.

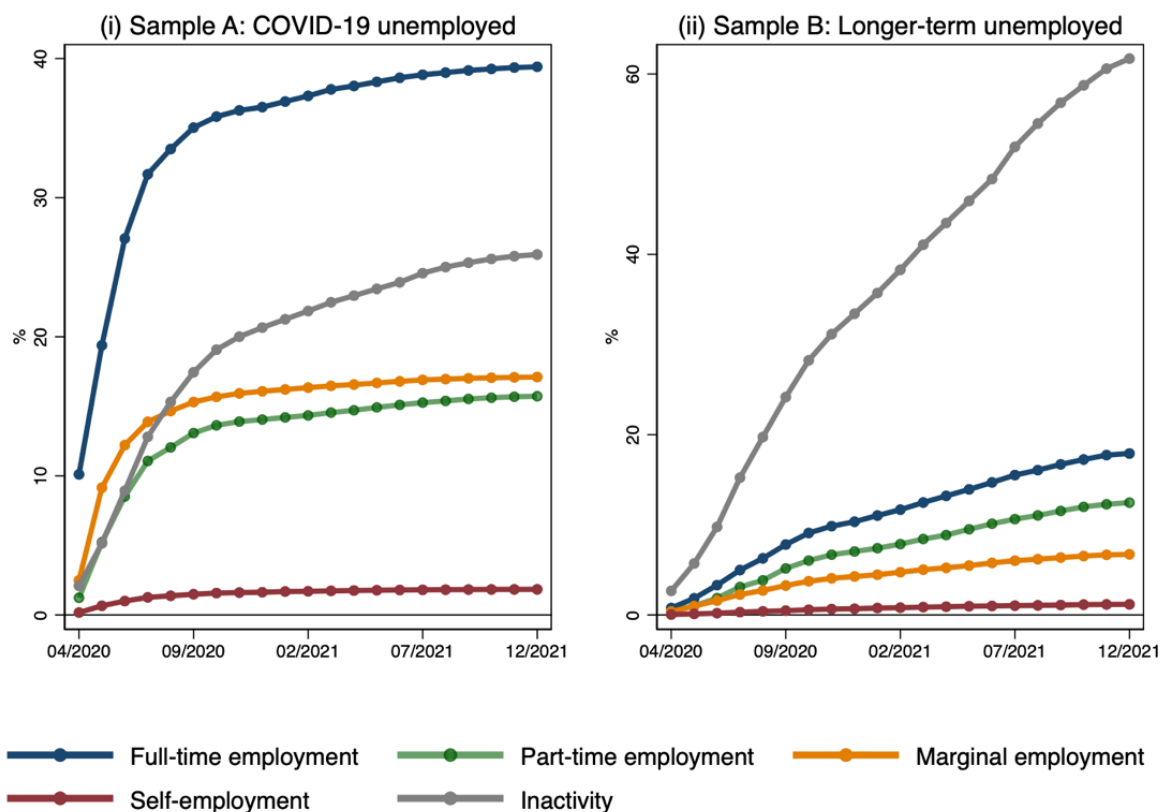
The longer-term unemployed reveal a completely different dynamic of unemployment exit (panel (ii) of Figure 4). Although 47% of longer-term unemployed were employed full-time and 30% part-time in their last job, only 18% transitioned to full-time jobs and 12% part-time jobs over the observation period. The share of individuals moving to inactivity increases steeply through the entire observation period, reaching around 62% by December 2021. This result indicates a major difference in unemployment exit patterns across the two samples. While individuals who lost their jobs at the onset of the pandemic re-integrated into the labour market relatively swiftly, albeit via less stable employment arrangements, the likelihood that the longer-term unemployed will re-gain employment is rapidly diminishing. This disparity clearly stems from fundamental differences in the core characteristics of both samples. Compared to

---

<sup>9</sup> The latter is calculated as a share of all individuals who lost their jobs early in the pandemic and transitioned to different types of employment or inactivity by 1 September 2020.

those who lost job as a result of pandemic-induced crisis, the longer-term unemployed are likely to face more substantial obstacles to finding a new job, have lower motivation and incentives to find a new job, and experience human capital and skills depreciation. Furthermore, given that over 60% of the longer-term unemployed are aged over 50 (panel (ii) of Figure 1), transitions to inactivity may be linked to retirement or health-related factors.

**Figure 4 / Cumulative share of individuals, by type of labour-market transition in the period between April 2020 and December 2021, %**



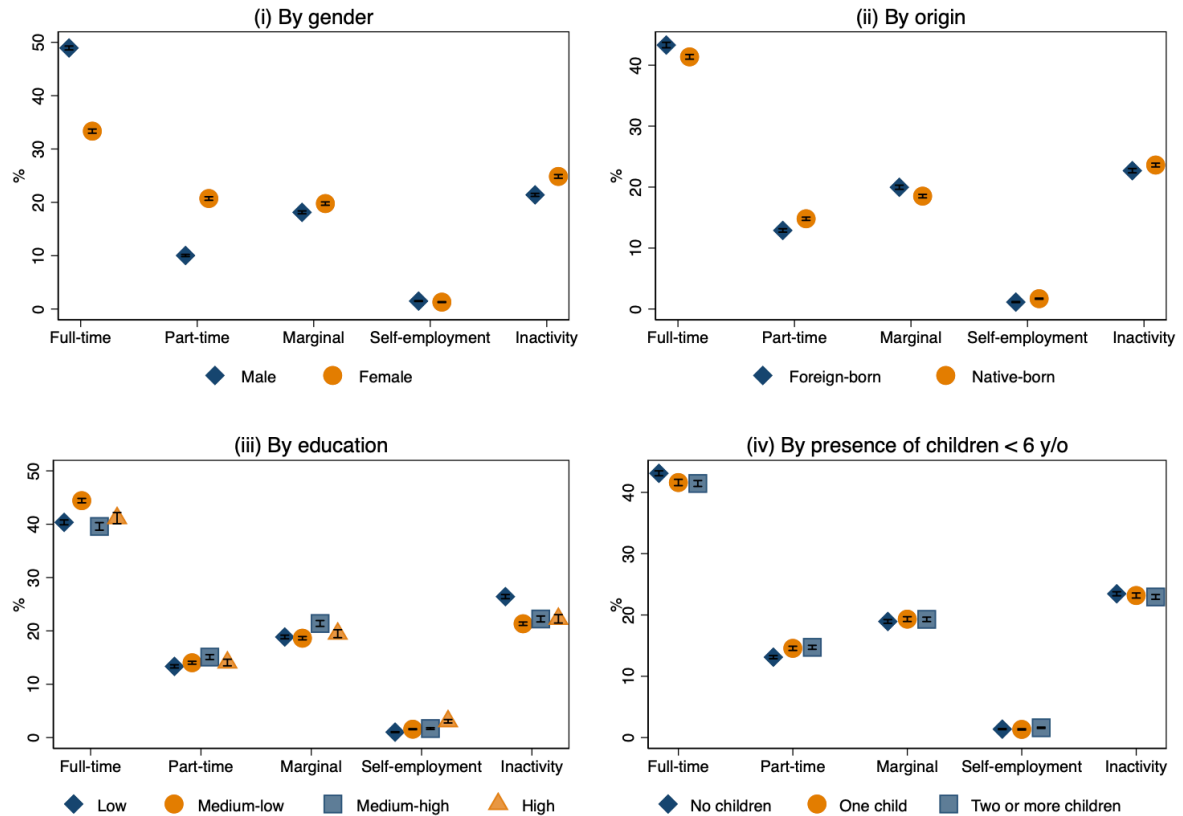
Note: The graph shows the proportions of individuals from both samples who transitioned to a labour-market status other than unemployment between April 2020 and December 2021.

Source: Statistics Austria. Own calculations and illustration.

Next, we analyse how labour market transitions differ across socio-demographic groups by employing a multinomial logit specification (2) separately for individuals who lost their jobs at the onset of the pandemic (Figure 5) and the longer-term unemployed (Figure 6). Panel (i) of Figure 5 reveals substantial gender gaps in the probabilities of withdrawing from unemployment through transitions to full- and part-time jobs upon controlling for an extensive set of socio-demographic, family, employment-history and district characteristics. Men who lost their jobs at the onset of the pandemic had a 49% probability of transitioning to full-time employment, whereas the corresponding estimate for women was only 33%. The opposite holds true for a part-time work, with men having a 10% probability and women having 21% probability. Additionally, women exhibited a slightly greater propensity to exit unemployment through a transition to inactivity, with estimated probabilities of 25% for women and 21% for men. These findings align with the well-documented gender divide in full-time work and the limited empirical evidence on re-

employment following early job losses during the pandemic, highlighting smoother and faster employment re-entry for men (Qian et al. 2023; Cheng et al. 2020).

**Figure 5 / Probability of transitioning into different labour-market statuses across socio-demographic characteristics in sample A (COVID-19 unemployed), marginal effects from a multinomial logit regression**



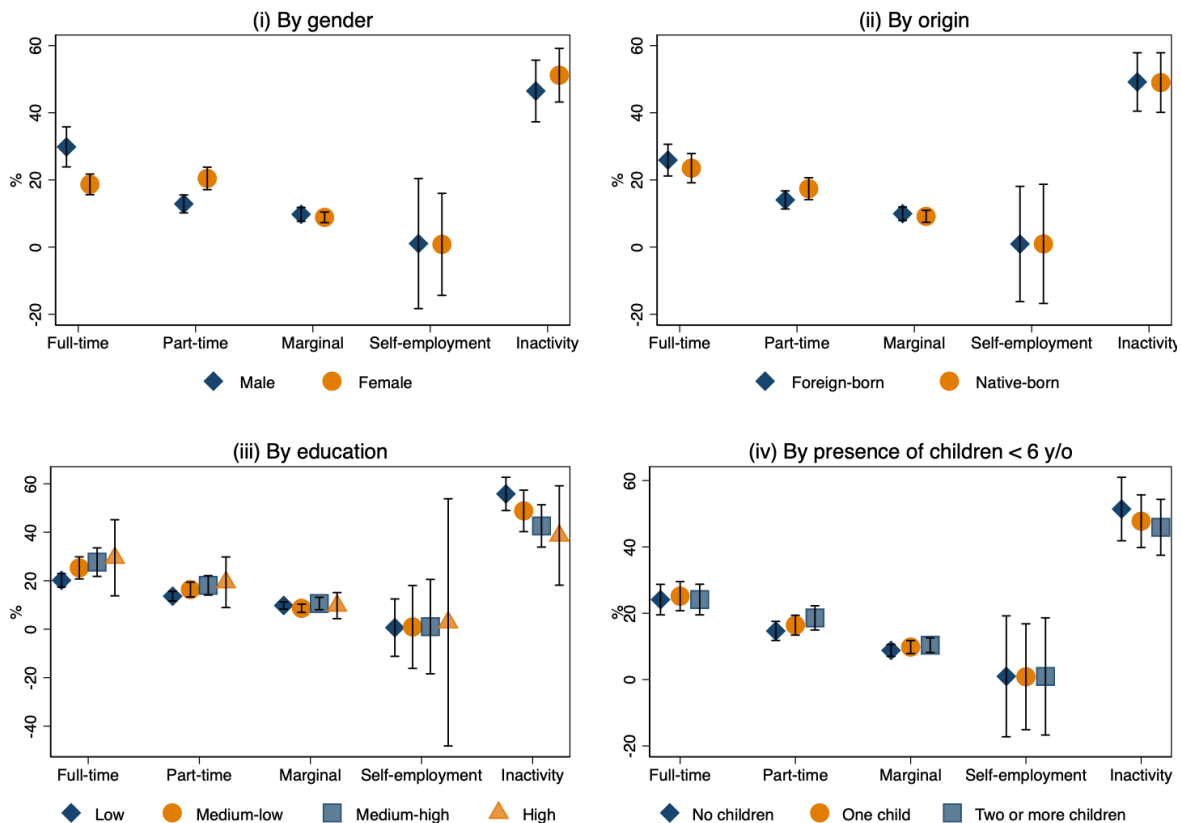
Note: Multinomial logit regression estimates. Marginal effects with 95% confidence intervals are reported. The dependent variable is transition from unemployment to (i) a full-time job; (ii) a part-time job; (iii) a marginal job; (iv) self-employment; or (v) inactivity. The model controls for gender, origin, five-year age group, marital status, presence of children aged under six, education level, last type of job and industry of employment before job loss, number of jobs and days in employment between March 2018 and February 2020 and number of days spent in unemployment prior to the transition as well as regional-level labour-market characteristics, including the unemployment rate and the shares of the manufacturing, agriculture and tourism sectors.

Source: Statistics Austria. Own calculations and illustration.

Panel (ii) of Figure 5 explores the differences in transition patterns by origin. Foreign-born individuals appear marginally more likely to re-enter employment with a full-time job (43% vs. 41% for native-born), while the opposite holds true for part-time work (12% for foreign-born and 14% for native-born), yet the differences are statistically insignificant. Persons with medium-low education levels appear to have the highest propensity for re-employment with a full-time job contract (44%), as illustrated in panel (iii) of Figure 5. Additionally, the average unemployment spell is shortest in this education group (as depicted on panel (i) of Figure 1). This result diverges from some earlier empirical findings that indicated a stronger employment shock among those with lower education (Abugamza et al. 2024; Blundell et al. 2021; Daly et al. 2020). This suggests that, in Austria, workers with lower education levels adapted relatively quickly to the new realities posed by the pandemic and re-entered employment faster with

better job contracts.<sup>10</sup> Possible factors contributing to this adaptation include the higher teleworkability of jobs held by workers with medium-low education and transitions to low-skill essential jobs, which were shielded against layoffs (Blundell et al. 2020).<sup>11</sup>

**Figure 6 / Probability of transitioning into different labour-market statuses across socio-demographic characteristics in sample B (longer-term unemployed), marginal effects from a multinomial logit regression**



Note: Multinomial logit regression estimates. Marginal effects with 95% confidence intervals are reported. The dependent variable is transition from unemployment to (i) a full-time job; (ii) a part-time job; (iii) a marginal job; (iv) self-employment; or (v) inactivity. The model controls for gender, origin, five-year age group, marital status, presence of children aged under six, education level, last type of job and industry of employment before job loss, number of jobs and days in employment between March 2018 and February 2020 and number of days spent in unemployment prior to the transition as well as regional-level labour-market characteristics, including the unemployment rate and the shares of the manufacturing, agriculture and tourism sectors.

Source: Statistics Austria. Own calculations and illustration.

On the other hand, individuals with medium-high or high education levels appear to be more likely to transition to part-time or marginal jobs compared to those with low or medium-low education levels. The propensity to start one's own business is highest among highly educated individuals (3%, compared to 1% in the low-education group), while workers with the lowest education levels are somewhat more likely to transition to inactivity upon job loss (3%). When considering the presence of small children as a

<sup>10</sup> One has to account for a potentially higher share of long-term unemployed (i.e. those continuously unemployed throughout the observation period) among individuals with low education.

<sup>11</sup> The majority of low-educated individuals got their first jobs upon unemployment in trade, tourism and catering as well as other support services.



factor associated with unemployment exit paths, the most notable variation appears in the propensities to transfer to full-time or part-time jobs (panel (iv) of Figure 5). Individuals without children aged under six are somewhat more likely to exit unemployment via a transition to a full-time job compared to workers with either one or two or more small children (43% vs. 41%). Consequently, the latter group is more likely to transition to a part-time job upon job loss than those without small children (15% vs. 13%). No associations with the presence of small children are documented for the likelihood of transitioning to a marginal job, self-employment or inactivity.

Similar patterns across all socio-demographic characteristics are documented in the sample of the longer-term unemployed (Figure 6). Yet, consistently with previous results, the shares of individuals withdrawing from unemployment via inactivity is drastically higher for all demographic groups, reaching as high as 56% among those with the low education.

Above, we have already discussed the overall unemployment duration (Table 1) and disparities in transition paths across socio-demographic groups in two samples (Figures 5 and 6). Next, we turn to the analysis of socio-demographic disparities in the speed of unemployment withdrawal across the types of unemployment exit path, employing proportional Cox hazard specification (1). Table 2 estimates unemployment duration across two samples and five different types of out-of-unemployment transitions. As we document above, women who lost their jobs at the onset of the pandemic remained unemployed longer than men with a comparable profile. However, the opposite holds true for individuals who transitioned to self-employment. Hence, women who lost their jobs early in the pandemic and started own business did so faster than men. On average, native-born individuals, married individuals, individuals with children aged under six, older persons and individuals with higher education levels stayed in unemployment longer regardless of their subsequent unemployment exit path. The type of the last job before employment distortion reveals a rather expected association with unemployment duration across transition types. Compared to those who had a full-time work agreement before the job loss, individuals whose previous job was part-time tend to exit unemployment more quickly by transitioning to another part-time job and more slowly by transitioning to a full-time job or self-employment. Among the longer-term unemployed, significant associations are only documented for transitions to full-time jobs, part-time jobs and inactivity. Whereas we find no gender disparities in unemployment duration across the types of transitions, age appears to be the most notable factor, as it took older individuals much longer to gain full- or part-time employment or to transition to inactivity.

We further analyse the variation in the duration of the post-unemployment status employing the regression specification (1) with the number of days spent in the first post-unemployment status as the dependent variable.<sup>12</sup> Table 3 suggests that, among individuals who lost their jobs at the onset of the pandemic, the first employment spell upon the job loss lasted longer for those who secured a part-time job or started their own business compared to those who secured a full-time contract. Greater stability of the part-time jobs later into the COVID-19 pandemic may stem from a shift in employment arrangements in response to the crisis, as the share of part-time jobs increased sharply over the first months of the pandemic (Smith et al. 2021; Bell and Blanchflower 2020). As expected, persons exiting unemployment with marginal jobs held them for a shorter period than full-time jobs, which holds true for both individuals who lost their jobs early into the pandemic and the longer-term unemployed.

---

<sup>12</sup> Figure A1 in the Appendix depicts average duration of initial labor market status upon unemployment exit across age, origin, education level, and type of transition for two samples.

**Table 2 / Proportional Cox regression – Unemployment duration by type of out-of-unemployment transition**

Dependent variable: days in unemployment	A: COVID-19 unemployed					B: Longer-term unemployed				
	(1) Full-time	(2) Part-time	(3) Marginal	(4) Self-employment	(5) Inactivity	(6) Full-time	(7) Part-time	(8) Marginal	(9) Self-employment	(10) Inactivity
Female	0.845*** (0.007)	0.934*** (0.012)	0.931*** (0.011)	1.132*** (0.048)	0.940*** (0.010)	1.004 (0.042)	0.957 (0.049)	1.028 (0.070)	0.906 (0.219)	1.057* (0.031)
Native-born	0.942*** (0.008)	0.963*** (0.013)	0.954*** (0.012)	0.944 (0.045)	0.949*** (0.011)	0.879*** (0.038)	0.896* (0.050)	0.851** (0.064)	1.184 (0.353)	0.943* (0.031)
Married	1.118*** (0.009)	1.076*** (0.013)	1.058*** (0.012)	1.104** (0.045)	1.058*** (0.012)	1.055 (0.043)	1.143*** (0.059)	1.032 (0.071)	1.248 (0.353)	1.080*** (0.032)
<b>Children aged under 6 (base: none)</b>										
One child	0.988 (0.009)	0.932*** (0.013)	0.961*** (0.013)	0.926 (0.045)	0.967*** (0.012)	1.003 (0.046)	0.981 (0.058)	0.950 (0.076)	0.714 (0.220)	1.022 (0.035)
Two or more children	0.984* (0.008)	0.898*** (0.013)	0.930*** (0.012)	0.977 (0.046)	0.926*** (0.012)	0.882*** (0.042)	0.861** (0.053)	0.881 (0.072)	0.611 (0.212)	0.964 (0.037)
<b>Age interval (base: aged under 20)</b>										
(20,25]	0.987 (0.020)	0.837*** (0.029)	0.969 (0.034)	0.777 (0.161)	0.779*** (0.019)	0.694*** (0.097)	0.561** (0.131)	1.026 (0.400)	1.264 (2.253)	0.628*** (0.087)
(25,30]	0.995 (0.021)	0.750*** (0.026)	0.936* (0.033)	0.732 (0.149)	0.677*** (0.017)	0.722** (0.100)	0.547*** (0.124)	1.393 (0.523)	0.309 (0.412)	0.602*** (0.077)
(30,35]	0.930*** (0.020)	0.702*** (0.025)	0.881*** (0.032)	0.672* (0.137)	0.634*** (0.016)	0.774* (0.110)	0.563** (0.128)	1.136 (0.427)	0.120 (0.161)	0.532*** (0.068)
(35,40]	0.914*** (0.020)	0.651*** (0.023)	0.851*** (0.031)	0.684* (0.140)	0.606*** (0.016)	0.700** (0.101)	0.508*** (0.116)	1.148 (0.432)	0.199 (0.265)	0.495*** (0.064)
(40,45]	0.891*** (0.020)	0.654*** (0.024)	0.851*** (0.032)	0.631** (0.131)	0.613*** (0.017)	0.650*** (0.095)	0.495*** (0.114)	0.979 (0.373)	0.215 (0.273)	0.468*** (0.061)
(45,50]	0.899*** (0.020)	0.650*** (0.024)	0.865*** (0.033)	0.636** (0.133)	0.642*** (0.018)	0.669*** (0.099)	0.471*** (0.110)	1.063 (0.405)	0.141 (0.188)	0.489*** (0.063)
(50,55]	0.866*** (0.020)	0.622*** (0.024)	0.813*** (0.031)	0.631** (0.133)	0.616*** (0.017)	0.615*** (0.091)	0.517*** (0.120)	1.002 (0.381)	0.292 (0.404)	0.453*** (0.058)
(55,60]	0.856*** (0.021)	0.586*** (0.023)	0.770*** (0.031)	0.557*** (0.120)	0.546*** (0.016)	0.600*** (0.093)	0.352*** (0.083)	0.850 (0.324)	0.101 (0.142)	0.445*** (0.057)
(60,65]	0.760*** (0.030)	0.563*** (0.043)	0.662*** (0.039)	0.633 (0.178)	0.425*** (0.017)	0.535*** (0.105)	0.259*** (0.075)	0.815 (0.332)	0.219 (0.328)	0.370*** (0.049)
<b>Education (base: low)</b>										
Medium-low	1.050*** (0.009)	1.079*** (0.015)	1.051*** (0.014)	1.087 (0.063)	1.067*** (0.013)	0.982 (0.046)	1.020 (0.058)	0.989 (0.075)	0.722 (0.253)	1.067** (0.035)
Medium-high	0.923*** (0.011)	0.979 (0.017)	0.980 (0.016)	0.779*** (0.054)	1.077*** (0.017)	0.902* (0.054)	0.963 (0.070)	0.940 (0.087)	0.757 (0.319)	0.923* (0.042)
High	0.791*** (0.014)	0.899*** (0.021)	0.927*** (0.020)	0.782*** (0.058)	1.146*** (0.024)	1.009 (0.069)	1.165* (0.096)	0.894 (0.100)	0.277*** (0.114)	0.922 (0.050)
<b>Last job type (base: full-time)</b>										
Part-time	0.704*** (0.009)	1.322*** (0.018)	0.982 (0.013)	0.832*** (0.051)	0.916*** (0.011)	0.878*** (0.044)	1.106* (0.060)	0.991 (0.082)	1.409 (0.484)	0.988 (0.032)
Marginal	0.762*** (0.010)	1.005 (0.021)	0.990 (0.013)	0.863** (0.064)	0.916*** (0.012)	0.978 (0.050)	0.953 (0.064)	1.066 (0.078)	0.887 (0.302)	0.993 (0.037)
Self-employment	0.732*** (0.040)	0.940 (0.068)	0.846*** (0.051)	1.692*** (0.083)	0.925* (0.037)	0.975 (0.216)	1.046 (0.328)	1.089 (0.298)	0.959 (0.348)	0.787* (0.098)
Observations	85,602	33,184	36,899	2,859	41,677	3,052	1,996	1,138	131	5,614
Employment history controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
District-level controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

**Table 3 / Proportional Cox regression – Duration of the first labour market status upon out-of-unemployment transition**

Dependent variable: days in the first status after unemployment exit	(1) A: COVID-19 unemployed	(2) B: Longer-term unemployed
<b>Type of first transition (base: full-time)</b>		
Part-time	0.834*** (0.006)	1.004 (0.030)
Marginal job	1.138*** (0.008)	1.214*** (0.043)
Self-employment	0.837*** (0.015)	1.174** (0.088)
Inactivity	0.602*** (0.004)	1.039 (0.025)
Female	0.881*** (0.004)	1.015 (0.021)
Native-born	0.946*** (0.005)	0.906*** (0.020)
Married	1.105*** (0.005)	1.077*** (0.022)
<b>Children aged under 6 (base: none)</b>		
One child	0.982*** (0.006)	1.009 (0.024)
Two or more children	0.962*** (0.005)	0.914*** (0.023)
<b>Age interval (base: aged under 20)</b>		
(20,25]	0.911*** (0.012)	0.659*** (0.057)
(25,30]	0.878*** (0.012)	0.706*** (0.058)
(30,35]	0.824*** (0.011)	0.675*** (0.056)
(35,40]	0.797*** (0.011)	0.628*** (0.053)
(40,45]	0.788*** (0.011)	0.596*** (0.051)
(45,50]	0.802*** (0.012)	0.601*** (0.051)
(50,55]	0.773*** (0.011)	0.572*** (0.049)
(55,60]	0.734*** (0.011)	0.532*** (0.045)
(60,65]	0.613*** (0.015)	0.443*** (0.041)
<b>Education (base: low)</b>		
Medium-low	1.061*** (0.006)	1.022 (0.023)
Medium-high	0.955*** (0.007)	0.918*** (0.027)
High	0.862*** (0.009)	0.974 (0.034)
<b>Last job type (base: full-time)</b>		
Part-time	0.931*** (0.006)	0.986 (0.022)
Marginal job	0.869*** (0.006)	0.993 (0.025)
Self-employment	1.012 (0.020)	0.864* (0.075)
Observations	201,125	11,998
Employment history controls	Y	Y
District-level controls	Y	Y

Notes: Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level.

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

Women who lost their jobs in the early months of the COVID-19 pandemic tended to remain in the initial post-transition status longer than men. However, further disaggregation of the results from Table 3 by the type of transition (Table A3 in the Appendix) reveals a sizeable variation in the gender gap in the first post-transition status. In both samples, women stayed in part-time jobs and inactivity following unemployment notably longer than men. When it comes to full-time jobs, women who lost their jobs in March/April 2020 withdrew from post-unemployment full-time jobs faster than men, while the opposite gender trend holds true for the longer-term unemployed.

Among individuals who lost their jobs in the early months of the COVID-19 pandemic, having children aged under six was associated with a longer time spent in the initial status upon transition from unemployment, while among the longer-term unemployed, this conclusion only holds true for those with two or more children aged under six. When disaggregated by the transition type, a strong effect emerges for those who transitioned to marginal jobs, with parents of two or more children under six tending to stay in marginal employment longer than those with no children or no children in this age group (Table A3). The latter only holds true for individuals who lost their jobs early in the pandemic. In both samples, age is positively associated with the duration of the initial post-unemployment status. However, Table A3 reveals the opposite association for those who transitioned to full-time employment, as younger individuals tended to stay in full-time jobs longer right upon unemployment exit, which applies to both samples.

Interestingly, both individuals with the last job prior to unemployment being a part-time or a marginal job stayed in their initial post-unemployment status longer than those whose last job was full-time. Further disaggregation of the duration of the first labour market status by the type of out-of-unemployment transition (Table A3) reveals a consistent positive association between the type of the last job and the duration of the initial job of the same type. More specifically, individuals who lost a part-time job at the onset of the pandemic tended to have a longer duration of initial post-unemployment part-time or marginal employment agreements and a shorter duration of full-time or self-employment status than those who were laid off from a full-time job. Since we do not observe a similar pattern among the longer-term unemployed, the result may stem from both the specifics of the COVID-19 unemployed sample as well as adjustments in labour market demand and employment arrangements. Individuals who previously held a part-time or marginal job were likely to be more willing to accept part-time contracts, which, as discussed above, were associated with longer employment duration in the COVID-19 period compared to full-time contracts.

### 3.3. JOB STABILITY

Next, we turn to the analysis of medium-term employment stability upon unemployment exit. Table 4 presents regression estimates of medium-term employment stability upon out-of-unemployment transition across two samples: those who lost their jobs at the onset of the pandemic and the longer-term unemployed following regression specification (3). Additional descriptive estimates of the average number of days in different statuses across the two samples and different socio-demographic characteristics are provided in Tables A4 and A5 in the Appendix. For both samples, the results suggest a strong association between the path of transition from unemployment and the subsequent number of days spent in employment, unemployment and inactivity during the period from April 2020 to December 2021.

Table 4 / Least squares regression – Medium-term job stability

Dependent variable: days spent in...	A: COVID-19 unemployed			B: Longer-term unemployed		
	(1) Employment	(2) Unemployment	(3) Inactivity	(4) Employment	(5) Unemployment	(6) Inactivity
<b>Type of first transition (base: full-time)</b>						
Part-time	-3.4*** (1.030)	2.7*** (0.810)	3.4*** (0.623)	-1.6 (4.459)	4.5 (3.520)	3.2* (1.780)
Marginal job	-3.3*** (0.959)	-0.6 (0.748)	4.5*** (0.567)	-17.7*** (5.487)	24.6*** (4.663)	5.7** (2.278)
Self-employment	34.1*** (2.165)	-25.8*** (1.677)	-6.7*** (1.204)	66.1*** (10.495)	-51.1*** (7.039)	-9.9*** (3.062)
Inactivity	-227.0*** (1.008)	65.4*** (0.806)	63.7*** (0.715)	-218.1*** (3.360)	62.4*** (3.091)	35.7*** (1.824)
Female	-17.3*** (0.723)	6.1*** (0.582)	5.2*** (0.463)	1.6 (2.664)	-29.8*** (2.623)	-1.6 (1.613)
Native-born	-2.7*** (0.781)	3.9*** (0.628)	-2.4*** (0.499)	2.7 (2.917)	-6.2** (2.829)	-2.7 (1.713)
Married	12.3*** (0.697)	-10.2*** (0.556)	-3.9*** (0.447)	13.6*** (2.620)	-19.0*** (2.573)	-2.1 (1.686)
<b>Children aged under 6 (base: none)</b>						
One child	4.1*** (0.797)	0.3 (0.632)	-4.7*** (0.511)	8.5*** (3.095)	3.4 (3.025)	-4.4** (1.914)
Two or more children	7.8*** (0.776)	2.4*** (0.612)	-7.0*** (0.493)	3.2 (3.337)	6.9** (3.134)	-6.4*** (1.918)
<b>Age interval (base: aged under 20)</b>						
(20,25]	18.3*** (1.998)	3.8*** (1.428)	-22.7*** (1.475)	3.4 (12.438)	15.9* (8.752)	-14.3* (8.425)
(25,30]	12.3*** (2.022)	12.8*** (1.469)	-27.1*** (1.473)	-61.1*** (11.833)	46.9*** (8.673)	-17.6** (8.199)
(30,35]	11.1*** (2.053)	18.6*** (1.505)	-29.9*** (1.481)	-62.4*** (11.846)	52.2*** (8.765)	-16.0* (8.229)
(35,40]	13.4*** (2.098)	21.0*** (1.551)	-32.9*** (1.498)	-66.6*** (11.901)	56.5*** (8.825)	-14.5* (8.294)
(40,45]	15.8*** (2.140)	22.4*** (1.592)	-33.9*** (1.510)	-70.8*** (12.079)	64.6*** (9.029)	-14.7* (8.302)
(45,50]	10.4*** (2.171)	27.2*** (1.619)	-33.5*** (1.525)	-75.5*** (12.096)	81.3*** (9.177)	-16.2* (8.315)
(50,55]	-2.9 (2.209)	37.6*** (1.654)	-29.4*** (1.560)	-96.4*** (12.002)	87.0*** (9.135)	-6.0 (8.395)
(55,60]	-35.7*** (2.334)	36.8*** (1.781)	-9.1*** (1.702)	-115.0*** (11.893)	39.7*** (9.247)	-15.9* (8.474)
(60,65]	-62.9*** (3.639)	7.1** (2.814)	20.4*** (3.077)	-115.0*** (12.246)	-10.7 (9.991)	-16.5* (9.098)
<b>Education (base: low)</b>						
Medium-low	18.1*** (0.777)	-12.1*** (0.628)	-6.8*** (0.487)	21.6*** (2.892)	-17.1*** (2.966)	-2.5 (1.842)
Medium-high	21.7*** (1.075)	-24.5*** (0.849)	-0.1 (0.722)	34.2*** (3.995)	-22.6*** (3.857)	-3.3 (2.394)
High	31.2*** (1.433)	-32.6*** (1.119)	-4.0*** (0.936)	56.4*** (4.721)	-37.3*** (4.449)	-6.9*** (2.615)
<b>Last job type (base: full-time)</b>						
Part-time	-2.4*** (0.902)	-0.3 (0.723)	1.0* (0.587)	-4.2 (2.979)	4.0 (2.957)	-2.3 (1.807)
Marginal	-12.9*** (1.024)	4.1*** (0.826)	6.6*** (0.658)	0.7 (3.313)	-3.6 (3.263)	2.4 (2.033)
Self-employment	-1.3 (2.924)	-2.9 (2.260)	-2.8 (1.735)	-0.5 (12.056)	-0.5 (10.749)	5.3 (6.692)
Observations	201,125	201,125	201,125	11,998	11,998	11,998
Employment history controls	Y	Y	Y	Y	Y	Y
District-level controls	Y	Y	Y	Y	Y	Y

Notes: The models are estimated using ordinary least squares regression. Dependent variables are numbers of days spent in (i) employment, (ii) unemployment or (iii) inactivity between 1 April 2020 and 31 December 2021. Robust standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

As compared to transitioning to a full-time job, withdrawing from unemployment by transitioning to more precarious employment, such as a part-time or marginal job, is associated with fewer days in employment and more days in inactivity for the COVID-19 sample. A similar result holds true for the longer-term unemployed, but there is a notably stronger association for marginal employment. As expected, withdrawing from unemployment via a transition to inactivity severely undermines medium-term employment stability in both samples. Transitioning to inactivity is respectively associated with 227 and 218 fewer days (approximately 7 months) spent in employment for those who lost their jobs early in the pandemic and the longer-term unemployed compared to a transition to a full-time job. Similarly, the path of inactivity as an unemployment exit is associated with more days spent in both unemployment and inactivity for both samples.

This result indicates that the probability of withdrawing from inactivity for those who lost their jobs at the onset of the pandemic is very low, similar to the longer-term unemployed. Among other reasons, this result could be related to early retirements (Goda et al. 2023; Forsythe et al. 2022) and health issues stemming from the pandemic (Béland et al. 2023; Reuschke and Houston 2023). Conversely, withdrawing from unemployment by transitioning to self-employment is associated with an average of 33 more days in employment compared to a transition to a full-time job for those who lost their jobs early in the COVID-19 pandemic and 66 more days for the longer-term unemployed. Similarly, starting one's own business during the early months of the pandemic is associated with fewer days spent in unemployment and inactivity in the subsequent period for both samples. Despite the profoundly damaging impact of the COVID-19 crisis on the self-employed at the beginning of the pandemic (Kalenkoski and Pabilonia 2022; Block et al. 2022; Béland et al. 2020), there is some evidence that the pandemic opened new opportunities for entrepreneurs and fostered an upswing in self-employment in the later months (Fabeil et al. 2022). Although no significant increase in self-employment among those who lost their jobs is recorded in Austria for either the COVID-19 unemployed or the longer-term unemployed (see Figure 4), the higher employment stability of individuals who transitioned to self-employment at the onset of the pandemic could signal the implementation of sustainable and COVID-19-resilient business ideas and models, which may have also benefited the longer-term unemployed.

Across socio-demographic groups, men who lost their jobs at the onset of the pandemic experienced long-term employment stability over the subsequent period, with more days spent in employment and fewer in unemployment and inactivity. Further disaggregation by gender (Table A6 in the Appendix) reveals a higher employment stability of women upon out-of-unemployment transition to precarious jobs (i.e. part-time and marginal work), as they spend somewhat more time in employment and less in unemployment compared to those who transitioned to full-time jobs. The opposite holds true for men, as withdrawal from unemployment by transitioning to part-time or marginal jobs is associated with fewer days in employment and a longer subsequent unemployment period. Table A8 in the Appendix splits the analysis by education level, revealing a male-favouring gap in employment stability that only holds for those with low education. Women with medium-high or high education spent more days in employment and less in unemployment than men in the same education group.

In the medium run, individuals with children under six years old spent marginally more days in employment and fewer in inactivity than those without small children. However, this association was more pronounced for men (Table A6 in the Appendix) and among those with low or medium-low education levels (Table A8 in the Appendix). Variation in employment stability across education groups reveals an important pattern. Those with higher education levels spent 31 more days in employment and

33 fewer days in unemployment compared to individuals with the lowest education level (Table 4). Coupled with our evidence on disproportionately longer unemployment spells among those with higher education levels compared to those with lower education levels (see Figure 1 and Table 1), one can speculate that although those with higher education took longer to secure a new job, the jobs they did obtain were likely to be more stable and of higher overall quality. However, one should acknowledge the role of overall economic revival from mid-2021 onwards, which could have contributed positively to the transition paths of those who stayed in unemployment longer. The results disaggregated by education level (Table A8 in the Appendix) indicate the adverse effect of out-of-unemployment transition to precarious employment (i.e. part-time and marginal jobs) was the strongest among individuals with high education, particularly for the number of days spent in employment.

The sample of longer-term unemployed reveals a different medium-term job stability dynamic across socio-demographic characteristics. On average, subsequent employment was relatively more stable for women, as they spent fewer days in unemployment (Table 4). The dynamic in employment stability across age and education groups was comparable to that of individuals who lost their jobs at the onset of the pandemic, with older individuals tending to have longer subsequent unemployment periods and with higher education levels being associated with more days in employment and less inactivity. Further disaggregation of the results across gender (Table A7 in the Appendix) and education (Table A9 in the Appendix) does not reveal any systematic patterns. Importantly, the economic significance of gender, age and education is notably higher for the longer-term unemployed, signalling stronger socio-demographic disparities in employment stability upon withdrawal from prolonged unemployment.

## 4. Conclusions

This paper explores the heterogeneous effects of COVID-19 on the labour market in Austria, focusing on job disruption in the early months of the pandemic, unemployment exit paths and the subsequent longer-term labour market stability of workers dismissed at the onset of the crisis. Specifically, we analyse unemployment duration, withdrawal paths via transitions to full-time work, part-time work, marginal work, self-employment, inactivity and medium-term employment spells while focusing on the socio-demographic divide and key differences compared to the longer-term unemployed. While we focus on labour market outcomes only until December 2021 and consequently cannot fully account for post-COVID employment dynamics, our evidence contributes to the understanding of the labour market response in the wake of the pandemic. The results allow us to evaluate the speed and success of the employment recovery of workers dismissed early in the pandemic in contrast to those who were already unemployed for a prolonged period before the onset of the pandemic.

Our results indicate a significant degree of socio-demographic divide in all analysed immediate and medium-term labour market outcomes among individuals who lost their jobs early in the pandemic. A higher share of female, foreign-born and low-educated workers lost their jobs in March/April 2020 compared to male, native-born and high-educated workers, respectively. This socio-demographic profile differs dramatically from that of the longer-term unemployed, which is dominated by male, native-born and older individuals. Unambiguously, the disparity in core demographic characteristics across the two samples stems from both the specifics of the COVID-19-induced unemployment upswing and transition into longer-term unemployment. Our results reveal significant gaps in demographic profiles and employment histories across the two samples. The share of previous full-time employment is notably lower among the longer-term unemployed compared to those who lost their jobs as a result of COVID-19, while the opposite holds true for those who had part-time and marginal jobs.

By September 2020, over 80% of individuals who lost their jobs early in the pandemic had withdrawn from unemployment, but only 35% had transitioned to a full-time job and 1.5% to self-employment. The remaining workers withdrew from unemployment via part-time work, marginal employment or inactivity. Women tended to remain unemployed longer unless they engaged in self-employment, and they transitioned more often to part-time jobs compared to men, who had a prevailing share of transitions from unemployment to full-time jobs. Furthermore, women stayed in part-time jobs and inactivity upon unemployment withdrawal significantly longer than men, which indicates, among other things, a certain degree of medium-term scarring effect.

Foreign-born women and women with small children appeared most disadvantaged, as they experienced the longest unemployment spells and a low likelihood of being re-employed with a full-time job contract. Parents of two and more children under six appeared as another disadvantaged group, as they tended to stay in marginal employment longer than those with no children or no children in this age group. Moreover, the type of the last job before being laid off has a strong association with the unemployment exit path for the COVID-19 unemployed, as persons who used to work under precarious contracts or be self-employed withdrew from unemployment faster via transitions to similar types of jobs.



Being a full-time employee before dismissal early in the COVID-19 pandemic is associated with the longest employment search, which may be linked to a structural shift in labour demand during that period, with the shares of part-time and marginal work increasing sharply throughout the crisis.<sup>13</sup>

Among the longer-term unemployed, 18% transitioned to full-time jobs and 12% to part-time jobs, while the share of individuals moving to inactivity increased steeply throughout the observation period, reaching around 62% by December 2021. The type of out-of-unemployment transition appears to be the major determinant of unemployment duration among the longer-term unemployed. Similarly to the COVID-19 unemployed, transitioning to marginal jobs is associated with faster unemployment withdrawal than transitioning to full-time jobs for the longer-term unemployed. This result indicates that individuals taking up precarious employment transitioned back to employment faster than those aiming for full-time jobs. The patterns of socio-demographic divide in unemployment duration and exit paths outlined above hardly hold true for the groups of longer-term unemployed, further indicating fundamental discrepancies in profile, employment prospects and labour market attachment across the two samples.

In both samples, out-of-unemployment transition appears to be strongly associated with medium-term employment stability. Compared to a transition to a full-time job, unemployment withdrawal via transitions to marginal jobs and inactivity is correlated with fewer days in employment and more days in unemployment and inactivity. Exiting unemployment via starting one's own business is associated with higher employment stability over the observation period, as those individuals tended to spend systematically more days in employment. Hence, unemployment withdrawal via transition to marginal jobs appears to be notably faster than via transition to full-time jobs, but it yields much lower medium-term employment stability for both the COVID-19 unemployed and the longer-term unemployed.

We document a notable gender gap in employment stability among those who lost their jobs early in the pandemic, with men spending more days in employment and fewer in unemployment and inactivity. However, this gap only holds true among individuals with low education. Interestingly, the results indicate higher employment stability for women upon out-of-unemployment transition to precarious jobs (i.e. part-time and marginal work), while the opposite holds true for men, as withdrawal from unemployment via precarious jobs is associated with lower medium-term employment stability. Furthermore, individuals with higher education levels experienced higher employment stability depending on the type of initial transition and the duration of the unemployment spell.

Therefore, unlike a body of earlier evidence, we do not document any stark disadvantage faced by low-educated workers in Austria when re-employment speed and type of transition from unemployment are concerned. However, we do find them significantly disadvantaged in terms of post-unemployment medium-term employment stability, which is largely related to their unemployment exit path. On average, individuals with higher education took longer to secure a new job and therefore spent more time in unemployment, yet the jobs they ultimately did secure were more likely to be stable and of higher overall quality.

In contrast to multiple academic and policy-oriented projections and forecasts, our findings indicate that individuals who lost their jobs in the early months of the pandemic did not suffer long-lasting scarring effects. While the latter is unambiguous for individuals who stayed in unemployment for longer than six months before the pandemic, those who suffered employment distortion as a result of the COVID-19

---

<sup>13</sup> Higher demand for part-time and marginal contracts during the COVID-19 period in Austria may stem from the implementation of job-retention schemes, with short-time work being one of the adopted solutions.

pandemic revealed no signs of a disproportionately high degree of labour market withdrawal, systematically longer unemployment or an overall lower degree of success in finding a new job. Nevertheless, we cannot rule out a certain degree of scarring effect, especially for women and parents of two and more small children, who faced disproportional immediate- and medium-term labour market penalties. Although they found new jobs more quickly, individuals with lower education levels faced adverse medium-term effects of the COVID-19 crisis, as they withdrew from unemployment via transitions to precarious jobs and spent less time in employment in subsequent months.

By considering two different groups of unemployed, the results of this paper point to fundamentally different labour market policy challenges posed by the COVID-19 pandemic. Stabilising employment via short-term policy measures, such as job-retention and labour market re-entry schemes, largely mitigated the prolonged unemployment upsurge and prevented the accumulation of long-term unemployment in Austria. As a result, many individuals who lost their jobs early in the pandemic withdrew from unemployment swiftly. However, very few of them secured full-time jobs, and most of them transitioned to precarious employment. Although this labour market stabilisation proved to have substantial immediate benefits, the prolonged spells of marginal employment associated with it appear to have hampered longer-term employment stability. While the exact mechanism of this association has not been examined yet, the major policy implication of this study is showcasing the importance of a longer-term perspective in policy measures, which should prevail even when short-term decisions are implemented.

## References

Abraham, K. G., J. Haltiwanger, K. Sandusky and J. R. Spletzer (2019), 'The consequences of long-term unemployment: Evidence from linked survey and administrative data', *ILR Review*, 72(2), 266-299.

Abugamza, A., D. Kaskirbayeva, A. Charlwood, S. Nikolova and A. Martin (2024), 'Impact of the COVID-19 pandemic on employment and inequalities: a systematic review of international evidence and critical appraisal of statistical methods', *Perspectives in Public Health*, 17579139241231910.

Adams-Prassl, A., T. Boneva, M. Golin and C. Rauh (2020), 'Inequality in the impact of the coronavirus shock: Evidence from real time surveys', *Journal of Public Economics*, 189, 104245.

Almeida, F. and J. D. Santos (2020), 'The effects of COVID-19 on job security and unemployment in Portugal', *International Journal of Sociology and Social Policy*, 40(9/10), 995-1003.

Aloisi, A. and V. De Stefano (2022), 'Essential jobs, remote work and digital surveillance: Addressing the COVID-19 pandemic panopticon', *International Labour Review*, 161(2), 289-314.

Anderton, R., V. Botelho, A. Consolo, A. Dias da Silva, C. Foroni, M. Mohr and L. Vivian (2020), 'The impact of the COVID-19 pandemic on the euro area labour market', European Central Bank, *ECB Economic Bulletin*, Issue 8/2020.

Auer, D. (2022), 'Firing discrimination: Selective labor market responses of firms during the COVID-19 economic crisis', *PloS one*, 17(1), e0262337.

Autor, D., N. Maestas, K. J. Mullen and A. Strand (2015), 'Does delay cause decay? The effect of administrative decision time on the labor force participation and earnings of disability applicants', National Bureau of Economic Research, Working Paper No. 20840.

Béland, L. P., A. Brodeur and T. Wright (2023), 'The short-term economic consequences of Covid-19: exposure to disease, remote work and government response', *Plos one*, 18(3), e0270341.

Béland, L. P., O. Fakorede and D. Mikola (2020), 'Short-term effect of COVID-19 on self-employed workers in Canada', *Canadian Public Policy*, 46(S1), S66-S81.

Bell, A., T. J. Hedin, P. Mannino, R. Moghadam, C. Romer, G. Schnorr and T. von Wachter (2021), 'Re-employment, Recall, and Industry Transitions During the COVID-19 Pandemic', California Policy Lab, Policy Report December 2021.

Bell, D. N. and D. G. Blanchflower (2020), 'US and UK labour markets before and during the Covid-19 crash', *National Institute Economic Review*, 252, R52-R69.

Blanchard, O. and L. Summers (1986), 'Hysteresis and the European Unemployment Problem' in: Stanley Fischer (ed.), *NBER Macroeconomics Annual*, Volume 1, Fall 1986, Cambridge, MA, MIT Press, 15-90.

Block, J., A. S. Kritikos, M. Priem and C. Stiel (2022), 'Emergency-aid for self-employed in the Covid-19 pandemic: A flash in the pan?', *Journal of Economic Psychology*, 93, 102567.

Blundell, R., M. Costa Dias, R. Joyce and X. Xu (2020), 'COVID-19 and Inequalities', *Fiscal Studies*, 41(2), 291-319.

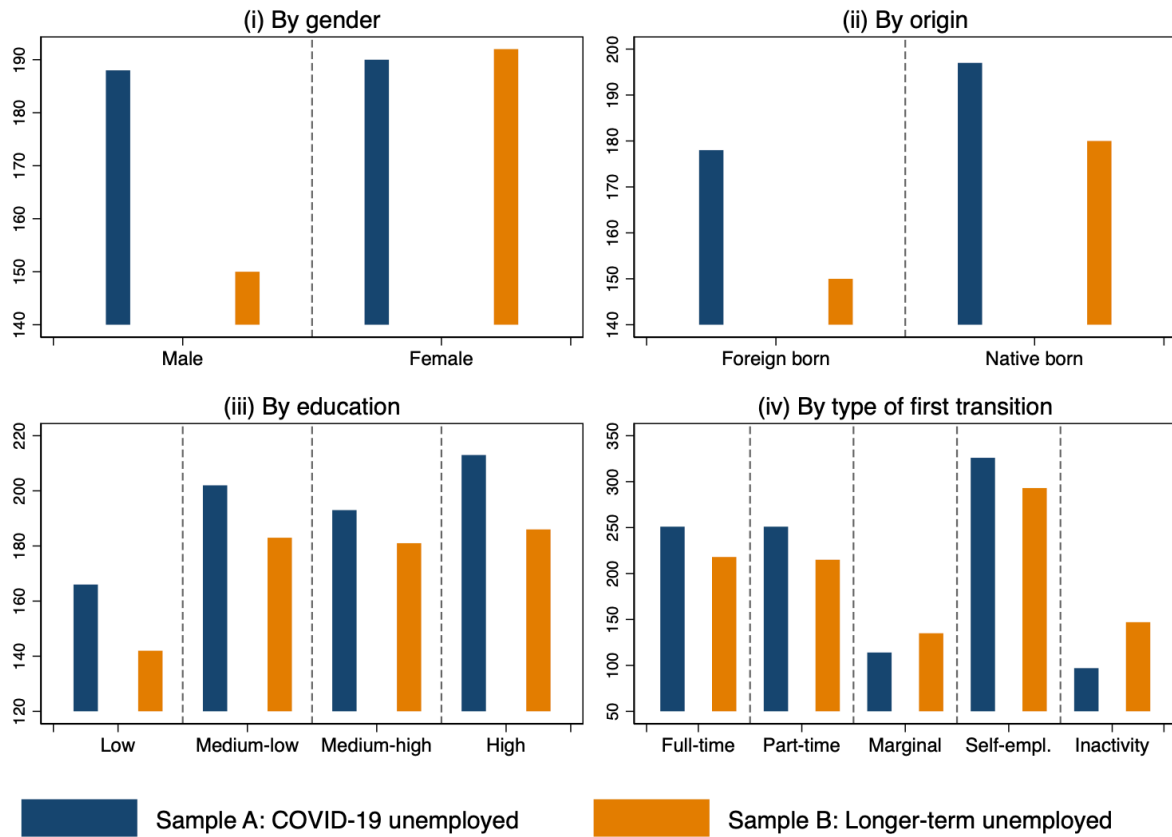
Blundell, R., J. Cribb, S. McNally, R. Warwick and X. Xu (2021), 'Inequalities in education, skills, and incomes in the UK: The implications of the COVID-19 pandemic', Institute for Fiscal Studies, [https://ifs.org.uk/sites/default/files/output\\_url\\_files/BN-Inequalities-in-education-skills-and-incomes-in-the-UK-the-implications-of-the-COVID-19-pandemic.pdf](https://ifs.org.uk/sites/default/files/output_url_files/BN-Inequalities-in-education-skills-and-incomes-in-the-UK-the-implications-of-the-COVID-19-pandemic.pdf).

- Bock-Schappelwein, J., U. Huemer and W. Hyll (2021), 'Beschäftigung 2020: Bilanz nach einem Jahr COVID-19-Pandemie', *WIFO Research Briefs* 1/2021.
- Bossavie, L., D. Garrote-Sanchez, M. Makovec and C. Özden (2022), 'Do immigrants shield the locals? Exposure to COVID-related risks in the European Union', *Review of International Economics*, 30(5), 1478-1514.
- Brynjolfsson, E., J. J. Horton, A. Ozimek, D. Rock, G. Sharma and H. Y. TuYe (2020), 'COVID-19 and remote work: An early look at US data', National Bureau of Economic Research, Working Paper No. 27344.
- Casarico, A. and S. Lattanzio (2022), 'The heterogeneous effects of COVID-19 on labor market flows: evidence from administrative data', *The Journal of Economic Inequality*, 20(3), 537-558.
- Cheng, W., P. Carlin, J. Carroll, S. Gupta, F. L. Rojas, L. Montenovo, T. D. Nguyen, I. Schmutte, O. Scrivner, K. Simon, C. Wing and B. Weinberg (2020), 'Back to business and (re)employing workers? Labor market activity during state COVID-19 reopenings', National Bureau of Economic Research, Working Paper No. 27419.
- Chung, H., H. Birkett, S. Forbes and H. Seo (2021), 'Covid-19, Flexible Working, and Implications for Gender Equality in the United Kingdom', *Gender and Society*, 35(2), 218-232.
- Cortes, G. M. and E. Forsythe (2023), 'Heterogeneous labor market impacts of the COVID-19 pandemic', *ILR Review*, 76(1), 30-55.
- Cowan, B. W. (2020), 'Short-run effects of COVID-19 on US worker transitions', National Bureau of Economic Research, Working Paper 27315.
- Daly, M. C., S. R. Buckman and L. M. Seitelman (2020), 'The unequal impact of COVID-19: Why education matters', *FRBSF Economic Letter*, 17(5), 1-5.
- Drozd, M., R. A. Moffitt and X. Zhao (2024), 'The Effect of the COVID-19 Pandemic Recession on Less Educated Women's Human Capital: Some Projections', *Journal of Labor Economics*, 42(2), 289-323.
- Elsby, M. W., B. Hobijn, A. Şahin, R. G. Valletta, B. Stevenson and A. Langan (2011), 'The labor market in the great recession—an update to September 2011', *Brookings Papers on Economic Activity*, Fall 2011, 353-384.
- Fabeil, N. F., J. Langgat, K. H. Pazim and R. Mahmud (2022), 'Self-Employment among Graduates during the COVID-19 Pandemic: Necessity or Opportunity Entrepreneurship Driven', *Economics and Business Quarterly Reviews*, 5(1), 21-28.
- Fodor, É., A. Gregor, J. Koltai and E. Kováts (2021), 'The impact of COVID-19 on the gender division of childcare work in Hungary', *European Societies*, 23(Supplement 1), S95-S110.
- Forsythe, E., L. B. Kahn, F. Lange and D. Wiczer (2022), 'Where have all the workers gone? Recalls, retirements, and reallocation in the COVID recovery', *Labour Economics*, 78, 102251.
- Goda, G. S., E. Jackson, L. H. Nicholas and S. S. Stith (2023), 'The impact of Covid-19 on older workers' employment and Social Security spillovers', *Journal of Population Economics*, 36(2), 813-846.
- Heggeness, M. L. (2020), 'Estimating the immediate impact of the COVID-19 shock on parental attachment to the labor market and the double bind of mothers', *Review of Economics of the Household*, 18(4), 1053-1078.
- Hoynes, H., D. L. Miller and J. Schaller (2012), 'Who suffers during recessions?', *Journal of Economic Perspectives*, 26(3), 27-48.
- Kalenkoski, C. M. and S. W. Pabilonia (2022), 'Impacts of COVID-19 on the self-employed', *Small Business Economics*, 58(2), 741-768.
- Kroft, K., F. Lange, M. J. Notowidigdo and L. F. Katz (2016), 'Long-term unemployment and the Great Recession: the role of composition, duration dependence, and nonparticipation', *Journal of Labor Economics*, 34(S1), 7-54.

- Krueger, A. B., J. Cramer and D. Cho (2014), 'Are the long-term unemployed on the margins of the labor market?', *Brookings Papers on Economic Activity*, 2014(1), 229-299.
- Lee, S. Y. T., M. Park and Y. Shin (2021), 'Hit harder, recover slower? Unequal employment effects of the Covid-19 shock', National Bureau of Economic Research, Working Paper No. 28354.
- Lopes, A. S. and P. Carreira (2022), 'COVID-19 impact on job losses in Portugal: who are the hardest-hit?', *International Journal of Manpower*, 43(5), 1265-1282.
- Manzo, L. K. C. and A. Minello (2020), 'Mothers, childcare duties, and remote working under COVID-19 lockdown in Italy: Cultivating communities of care', *Dialogues in Human Geography*, 10(2), 120-123.
- Mayhew, K. and P. Anand (2020), 'COVID-19 and the UK labour market', *Oxford Review of Economic Policy*, 36(Supplement 1), S215-S224.
- Meriküll, J. and A. Paulus (2023), 'The impact of the Covid-19 job retention support on employment', *Economics Letters*, 222, 110963.
- Moen, P., J. H. Pedtke and S. Flood (2020), 'Disparate disruptions: Intersectional COVID-19 employment effects by age, gender, education, and race/ethnicity', *Work, Aging and Retirement*, 6(4), 207-228.
- Möhring, K., A. Weiland, M. Reifenscheid, E. Naumann, A. Wenz, T. Rettig and A. Blom (2021), 'Inequality in employment trajectories and their socio-economic consequences during the early phase of the COVID-19 pandemic in Germany', Center for Open Science, doi: 10.31219/osf.io/m95df.
- Montenovo, L., X. Jiang, F. Lozano-Rojas, I. Schmutte, K. Simon, B. A. Weinberg and C. Wing (2022), 'Determinants of disparities in early COVID-19 job losses', *Demography*, 59(3), 827-855.
- Nichols, A., J. Mitchell and S. Lindner (2013), 'Consequences of Long-Term Unemployment', Urban Institute, Research Report, July 2013.
- Osuna, V. and J. I. García Pérez (2022), 'Temporary layoffs, short-time work and COVID-19: the case of a dual labour market', *Applied Economic Analysis*, 30(90), 248-262.
- Özkazanç-Pan, B. and A. Pullen (2020), 'Gendered labour and work, even in pandemic times', *Gender, Work, and Organization*, 27(5), 675-676.
- Petts, R. J., D. L. Carlson and J. R. Pepin (2021), 'A gendered pandemic: Childcare, homeschooling, and parents' employment during COVID-19', *Gender, Work & Organization*, 28(S2), 515-534.
- Poledna, S., E. Rovenskaya, J. C. Cuaresma, S. Kaniowski and M. Miess (2020), 'Recovery of the Austrian economy following the COVID-19 crisis can take up to three years', International Institute for Applied Systems Analysis, *IIASA Policy Brief* No. 26, April.
- Qian, Y. and S. Fuller (2020), 'COVID-19 and the gender employment gap among parents of young children', *Canadian Public Policy*, 46(S2), S89-S101.
- Qian, Y., R. Glauber and J. E. Yavorsky (2023), 'COVID-19 job loss and re-employment among partnered parents: Gender and educational variations', *Journal of Marriage and Family*, 85(5), 1138-1152.
- Ragacs, C. and L. Reiss, 'Austria's labor market during the COVID-19 crisis', Oesterreichische Nationalbank, *Monetary Policy & The Economy*, Q2/21, 59-78.
- Reuschke, D. and D. Houston (2023), 'The impact of Long COVID on the UK workforce', *Applied Economics Letters*, 30(18), 2510-2514.
- Smith, S. M., R. Edwards and H. C. Duong (2021), 'Unemployment rises in 2020, as the country battles the COVID-19 pandemic', *Monthly Labor Review*, 144, 1.
- von Wachter, T. (2020), 'Lost generations: long-term effects of the COVID-19 crisis on job losers and labour market entrants, and options for policy', *Fiscal Studies*, 41(3), 549-590.

# Appendix

**Figure A1 / Duration of the first employment spell upon unemployment exit, number of days**



Source: Statistics Austria. Own calculations and illustration.

**Table A1 / Structure among individuals who lost their jobs during the COVID-19 pandemic and transitioned to other labour market status, %**

Transition to:	Full-time	Part-time	Marginal	Self-employment	Inactivity
<i>Gender</i>					
Male	50,3	8,0	16,2	1,9	23,6
Female	25,7	25,4	18,3	1,8	28,9
<i>Origin</i>					
Foreign-born	39,5	13,8	19,5	1,3	26,0
Native-born	39,4	17,3	15,3	2,3	25,9
<i>Age group</i>					
<30 y/o	42,8	14,2	16,0	1,4	25,7
30-40 y/o	14,2	38,5	17,3	19,3	2,2
40-50 y/o	14,2	39,2	17,2	17,7	2,1
>50 y/o	39,2	35,2	14,9	15,6	1,8
<i>Education level</i>					
Low	36,6	14,0	17,9	1,0	30,5
Medium-low	44,7	15,9	15,1	2,1	22,2
Medium-high	33,3	18,5	20,7	2,2	25,3
High	31,1	18,7	19,3	4,3	26,6
<i>Children under 6 y/o</i>					
None	41,6	13,1	17,0	1,7	26,6
One	38,1	17,6	16,9	1,8	25,6
Two or more	37,4	18,0	17,4	2,0	25,3

**Table A2 / Structure among individuals who lost their jobs before the COVID-19 pandemic and transitioned to another labour market status, %**

Transition to:	Full-time	Part-time	Marginal	Self-employment	Inactivity
<i>Gender</i>					
Male	21,3	8,7	6,8	1,3	61,9
Female	13,8	17,0	6,6	1,1	61,5
<i>Origin</i>					
Foreign-born	18,4	12,1	7,9	1,2	60,5
Native-born	17,6	12,7	6,0	1,2	62,5
<i>Age group</i>					
<30 y/o	36,0	17,1	7,3	0,9	38,8
30-40 y/o	23,1	18,0	10,0	1,9	46,9
40-50 y/o	18,9	16,4	7,6	1,9	55,3
>50 y/o	8,8	6,5	4,6	0,7	79,5
<i>Education level</i>					
Low	14,9	10,6	7,0	0,6	66,8
Medium-low	17,4	11,9	5,7	0,9	64,1
Medium-high	22,8	15,3	7,9	1,7	52,4
High	24,3	17,8	8,5	3,5	45,9
<i>Children under 6 y/o</i>					
None	16,3	9,7	5,7	1,0	67,3
One	18,9	13,9	7,1	1,4	58,7
Two or more	20,5	17,1	8,6	1,5	52,3

**Table A3 / Proportional Cox regression – Duration of first labour market status upon unemployment exit by type of out-of-unemployment transition**

<i>Dependent variable: days in first status after unemployment exit</i>	A: COVID-19 unemployed					B: Longer-term unemployed				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Full-time	Part-time	Marginal	Self-employment	Inactivity	Full-time	Part-time	Marginal	Self-employment	Inactivity
Female	1.019** (0.009)	0.921*** (0.012)	0.988 (0.011)	1.035 (0.043)	0.868*** (0.009)	0.908** (0.038)	0.796*** (0.042)	0.908 (0.060)	1.620* (0.467)	0.708*** (0.022)
Native-born	0.980** (0.009)	1.013 (0.014)	0.993 (0.013)	1.023 (0.049)	0.940*** (0.011)	0.993 (0.042)	0.894** (0.051)	1.008 (0.077)	1.758** (0.460)	0.894*** (0.029)
Married	0.924*** (0.007)	0.977* (0.012)	0.986 (0.011)	0.959 (0.040)	0.970*** (0.011)	0.877*** (0.036)	0.866*** (0.044)	0.978 (0.067)	1.036 (0.268)	0.918*** (0.027)
<b>Children aged under 6 (base: none)</b>										
One child	0.989 (0.009)	0.996 (0.014)	0.980 (0.013)	1.005 (0.049)	0.995 (0.012)	0.932 (0.043)	0.954 (0.057)	0.954 (0.075)	1.596 (0.494)	1.058 (0.037)
Two or more children	1.002 (0.009)	0.986 (0.014)	0.925*** (0.012)	0.997 (0.048)	1.123*** (0.014)	1.022 (0.049)	0.959 (0.059)	0.941 (0.077)	1.822** (0.538)	1.172*** (0.045)
<b>Age interval (base: aged under 20)</b>										
(20,25]	0.946*** (0.019)	0.796*** (0.027)	0.967 (0.034)	0.836 (0.173)	1.004 (0.024)	0.931 (0.130)	0.673* (0.157)	0.500* (0.195)	0.002*** (0.004)	1.100 (0.152)
(25,30]	0.953** (0.020)	0.784*** (0.027)	0.907*** (0.032)	0.792 (0.161)	0.974 (0.024)	1.286* (0.178)	0.917 (0.208)	0.403** (0.150)	0.045** (0.057)	0.908 (0.116)
(30,35]	0.973 (0.021)	0.764*** (0.027)	0.845*** (0.030)	0.834 (0.169)	1.054** (0.027)	1.397** (0.198)	0.852 (0.193)	0.365*** (0.136)	0.050** (0.065)	1.042 (0.133)
(35,40]	0.988 (0.022)	0.761*** (0.027)	0.826*** (0.030)	0.899 (0.183)	1.142*** (0.031)	1.474*** (0.212)	0.877 (0.201)	0.370*** (0.139)	0.044** (0.056)	1.063 (0.136)
(40,45]	0.977 (0.022)	0.744*** (0.027)	0.818*** (0.030)	0.857 (0.176)	1.275*** (0.035)	1.580*** (0.229)	0.829 (0.191)	0.375*** (0.142)	0.039** (0.050)	1.238* (0.161)
(45,50]	0.996 (0.023)	0.753*** (0.028)	0.809*** (0.030)	0.956 (0.197)	1.236*** (0.035)	1.538*** (0.228)	1.056 (0.247)	0.293*** (0.111)	0.058** (0.073)	1.163 (0.150)
(50,55]	1.062*** (0.025)	0.781*** (0.029)	0.763*** (0.029)	1.097 (0.228)	1.271*** (0.036)	1.796*** (0.264)	0.942 (0.220)	0.354*** (0.134)	0.069** (0.090)	1.177 (0.151)
(55,60]	1.150*** (0.028)	0.854*** (0.034)	0.631*** (0.025)	1.295 (0.276)	0.872*** (0.025)	1.699*** (0.263)	1.160 (0.277)	0.280*** (0.107)	0.148 (0.189)	0.542*** (0.069)
(60,65]	1.238*** (0.049)	0.764*** (0.058)	0.555*** (0.032)	1.764** (0.493)	0.607*** (0.025)	2.044*** (0.395)	1.567 (0.461)	0.242*** (0.100)	0.161 (0.227)	0.398*** (0.053)
<b>Education (base: low)</b>										
Medium-low	0.902*** (0.008)	0.910*** (0.013)	1.070*** (0.014)	1.141** (0.067)	0.928*** (0.011)	0.821*** (0.038)	0.814*** (0.048)	0.985 (0.077)	0.601 (0.249)	0.870*** (0.028)
Medium-high	0.911*** (0.011)	0.874*** (0.016)	0.968** (0.016)	1.256*** (0.088)	0.876*** (0.014)	0.722*** (0.043)	0.788*** (0.057)	1.079 (0.102)	0.482 (0.220)	0.879*** (0.040)
High	0.787*** (0.014)	0.903*** (0.021)	0.985 (0.022)	1.433*** (0.108)	0.790*** (0.017)	0.621*** (0.042)	0.594*** (0.051)	1.031 (0.114)	0.732 (0.288)	0.892** (0.049)
<b>Last job type (base: full-time)</b>										
Part-time job	1.070*** (0.014)	0.858*** (0.012)	0.860*** (0.011)	1.177*** (0.070)	0.969*** (0.012)	1.034 (0.052)	1.087 (0.059)	1.089 (0.089)	0.844 (0.324)	0.975 (0.032)
Marginal job	1.015 (0.014)	0.945*** (0.019)	0.715*** (0.009)	1.062 (0.078)	0.962*** (0.013)	0.981 (0.050)	1.049 (0.071)	1.086 (0.081)	0.961 (0.311)	0.982 (0.036)
Self-employment	1.101* (0.061)	0.939 (0.068)	0.867** (0.052)	0.952 (0.047)	0.920** (0.037)	0.926 (0.204)	1.459 (0.449)	1.054 (0.286)	3.063*** (1.095)	0.780** (0.098)
Observations	85,602	33,184	36,899	2,859	41,677	3,052	1,996	1,138	131	5,614
Employment history controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
District-level controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: Results are reported as hazard ratios. Standard errors in parentheses are clustered at the individual level.

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculation.



**Table A4 / Average number of days in different labour market statuses upon initial transition from unemployment, sample A (COVID-19 unemployed), number of days**

		<i>Days spend in different statuses in April 2020 – December 2021:</i>					
		<b>Full-time employment</b>	<b>Part-time employment</b>	<b>Marginal employment</b>	<b>Self- employment</b>	<b>Unemployment</b>	<b>Inactivity</b>
<i>Gender</i>							
	Male	269	44	36	13	100	46
	Female	133	136	38	11	108	52
<i>Origin</i>							
	Foreign-born	209	74	43	10	107	48
	Native-born	208	93	32	13	101	49
<i>Age group</i>							
	<30 y/o	235	77	33	10	90	54
	30-40 y/o	206	95	40	15	98	40
	40-50 y/o	208	94	37	13	110	40
	>50 y/o	168	74	39	9	126	60
<i>Education level</i>							
	Low	192	71	41	7	118	55
	Medium-low	236	86	30	13	101	43
	Medium-high	179	105	47	14	88	51
	High	173	107	40	24	73	44
<i>Children under 6 y/o</i>							
	None	216	71	36	11	106	53
	One	203	94	36	12	102	47
	Two and more	202	97	39	13	101	43
<i>Type of initial transition</i>							
	To full-time job	402	17	8	3	86	30
	To part-time job	55	326	11	4	88	32
	To marginal job	142	104	161	7	93	38
	To self-employment	35	24	7	385	52	19
	To inactivity	64	32	16	6	151	96
<i>Totals</i>		209	85	37	12	103	49

**Table A5 / Average number of days in different labour market statuses upon initial transition from unemployment, sample B (longer-term unemployed), number of days**

		<i>Days spend in different statuses in April 2020 – December 2021:</i>					
		<b>Full-time employment</b>	<b>Part-time employment</b>	<b>Marginal employment</b>	<b>Self- employment</b>	<b>Unemployment</b>	<b>Inactivity</b>
<i>Gender</i>							
	Male	72	25	15	6	128	40
	Female	52	61	15	5	107	39
<i>Origin</i>							
	Foreign-born	63	40	18	6	127	42
	Native-born	62	42	13	5	113	39
<i>Age group</i>							
	<30 y/o	147	64	16	5	94	35
	30-40 y/o	83	62	20	8	122	36
	40-50 y/o	63	54	17	8	139	39
	>50 y/o	24	18	11	3	115	44
<i>Education level</i>							
	Low	47	32	16	3	136	47
	Medium-low	63	40	13	4	114	39
	Medium-high	83	52	17	8	103	32
	High	88	65	16	16	92	29
<i>Children under 6 y/o</i>							
	No	56	29	12	4	117	43
	One	68	49	16	7	116	37
	Two and more	72	61	20	6	122	36
<i>Type of initial transition</i>							
	To full-time job	265	13	4	1	82	17
	To part-time job	26	243	4	2	79	18
	To marginal job	48	46	162	6	117	26
	To self-employment	13	13	5	318	35	8
	To inactivity	14	8	4	1	138	53
<i>Totals</i>		63	41	15	5	118	40

**Table A6 / Least squares regression – Medium-term job stability, sample A (COVID-19 unemployed), by gender**

<i>Dependent variable: days spent in...</i>	Employment		Unemployment		Inactivity	
	(1) Female	(2) Male	(3) Female	(4) Male	(5) Female	(6) Male
<b>Type of first transition (base: full-time job)</b>						
Part-time job	3.9*** (1.425)	-13.5*** (1.628)	-5.8*** (1.117)	7.2*** (1.286)	1.6* (0.896)	6.2*** (0.932)
Marginal job	3.9** (1.528)	-8.2*** (1.252)	-9.7*** (1.188)	3.9*** (0.982)	5.5*** (0.963)	3.2*** (0.697)
Self-employment	39.5*** (3.558)	31.2*** (2.729)	-31.3*** (2.720)	-24.4*** (2.122)	-6.9*** (2.066)	-6.5*** (1.465)
Inactivity	-232.0*** (1.597)	-219.1*** (1.314)	56.8*** (1.299)	68.7*** (1.035)	62.0*** (1.151)	64.2*** (0.925)
Native-born	0.4 (1.074)	20.7*** (0.927)	-7.2*** (0.875)	-10.2*** (0.725)	1.5** (0.711)	-8.6*** (0.572)
Married	-1.1 (1.250)	4.3*** (1.043)	4.0*** (1.012)	-1.3* (0.812)	-4.9*** (0.835)	-2.6*** (0.647)
<b>Children aged under 6 (base: none)</b>						
One child	3.1** (1.237)	6.8*** (1.006)	8.5*** (0.998)	-1.0 (0.779)	-7.8*** (0.817)	-4.5*** (0.615)
Two or more children	8.7*** (2.950)	27.1*** (2.720)	6.7*** (2.119)	1.0 (1.934)	-19.7*** (2.261)	-24.6*** (1.943)
<b>Age interval (base: aged under 20)</b>						
(20,25]	0.6 (2.997)	21.3*** (2.750)	17.5*** (2.205)	9.3*** (1.977)	-24.4*** (2.265)	-28.0*** (1.943)
(25,30]	2.3 (3.040)	18.1*** (2.794)	24.9*** (2.256)	14.2*** (2.026)	-29.6*** (2.267)	-29.3*** (1.956)
(30,35]	12.6*** (3.096)	14.6*** (2.860)	28.4*** (2.330)	15.5*** (2.082)	-39.3*** (2.266)	-27.1*** (1.994)
(35,40]	16.5*** (3.164)	15.6*** (2.911)	29.7*** (2.394)	16.5*** (2.134)	-40.3*** (2.282)	-28.2*** (2.012)
(40,45]	9.3*** (3.208)	12.1*** (2.950)	35.9*** (2.434)	19.4*** (2.167)	-39.4*** (2.307)	-28.1*** (2.030)
(45,50]	-2.2 (3.253)	-3.2 (3.010)	46.3*** (2.478)	30.3*** (2.221)	-36.3*** (2.345)	-23.1*** (2.086)
(50,55]	-43.7*** (3.466)	-29.7*** (3.162)	36.0*** (2.710)	37.8*** (2.362)	-7.3*** (2.647)	-9.4*** (2.212)
(55,60]	-38.6*** (9.959)	-64.1*** (4.223)	-10.9 (8.246)	4.4 (3.204)	4.0 (9.016)	25.0*** (3.448)
(60,65]	20.2*** (1.256)	16.5*** (0.990)	-13.5*** (1.047)	-10.7*** (0.782)	-7.8*** (0.811)	-6.5*** (0.605)
<b>Education (base: low)</b>						
Medium-low	25.9*** (1.603)	18.4*** (1.469)	-30.1*** (1.279)	-19.4*** (1.158)	0.8 (1.105)	-1.7* (0.951)
Medium-high	36.4*** (2.011)	27.3*** (2.109)	-39.9*** (1.574)	-25.1*** (1.668)	-2.9** (1.359)	-6.4*** (1.296)
High	-3.9*** (1.250)	0.6 (1.361)	1.3 (1.003)	-2.8** (1.090)	2.0** (0.837)	1.1 (0.852)
<b>Last job type (base: full-time)</b>						
Part-time	-13.3*** (1.625)	-12.8*** (1.319)	1.1 (1.317)	7.4*** (1.063)	8.9*** (1.089)	5.2*** (0.819)
Marginal	6.7 (4.633)	-5.7 (3.758)	-11.6*** (3.562)	1.8 (2.914)	-4.7* (2.785)	-0.9 (2.229)
Self-employment	515.6*** (7.373)	500.9*** (6.306)	48.0*** (5.865)	50.9*** (4.753)	81.0*** (4.834)	84.8*** (4.291)
Observations	86,626	114,499	86,626	114,499	86,626	114,499
<i>Employment history controls</i>	Y	Y	Y	Y	Y	Y
<i>District-level controls</i>	Y	Y	Y	Y	Y	Y

Notes: The models are estimated using ordinary least squares regression. Dependent variables are numbers of days spent in (i) employment, (ii) unemployment, (iii) inactivity between April 1, 2020 and December 31, 2021. Robust standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

**Table A7 / Least squares regression – Medium-term job stability, sample B (longer-term unemployed), by gender**

<i>Dependent variable: days spent in...</i>	Employment		Unemployment		Inactivity	
	(1) Female	(2) Male	(3) Female	(4) Male	(5) Female	(6) Male
<b>Type of first transition (base: full-time job)</b>						
Part-time job	-3.2 (6.641)	-10.0 (6.381)	-2.8 (4.993)	4.2 (5.205)	5.4** (2.671)	1.3 (2.483)
Marginal job	-27.5*** (8.761)	-11.9* (7.080)	23.5*** (7.171)	21.6*** (6.168)	12.6*** (3.899)	0.5 (2.756)
Self-employment	51.5*** (15.960)	72.5*** (13.798)	-49.2*** (10.479)	-56.3*** (9.196)	-6.9 (5.511)	-11.3*** (3.559)
Inactivity	-234.1*** (5.848)	-206.3*** (4.114)	57.8*** (5.051)	68.7*** (3.925)	37.7*** (2.951)	35.4*** (2.352)
Native-born	7.6** (3.747)	20.8*** (3.735)	-17.0*** (3.647)	-22.6*** (3.667)	-0.2 (2.446)	-5.7** (2.373)
Married	8.1* (4.600)	6.7 (4.280)	-1.4 (4.439)	3.7 (4.184)	-8.3*** (2.916)	-1.8 (2.600)
<b>Children aged under 6 (base: no)</b>						
One child	9.2* (5.007)	-6.0 (4.629)	0.8 (4.650)	8.0* (4.380)	-12.8*** (2.904)	-1.2 (2.698)
Two or more children	15.2 (16.368)	-9.0 (19.342)	7.5 (10.438)	30.7** (14.415)	-6.1 (10.535)	-24.1* (14.059)
<b>Age interval (base: aged under 20)</b>						
(20,25]	-47.1*** (15.659)	-72.0*** (18.442)	28.6*** (10.661)	73.1*** (14.146)	-14.4 (10.073)	-22.1 (13.856)
(25,30]	-58.6*** (15.610)	-67.0*** (18.495)	49.9*** (10.829)	66.1*** (14.267)	-13.8 (10.031)	-18.5 (13.930)
(30,35]	-47.9*** (15.670)	-84.9*** (18.593)	47.9*** (10.854)	75.9*** (14.415)	-12.6 (10.163)	-16.4 (13.991)
(35,40]	-47.5*** (16.031)	-94.4*** (18.766)	55.2*** (11.150)	85.3*** (14.687)	-13.5 (10.156)	-15.6 (14.034)
(40,45]	-51.3*** (16.012)	-98.2*** (18.824)	74.2*** (11.496)	96.7*** (14.772)	-16.8* (10.139)	-15.9 (14.074)
(45,50]	-77.8*** (15.946)	-113.1*** (18.658)	84.9*** (11.559)	101.7*** (14.644)	-6.0 (10.452)	-6.8 (14.076)
(50,55]	-99.6*** (15.676)	-126.5*** (18.629)	-11.7 (11.551)	98.7*** (14.867)	-23.6** (10.571)	-9.0 (14.197)
(55,60]	-107.6*** (17.117)	-133.9*** (18.771)	-47.6*** (17.328)	15.7 (15.197)	-29.7* (16.068)	-14.9 (14.503)
(60,65]	30.0*** (4.329)	14.5*** (3.904)	-21.8*** (4.422)	-16.3*** (3.978)	-3.5 (2.784)	-3.2 (2.492)
<b>Education (base: low)</b>						
Medium-low	37.5*** (5.824)	30.4*** (5.468)	-22.9*** (5.700)	-24.5*** (5.258)	-4.1 (3.621)	-3.9 (3.248)
Medium-high	58.8*** (6.707)	54.1*** (6.674)	-45.1*** (6.304)	-32.4*** (6.220)	-2.0 (4.258)	-13.0*** (3.089)
High	-7.6* (4.278)	0.9 (4.289)	5.4 (4.150)	4.2 (4.349)	0.5 (2.638)	-3.8 (2.557)
<b>Last job type (base: full-time)</b>						
Part-time	3.3 (5.129)	-2.0 (4.368)	-6.9 (4.880)	1.8 (4.404)	3.7 (3.225)	2.7 (2.619)
Marginal	-24.7 (17.026)	8.8 (15.579)	18.0 (20.137)	-5.1 (12.732)	24.5 (15.071)	-2.6 (6.608)
Self-employment	465.4*** (28.386)	519.6*** (27.027)	217.6*** (26.785)	194.7*** (23.187)	97.5*** (21.378)	96.3*** (18.073)
Observations	5,440	6,558	5,440	6,558	5,440	6,558
<i>Employment history controls</i>	Y	Y	Y	Y	Y	Y
<i>District-level controls</i>	Y	Y	Y	Y	Y	Y

Notes: The models are estimated using ordinary least squares regression. Dependent variables are numbers of days spent in (i) employment, (ii) unemployment, (iii) inactivity between April 1, 2020 and December 31, 2021. Robust standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.

**Table A8 / Least squares regression – Medium-term job stability, sample A (COVID-19 unemployed), by education level**

Dependent variable: days spent in...	Low education			Medium-low education			Medium-high education			High education		
	(1) Empl.	(2) Unempl.	(3) Inact.	(4) Empl.	(5) Unempl.	(6) Inact.	(7) Empl.	(8) Unempl.	(9) Inact.	(10) Empl.	(11) Unempl.	(12) Inact.
<b>Type of first transition (base: full-time job)</b>												
Part-time job	-3.8** (1.876)	2.3 (1.500)	3.9*** (1.087)	-3.5** (1.520)	4.4*** (1.206)	2.4*** (0.906)	5.0* (2.665)	-7.5*** (1.965)	3.6** (1.814)	-8.1** (3.397)	2.3 (2.559)	6.7*** (2.112)
Marginal job	-2.5 (1.641)	-0.4 (1.300)	3.1*** (0.922)	1.0 (1.430)	-3.4*** (1.117)	3.9*** (0.836)	-3.7 (2.560)	-4.8** (1.914)	7.4*** (1.693)	-22.3*** (3.632)	8.6*** (2.760)	12.4*** (2.310)
Self-employment	52.9*** (5.311)	-38.3*** (4.184)	-13.9*** (2.637)	30.7*** (2.991)	-23.3*** (2.366)	-6.7*** (1.638)	40.8*** (5.301)	-32.3*** (4.012)	-7.9** (3.111)	16.6*** (5.507)	-22.8*** (3.943)	6.0* (3.578)
Inactivity	-221.3*** (1.642)	69.7*** (1.353)	64.2*** (1.132)	-229.0*** (1.551)	65.7*** (1.223)	62.4*** (1.090)	-219.8*** (2.830)	48.5*** (2.165)	63.7*** (2.145)	-237.1*** (3.899)	52.0*** (2.876)	65.5*** (2.840)
Female	-17.7*** (1.391)	17.0*** (1.142)	0.2 (0.878)	1.3 (1.162)	1.4 (0.922)	-4.5** (0.730)	13.3*** (2.075)	-10.7*** (1.630)	-4.1** (1.415)	19.7*** (2.806)	-15.3*** (2.217)	-5.5*** (1.868)
Native-born	-26.2*** (1.300)	12.9*** (1.075)	6.0*** (0.824)	-15.8*** (1.072)	5.6*** (0.867)	4.8*** (0.672)	-14.0*** (1.900)	2.9** (1.452)	5.9*** (1.320)	-11.9*** (2.640)	-0.8 (2.016)	7.3*** (1.710)
Married	9.2*** (1.247)	-6.6*** (1.017)	-4.0*** (0.796)	13.4*** (0.983)	-12.2*** (0.779)	-3.3*** (0.626)	17.0*** (1.991)	-12.7*** (1.569)	-7.3*** (1.324)	11.5*** (2.656)	-11.8*** (2.019)	-0.1 (1.781)
<b>Children aged under 6 (base: none)</b>												
One child	3.8*** (1.443)	1.7 (1.173)	-5.1*** (0.924)	6.6*** (1.111)	-1.6* (0.874)	-5.4*** (0.701)	0.2 (2.277)	1.8 (1.777)	-3.6** (1.531)	-2.1 (3.228)	-2.5 (2.428)	1.6 (2.212)
Two or more children	5.6*** (1.353)	6.7*** (1.093)	-8.4*** (0.846)	9.5*** (1.116)	0.7 (0.874)	-7.8*** (0.694)	2.3 (2.182)	1.4 (1.659)	-1.4 (1.513)	6.8** (3.292)	-3.6 (2.489)	-2.4 (2.242)
<b>Age interval (base: aged under 20)</b>												
(20,25]	11.7*** (2.940)	6.9*** (2.281)	-18.1*** (2.045)	3.1 (3.287)	3.5 (2.379)	-6.2*** (2.122)	16.5*** (5.084)	29.4*** (2.590)	-49.0*** (4.575)	-106.3*** (39.922)	34.4*** (12.554)	75.9*** (15.618)
(25,30]	14.1*** (2.981)	12.9*** (2.343)	-26.7*** (2.035)	-7.9** (3.333)	11.7*** (2.434)	-5.7*** (2.149)	6.2 (5.286)	47.3*** (2.920)	-55.7*** (4.625)	-117.2*** (39.779)	51.1*** (12.511)	67.7*** (15.352)
(30,35]	25.0*** (3.038)	8.6*** (2.387)	-30.9*** (2.053)	-13.0*** (3.383)	19.7*** (2.484)	-6.4*** (2.176)	2.5 (5.407)	59.4*** (3.137)	-63.8*** (4.626)	-132.3*** (39.811)	68.4*** (12.621)	66.8*** (15.373)
(35,40]	26.0*** (3.095)	10.2*** (2.433)	-32.3*** (2.083)	-9.9*** (3.464)	22.2*** (2.567)	-10.7*** (2.201)	-3.4 (5.573)	66.6*** (3.420)	-61.6*** (4.691)	-132.5*** (39.820)	81.5*** (12.677)	59.5*** (15.336)
(40,45]	32.2*** (3.126)	9.8*** (2.463)	-34.9*** (2.075)	-10.5*** (3.536)	24.3*** (2.627)	-9.8*** (2.247)	-3.1 (5.878)	73.5*** (3.785)	-65.8*** (4.819)	-139.5*** (39.881)	92.4*** (12.855)	58.3*** (15.376)
(45,50]	28.2*** (3.195)	13.1*** (2.514)	-34.7*** (2.109)	-16.6*** (3.557)	29.6*** (2.645)	-9.2*** (2.261)	-9.9 (6.037)	81.0*** (3.963)	-66.5*** (4.855)	-145.2*** (39.970)	101.9*** (13.085)	58.5*** (15.467)
(50,55]	14.8*** (3.304)	22.0*** (2.614)	-29.5*** (2.215)	-29.2*** (3.588)	40.2*** (2.669)	-6.1*** (2.295)	-18.7*** (6.137)	89.3*** (4.060)	-62.8*** (4.929)	-161.5*** (40.043)	113.8*** (13.269)	62.7*** (15.543)
(55,60]	-15.9*** (3.577)	19.5*** (2.874)	-9.5*** (2.535)	-65.4*** (3.728)	40.9*** (2.811)	16.0*** (2.479)	-46.0*** (6.713)	86.3*** (4.712)	-45.9*** (5.423)	-172.5*** (40.214)	111.7*** (13.726)	65.7*** (15.747)
(60,65]	-44.9*** (5.833)	10.2** (4.839)	14.2*** (4.761)	-98.8*** (5.541)	-2.8 (4.102)	54.0*** (4.695)	-67.0*** (10.772)	70.8*** (8.319)	-32.2*** (8.363)	-171.6*** (41.797)	74.1*** (15.685)	95.2*** (18.342)
<b>Last job type (base: full-time)</b>												
Part-time	-3.9** (1.562)	1.8 (1.287)	0.6 (0.993)	-3.3** (1.380)	-0.1 (1.111)	1.5* (0.878)	0.3 (2.306)	-3.0* (1.745)	1.4 (1.630)	5.0 (3.056)	-3.4 (2.290)	-1.1 (2.082)
Marginal	-18.1*** (1.669)	10.3*** (1.387)	6.3*** (1.043)	-9.8*** (1.599)	1.6 (1.290)	5.0*** (1.004)	-12.0*** (2.743)	1.9 (2.091)	9.8*** (1.932)	-6.5* (3.697)	-2.6 (2.790)	6.8*** (2.515)
Self-employment	-3.5 (6.931)	-2.4 (5.437)	1.7 (4.126)	0.0 (4.122)	-3.1 (3.166)	-3.1 (2.328)	1.1 (6.795)	-13.7*** (4.971)	4.3 (4.723)	5.5 (7.740)	-0.8 (6.311)	-13.7*** (4.271)
Constant	505.4*** (8.055)	47.9*** (6.304)	83.3*** (5.227)	563.1*** (6.834)	27.8*** (5.099)	56.1*** (4.541)	510.1*** (16.200)	26.5** (13.287)	106.0*** (11.826)	650.9*** (43.786)	9.4 (20.541)	-47.3*** (17.795)
Observations	70,050	70,050	70,050	92,275	92,275	92,275	26,125	26,125	26,125	12,675	12,675	12,675
Employment history controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
District-level controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Notes: The models are estimated using ordinary least squares regression. Dependent variables are numbers of days spent in (i) employment, (ii) unemployment, (iii) inactivity between April 1, 2020 and December 31, 2021. Robust standard errors in parentheses. \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Source: Statistics Austria. Own calculations.





## IMPRESSUM

Herausgeber, Verleger, Eigentümer und Hersteller:

Verein „Wiener Institut für Internationale Wirtschaftsvergleiche“ (wiiw),  
Wien 6, Rahlgasse 3

ZVR-Zahl: 329995655

Postanschrift: A 1060 Wien, Rahlgasse 3, Tel: [+431] 533 66 10, Telefax: [+431] 533 66 10 50  
Internet Homepage: [www.wiiw.ac.at](http://www.wiiw.ac.at)

Nachdruck nur auszugsweise und mit genauer Quellenangabe gestattet.

Offenlegung nach § 25 Mediengesetz: Medieninhaber (Verleger): Verein "Wiener Institut für Internationale Wirtschaftsvergleiche", A 1060 Wien, Rahlgasse 3. Vereinszweck: Analyse der wirtschaftlichen Entwicklung der zentral- und osteuropäischen Länder sowie anderer Transformationswirtschaften sowohl mittels empirischer als auch theoretischer Studien und ihre Veröffentlichung; Erbringung von Beratungsleistungen für Regierungs- und Verwaltungsstellen, Firmen und Institutionen.



