# Got used to make less: the lasting earnings losses of COVID-19 short-time work

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Abstract

This study is the first to investigate the impact of short-time work (STW) schemes on earnings during the COVID-19 pandemic. STW schemes have been implemented to preserve employee-employer matches, support workers' incomes and uphold consumption. By construction, affected workers suffer temporary earnings losses, yet an important question is whether negative earnings effects of STW persist beyond the STW period or are limited to the STW spell. Using a dynamic difference-in-difference (DiD) identification strategy on administrative data, this study aims to identify any lasting causal STW effects on earnings, accounting for the factors that influence the selection of workers into STW and testing for heterogeneous effects across subgroups of workers. We find lasting earnings losses that persist beyond the actual STW participation. First and foremost, these earnings losses depend on the duration of STW exposure, with greater negative effects especially in the case of long-term or recurring STW spells. In general, lasting earnings losses post STW tend to be more pronounced in white-collar jobs, where women incur larger losses than men. The largest losses, however, are observed among men in blue-collar jobs with long STW spells of more than one year.

Keywords: Covid-19 pandemic; short-time work; lasting earnings losses; labor market; skills; register data

1. Introduction

During the COVID-19 pandemic, countries worldwide implemented job retention policies to mitigate widespread layoffs and job terminations triggered by negative demand shocks (Drahokoupil & Müller, 2021; Müller et al., 2022). Among these, short-time-work (STW) schemes significantly contributed to maintaining employer-employee relationships and sustaining consumption through income support for workers (Cassells & Duncan, 2020). Notably, countries with comprehensive STW policies were more effective in shielding workers from adverse income and employment impacts (Adams-Prassl et al., 2020; Almeida et al., 2021). Nevertheless, the implementation of STW inherently incurs temporary earnings losses for workers, the extent of which varies across countries (Dias da Silva et al., 2020). These losses predominantly depend on the replacement rate — a percentage of previous earnings influenced by factors such as reduced working time, individual STW duration, and possible caps that limit the total amount payable for hours not worked (Drahokoupil & Müller, 2021).

Post-STW, it is anticipated that workers will resume regular employment at pre-STW hours and income levels as demand and the economy recover. However, it remains to be seen whether this expectation aligns with reality, or if STW workers must contend with persistent income losses extending beyond STW periods. This study is the first to investigate the effect of STW schemes on earnings during the COVID-19 pandemic, mainly focusing on whether the negative earnings impacts of STW extend beyond the STW period or remain confined to it. The research aims to uncover any persistent STW effects, specifically, the impact of STW exposure in 2020 and/or 2021 on subsequent earnings in 2022, after the resumption of regular employment, accounting for potential recurrent STW periods. Using coarsened exact matching, we compare workers with similar pre-pandemic labour market histories but with and without STW experience during the crisis.

Based on a rich database combining register data from Austrian social security and public employment services, we examine worker retention rates and observe subsequent earnings

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trajectories, considering worker transitions to new firms. Our dataset facilitates a comprehensive examination of the diverse impacts of STW on workers, firms, and industries, enabling us to detail heterogeneous STW effects along these characteristics.

Austria's experience provides valuable insights for European countries that have implemented similar STW or job retention schemes. In response to the COVID-19 outbreak and the accompanying containment measures that severely limited economic activity in many industries, Austria introduced a comprehensive STW programme in March 2020, which was prolonged several times with minor modifications (Huemer et al., 2021). The programme reached its peak during the initial strict lockdown in April 2020, covering over 1.24 million private sector employees, which accounted for approximately one-third of all dependent employees (Statistik Austria, 2021).[1] Although STW was implemented across all sectors, the four sectors manufacturing, wholesale and retail trade, accommodation and food service activities, and construction accounted for over two thirds of all STW cases (see Table A.1 in appendix A). The net replacement rate ranged between 80% and 90% of the original net wage, capped at approximately 4000 Euros net per month, with apprentices receiving full compensation (Drahokoupil & Müller, 2021; Tamesberger & Theurl, 2021). The initial minimum reduction in working hours was 10% which was later increased to 20%. The maximum reduction was initially set at 90% of previous working hours and subsequently decreased to 70%, with some exceptions. Companies directly affected by lockdowns could temporarily reduce working hours to zero (Eichhorst et al., 2020; Tamesberger & Theurl, 2021).

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[1] Discounting public sector employees, who were not eligible for STW, the share of private sector employees affected by STW in 2020 in Austria is 42%.

2. The theoretical argument

2.1. Potential mechanisms

There are several possible reasons why ST-workers may experience lasting negative effects on their earnings after resuming regular employment, compared to workers who have not been in STW. Similar to unemployment, STW can have 'scarring effects' on earnings trajectories based on a set of different mechanisms (Andersson et al., 2018; Arulampalam et al., 2001; Grzegorczyk & Wolff, 2020). Among the mechanisms driving scarring are the depreciation of skills and human capital during idle times, statistical discrimination, and signalling. As a human capital investment, accumulating specific skills on the job increases productivity and thus earnings later on in the career (Becker, 1964). STW spells impede the acquisition of job specific training, resulting in a human capital gap between ST-workers and those who remained in regular employment. Furthermore, even the skills already possessed may get lost or outdated during periods of reduced economic activity or inactivity. Such a depreciation of skills has adverse productivity effects due to the loss of work specific human capital (Edin & Gustavsson, 2008). Taken together, this could result in lower productivity of ST-workers which may explain earnings disadvantages after resuming regular employment.

Human capital depreciation is possibly of limited importance in our case as the bulk of ST-workers experienced rather short spells. Yet, it may well be relevant in long STW spells combined with large reductions in working hours. Certainly, more than the mere STW incidence, its duration, and the actual reduction in working hours determine the extent of foregone work experience and on-the-job training and thus the degree to which human capital explanations of potential STW scarring effects are plausible. After all, ST-workers may miss out on opportunities for wage increases and promotions within the firm which may cause diverging earnings trajectories between them and their co-workers who remained in regular employment.

Likewise, statistical discrimination and signalling may drive persistent earnings losses among ST-workers due to reduced opportunities for labour market mobility. On the job market, employers resort to the use of signals to assess the quality of applicants (Spence, 1973) and discriminate according to some observed statistic (Becker, 1995) in an attempt to reduce uncertainty as in the hiring process the applicants' true productivity is largely opaque. STW may be interpreted as a signal of lower levels of productivity, ambition, or ability. It is important to note that employers have full discretion with respect to whom to put on STW while workers in general must accept the decision. Like in the case of layoffs (cf. Gibbons & Katz, 1991), future employers may assume that past employers based their STW-decision on a productivity evaluation that have led them to register primarily those among their workforce for STW who they think have less preferable characteristics, independently of the adequacy of this evaluation. The impact of the STW-exposure signal on job market opportunities and the associated earnings of new jobs varies depending on the actual duration. In this situation, STW may lead workers to remain in their current position longer than they would have otherwise, possibly resulting in lower earnings growth over time due to reduced opportunities to move up the career ladder.

By law, ST-workers returning to regular employment with the same firm will resume work under the same contractual conditions as before (Laimer et al., 2022 chap. 17). In particular, hourly pay remains unchanged since STW represents only a temporary reduction in hours after which the original contractual conditions automatically are in place again. Pay cuts based on contractual changes after STW (which may in principle be done based on dismissals for variation of the contract ('Änderungskündigung') have certainly been the exception in the Austria context, not least given labour shortages in most of the affected industries (Fritzer et al., 2022) and payment close to collectively agreed minima in tourism and retail, which cannot be undercut. In this situation, any reduced earnings observed after returning to regular employment with the same firm will likely result from a forced or voluntary reduction in working hours, or from a reduction in overtime hours.

Again, any lasting gaps between those with STW-spells and those without may also result from wage increases or promotions they got which ST-workers missed out on.

In addition to human capital arguments pertinent to employer evaluations, ST-workers themselves may adapt to the situation in various ways. Workers affected by STW – especially when of long duration and associated with a strong reduction of actual working hours – have less contact with their colleagues and may find their ties to and identification with the firm reduced. Moreover, employee participation tends to be lower during STW spells (Steiber, 2021a). This may result in lower job satisfaction and motivation (Möhring et al., 2021) and increase the likelihood of job changes (de Moura et al., 2009). However, STW can be ambiguous in its effects on subsequent employment, because STW saved jobs in expanding as well as declining industries and occupations (Carrillo-Tudela et al., 2022) and generated substantial windfall effects in firms in which jobs were subsidised although not at risk of being destroyed (Cahuc et al., 2021) as well as disproportionate reductions in working hours (Albertini et al., 2022). Depending on the context, workers may be motivated to return to their firm or to reorient and look for a job with another firm in the same or in another industry. In expanding industries that suffered only from a temporary COVID-19 demand shock, they may preferably return to their jobs with the prospect of gaining the same earnings as before (just like their colleagues who were not in STW) once working the same hours again. In declining occupations and industries, workers may reconsider their situation and aim at a job in more prosperous segments of the labour market. Thus, they may try to switch employers and when they succeed, movers may even gain in earnings (Farber, 1999). However, STW exposure in the previous job may act as a negative signal for new employers, resulting in lower wages. Furthermore, those willing to switch but unable to secure a new job, may become trapped in their previous position, leading to a potential lack of motivation to return to their pre-COVID-19 working hours. Alternatively, they might not even have the opportunity to work such hours again due to more persistent issues, such as shrinking demands beyond COVID-19 related setbacks. In industries where demand escalated in the pandemic, like in health care, it has been shown that workers intend to

leave their jobs in large numbers due to stress, work pressure and a lack of job satisfaction and well-being (Zhang et al., 2022). And yet in other segments in which demand has temporary recovered, like in the accommodation and food service sector, many workers may have reoriented towards other, more sustainable sectors with more favourable and family-friendly work arrangements. Indeed, as has been observed in summer 2021 when tourism recovered in many regions, many former accommodation and food sector workers refused to return to such jobs or were only willing to supply fewer hours of service (Mühlböck et al., 2023).

2.2 Theoretical expectations

According to the theoretical arguments presented above, earnings losses among prior ST-workers may primarily be based on three mechanisms. First, reduced normal work hours and/or fewer overtime hours after resuming regular work, compared to pre-STW; second, reduced opportunities for promotions and wage increases within the firm (during periods spent in STW but also in the aftermath due to deprived skills accumulation); and third, reduced remuneration among those changing employers, due to the negative signal associated with STW. Indeed, earnings losses are likely to increase with the duration and frequency of STW exposure, such as the number of days spent in STW and whether STW occurred only during the strictest "lockdowns" in 2020 or (again) in 2021. This is mainly due to an amplification of the second and third mechanisms.

We examine post-STW earnings losses separately based on gender and the employment relation (blue-collar versus white-collar contracts) to address labour market segregation and its potential impact on treatment effects. The question is whether some groups of workers suffered greater income losses with similar STW exposure, i.e. if some of the mechanisms outlined above are more applicable to white- or blue-collar workers, male or female workers. Differentiating between blue- and white-collar contracts is crucial due to significant earnings disparities and varying job tasks, leading to distinct COVID-19 risk exposures in employment. Blue-collar workers ("Arbeiter") mainly supply manual labour, necessitating physical presence, while white-collar contracts ("Angestellte")

are primarily issued in commercial or non-commercial services and clerical office work, often allowing for remote work options (Adams-Prassl et al., 2022; International Monetary Fund, 2021; Purkayastha et al., 2021; Steiber, 2021b). Consequently, white-collar jobs are more crisis-resistant (Fana et al., 2020; Irlacher & Koch, 2021; Purkayastha et al., 2021). Although in Austria most blue-collar workers perform skilled work that requires years of training ("*Facharbeiter*"), a substantial earnings gap compared to white-collar workers persists: In 2019, the median annual earnings of full-time blue-collar workers were 35,205 EUR, while white-collar workers earned 51,545 EUR (Rechnungshof Österreich, 2020, p. 23). Considering the mechanisms of reduced post-STW earnings, white-collar workers may face more challenges in terms of missed promotions and wage increases which are less prevalent among blue-collar workers. Additionally, reduced opportunities for skill acquisition during STW could have a more pronounced impact on white-collar workers, given that their jobs typically require higher skill intensity compared to blue-collar jobs. Conversely, post-STW earnings losses may disproportionally affect blue-collar workers, in the event that they were more strongly affected by reductions in working hours – in particular overtime hours – post STW, overtime pay is more common in blue-collar jobs (Bauer & Zimmermann, 1999; Dhungel et al., 2021).

Research on the COVID-19 employment crisis tends to show that women's employment and wages were disproportionally affected (Albanesi & Kim, 2021; Cook & Grimshaw, 2021; International Monetary Fund, 2021; Kim et al., 2022; Kristal & Yaish, 2020) particularly by greater reductions in working hours (Reichelt et al., 2021; Schmitt & Auspurg, 2022) and an increase in part-time work among young mothers (Steiber et al., 2021). While prior research highlights women's heightened labour market risks during the crisis, with potentially greater exposure to STW (treatment in our study) it remains uncertain whether STW had gender-specific effects on post-STW earnings (magnitude of treatment effects). Women might have experienced greater reductions in working hours during as well as post-STW than men, potentially linked to sectors of activity were STW hours were low for long periods (lockdowns) and sustained low demands in sectors dominated by women, like wholesale and retail trades. Greater reductions in working hours during STW might furthermore

also render women more affected by other mechanisms underlying STW effects on earnings

trajectories. Women's high share of part-time work could make promotions and wage increases

more unlikely with further reductions in working hours during STW. Conversely, a reduction in

overtime hours would be more relevant for full-time male workers.

While some workers may benefit from changing jobs (Farber, 1999), we expect that in the aggregate,

ST-workers who transitioned to a new firm after STW had to accept lower earnings, due to the

negative signal associated with STW. Furthermore, due to deprived skills accumulation and skills

obsolescence, potential earnings losses after firm changes may increase with duration and incidence

of STW exposure, and again, earnings trajectories may differ between men and women as well as

between blue- and white-collar workers.

Finally, human capital arguments suggest greater earning losses among young and inexperienced ST-

workers as they may disproportionally suffer from reduced learning opportunities on and off the job

during STW (Bell et al., 2021; Blundell et al., 2022; International Monetary Fund, 2021).

3.  Data, methods and identification

3.1 Longitudinal administrative data and main variables

We use administrative data from social security registers linked to process data from the Public

Employment Service (PES). The micro-data is available to researchers upon registration via the

labour market database ("Arbeitsmarktdatenbank", see https://arbeitsmarktdatenbank.at/)

provided by the PES and the Federal Ministry of Labour (AMS - BMAW, 2023). It consists of the

universe of all spells of employment, unemployment and a host of out-of-labour-force states

covered by the Austrian Social Insurance system (detailed information on the data sources is

available in Zweimüller et al., 2009). Employment spells can be matched to employers and a range of

(derived) firm-level characteristics. For our main analyses, we focus on prime-age workers who were

aged 30 to 49 years in 2020 to avoid conflating STW effects with processes of labour market entry

(school-to-work-transitions) and exit (part-time employment prior to retirement or similar

arrangements of reduced employment before retiring). To check for age specific effects, we compare prime-age workers with young workers aged 20 to 29 years as well as workers aged 50 to 59 years. For these age groups, we select all employees who have been in STW during 2020 and/or 2021 while excluding those who have been in STW in 2022. This is because we observe yearly earnings (see below) and for our empirical setting the earnings in 2022 are post-STW earnings that reflect income from regular employment without direct STW earnings losses. From these data we construct a balanced panel data set for the observation period between 2015 and 2022, which means that every individual in our final sample must have earnings registered in each one of these eight years. Public sector employees (civil servants), the self-employed and other groups who were not eligible for STW are excluded.

The data provide information on yearly gross earnings for every job held and the number of days worked, i.e., insured, in this job and year. For each worker, we select *one* job spell per year of at least 91 days duration, which must be a single job, that is, no other forms of employment were held during that job spell.[2] The outcome variable is then computed in daily rates from the yearly earnings in this selected job divided by the days worked in this job and year. If a worker held several consecutive jobs in a year, we select the longest job spell. We use gross earnings beyond the *marginal earnings threshold* ("Geringfügigkeitsgrenze"), i.e., an income threshold of about EUR 500 per month defining *mini-jobs* in Austria that are exempt from some employer contributions. Earnings information is capped at the maximum social security contribution basis (i.e., right censored), which amounts to 55,800 Euro in 2015 (daily rate of 155 Euro) and 68,040 Euro in 2022 (daily rate of 189 Euro). Only a small fraction, less than 10%, of earnings are capped, as evidenced by the fact that the 9th decile in yearly earnings for 2019 (66,446 Euro, see Rechnungshof Österreich, 2020, p. 54) was

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[2] Workers who held several paid employments at the same time are excluded unless they had one single paid employment eligible to STW of at least 91 days per year without any additional paid employment during that spell. About 2.2% of all workers are thus not included. Most of these parallel employment spells are non-eligible to STW, including civil service and self-employment, and are therefore excluded from the analysis.

considerably below the maximum earnings of 73,080 Euro in the same year. Robustness checks are performed to see if this influences our results (see section 3.4 below).

In our models, we use both STW incidence and duration. Regarding incidence, we distinguish three groups of ST-workers: those who were in STW in 2020 only (about 58% of all ST-workers), those who were in STW in 2020 and 2021 (26%) and those who were in STW in 2021 only (4%). The remaining 12% of ST-workers in 2020 and/or 2021 also were in STW in 2022 and therefore are not considered in this study because we do not observe post-STW earnings of these workers. Regarding duration, we distinguish four groups: those who were between one and 91 days in STW in 2020 or 2021, 92-186 days, 187 days – 1 year and more than 1 year. Those with STW-spells are compared with their counterparts with similar characteristics who have never been in STW.

3.2 Identification

To estimate STW effects we employ a *dynamic* difference-in-differences design (DiD) in which two-way-fixed-effects regressions with lead effects for pre-STW years and lag effects for during and post-STW effects are estimated. Our dynamic approach allows us to check whether the parallel trends assumption is plausible, and to disentangle the STW earnings losses *during* STW (which is by design) from eventual persistent earnings losses *after* STW. The following equation is estimated:

$$\log(DR)_{it} = \sum_{t=2015}^{2018} STW_i^* a_t + \sum_{t=2020}^{2022} STW_i^* b_t + c_i + d_t + e_{it},$$

in which $\log(DR)$ are earnings in log daily rates for individual $i$ and year $t$, $STW$ is short-time work group membership (duration and incidence groups, respectively) of individual $i$. $a$ and $b$ are the lead and lag effects, respectively, that reflect the difference in daily rates of the groups who were in STW relative to those who were not in STW during the observation period. $c$ are individual fixed effects and $d$ are year fixed effects while $e$ is a random error assumed to be independent and identically distributed. As we specify both individual and year fixed effects, we cannot estimate a fixed effect for each year but need to leave out one year, which is the reference year. We use the year prior to

STW, which is 2019 for the groups who were in STW in 2020, and 2020 for the group that was in STW in 2021 only.

The key assumption for this design to yield consistent results of any persistent STW earnings effects is that in the absence of STW the $STW$ groups would have common trends in the outcome. Thus, the coefficients for the lead effects $a$ should all be zero, which is not a proof of common trends but supports the assumption. In addition, the lead effects allow us to uncover anticipation effects. In cases where the common trends assumption is violated fixed effect regressions will return biased results (Imai & Kim, 2021; Morgan & Winship, 2015; Rüttenauer & Ludwig, 2020). In our case this would pertain to the likely situation in which earnings trajectories of workers who were in STW are *a priori* different from those who were not and that these differences are systematically related to STW exposure. As we have earnings trajectories for several pre-STW periods at our disposal we can easily see that this is indeed the case as empirical earnings trajectories differ across groups, both in their levels and slopes (see Tables A.3 and A.4 on pre-pandemic earnings trajectories in appendix A).

3.3 Matching

To address these systematic differences between groups, we estimate our models on a matched dataset of ST-workers and similar workers from the No-STW group. Coarsened exact matching (CEM, Iacus et al., 2012) based on prior earnings trajectories, unemployment and age is performed in R (Ho et al., 2011) to account for the process of selection into STW. Matching can be problematic in observational studies in which the conditional independence assumption lacks plausibility: Why should some units (self-) select into treatment and others not if they were similar? The case of unobserved variables that may explain this treatment selection gap notwithstanding successful matching on observable pre-treatment characteristics is particularly strong in situations where "the assignment mechanism is based on individual choices" (Imbens & Rubin, 2015, p. 265). In our situation, however, not the individual workers, but their employers decide about STW, and workers have little or no agency in this regard. Indeed, employers may try to choose among their workforce

based on individual performance and worker productivity, which we do not observed in our data,

but is hard to observe for employers as well, so their knowledge about these characteristics is

limited, especially in cases where such information is available only at the team level or, more

generally, in work arrangements with considerable worker autonomy (Goldthorpe, 2007;

Sauermann, 2016). Moreover, it is not only that the decision-maker in our cases are not the ST-

workers but that there are many different decision-makers, i.e. employers, involved, each with more

or less limited information. We are therefore confident that matching is plausible in our context the

more so as we can condition on several pre-treatment outcomes in a way that allows us to make the

groups alike in the outcome dynamics independent of STW. We therefore can control any

unobserved variables that have influenced earnings trajectories and assume that there are none or

negligible unobserved variables that influence earnings after STW only, but not before. Covariate

balance after matching is evaluated using standardized mean differences (SMD) as a balance metric.

A SMD value close to zero is considered an indication of good balance, suggesting that the matched

groups have similar covariate distributions. Indeed, the matching procedure yields satisfying results

as SMD values are close to zero for all covariates in most groups (see Tables A.5 to A.20 in appendix

A for balance metrics).[3]

3.4 Robustness checks

To check the robustness of our findings our main models are estimated at several quantiles of the

log earnings distribution using quantile regression (Koenker, 2022; Koenker & Bassett, 1978). This is

to evaluate whether the fact that earnings in our data are right-censored at the maximum social

security contribution basis (see section 3.1 above) influence the findings derived from ordinary least

squares regression, which compare the groups at mean earnings. In addition, all models are run

separately for the four economic sectors with the highest STW incidence to check whether there is

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[3] Only in very small groups in which less than 20 matches were found exceeds the SMD 0.1 in some variables. However, results for groups with less than 50 matched cases are not presented.

an influential sector that drives our overall findings. These key sectors include manufacturing, wholesale and retail trade, accommodation and food service activities, and construction, each exhibiting varying levels of hours not worked. Among these, the accommodation and food services sector experienced the most significant reduction in working hours during the first year of the pandemic, with ST-workers working only 30% of their normal hours on average. In contrast, ST-workers in the other three sectors worked more, with those in wholesale and retail trade and construction working 51% and those in manufacturing working 58% of their usual hours (Auer, 2021). All models are run using the fixest package (Bergé, 2018) and the quantreg package (Koenker, 2022) in R (R Core Team, 2018).

4. Findings

4.1 Short-time work duration and incidence

Descriptive statistics regarding STW incidence and duration show that blue-collar workers have been disproportionally affected as the percentage of those who have been in STW in 2020 and/or 2021 was higher than among white-collar workers (see Table 1). Female blue-collar workers had the highest incidence rates— almost half (about 46%) were in STW at least once in 2020 or 2021— compared to 41% of male blue-collar workers, 34% of male white-collar workers, and 31% of female white-collar workers. Female blue-collar workers in STW furthermore recorded the longest STW-spells: about four in ten had STW-spells that lasted for longer than half a year and almost every second (47%) female ST-worker in blue-collar jobs was in STW in 2020 and 2021; Most men with STW-spells by contrast were in STW in 2020 only (71% of blue-collar workers and 75% of white-collar workers). Among blue-collar workers, we thus observe a substantial gender gap in STW incidence and duration. Compared to blue-collar jobs STW incidence rates were lower in white collar jobs among both men and women. The gap in STW-duration between blue- and white-collar workers was however more pronounced among women: while 41% of female blue-collar workers recorded long STW-spells for more than 183 days, this was the case for 27% of their white-collar counterparts.

Table 1: Short-time work incidence and duration in 2020 and 2021 according to gender and employment contract

| Short-time work | Blue-collar workers | | White-collar workers | |
| --- | --- | --- | --- | --- |
| | Women | Men | Women | Men |
| STW share (2020/21) | 45.6% | 40.8% | 30.9% | 34.2% |
| *Of which (duration)* | | | | |
| 1-91 days | 34.9% | 54.9% | 47.1% | 52.4% |
| 92-182 days | 24.4% | 22.3% | 25.6% | 24.5% |
| 183 days-1year | 32.9% | 18.2% | 21.1% | 18.1% |
| More than 1 year | 7.7% | 4.7% | 6.1% | 4.9% |
| *Of which (incidence)* | | | | |
| 2020 only | 46.2% | 71.1% | 64.5% | 74.8% |
| 2020 and ´21 | 47.4% | 24.9% | 32.7% | 23.2% |
| 2021 only | 6.4% | 4.1% | 2.8% | 2.0% |

Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

4.2 The earnings effects of COVID-19 short-time work

Figure 1 depicts the main results of our analyses regarding differences in earnings trajectories between those who were subject to COVID-19-STW and those who were not over the observation period 2015 to 2022. The results are broken down by STW duration as well as by gender and employment relations (blue-collar vs. white-collar). All the pre-2020 effects are non-different from zero, indicating that the parallel trends assumption is satisfied in the matched data sets. The figures show that for most groups of STW-workers earnings losses do persist even after exiting STW and resuming regular employment. The extent of these earnings losses varies according to the degree of STW exposure and across different groups.

We find that the earnings penalty increases considerably with the duration of the STW-spell (see Figure 1 and post-STW estimates in Table 2). Among blue-collar workers, short spells of up to three months do not come with persistent earnings losses at all. The same is true for women in blue-collar jobs with STW spells for up to one year. On average, they earn the same as their peers who have not been in STW once they return to regular employment. In all other groups of workers, however, we do observe lasting earnings losses post-STW. Male blue-collar workers with STW-spells of more than

three months up to half a year on average incur losses of 0.8%, compared with the 2022 earnings of comparable workers who have not been in STW. The loss increases to about double among those men in blue-collar jobs with spells between half and one year (1.5%) and further increases to an earnings gap of close to 6% among those in STW for more than one year. Although no lasting earnings losses are observed among women in blue-collar jobs, except for those with exceptionally long STW spells, women in white-collar jobs experience persistent earnings losses even after very short STW spells. On average, they face a decrease in earnings of 1.2% and 1.7% following STW spells of up to three months and six months, respectively. For longer spells of up to one year, their earnings losses exceed 3% post-STW, and this figure further increases to nearly 5% for those in STW for more than one year. Among white-collar males, post-STW earnings losses are relatively lower, particularly for those with spells lasting less than one year. These losses vary from 0.6% and 1.1% for short spells of up to three months and six months, respectively, to 1.9% for spells lasting up to one year, and 4.0% for spells longer than one year.

Timing of STW incidents reveals consistent patterns in lasting earnings losses after returning to regular employment, particularly among female and male white-collar workers (see Figure B.1 in appendix B). Notably, post-STW earnings losses in these groups mirror the losses experienced during the STW period, with some gradual recovery observed only among men. This suggests that earnings have not recovered and have essentially stagnated at the STW levels for white-collar workers. In contrast, blue-collar workers with short STW spells in 2020 or 2021 fully recovered their earnings in 2022, except for those with exceptionally long or recurrent STW spells in those years. The median duration of STW in 2020 and 2021 was approximately 240 days for men in both blue- and white-collar jobs, women in white-collar jobs, and around 260 days for women in blue-collar jobs (refer to Table A.2 in appendix A).

Figure 1: Earnings effects of COVID-19 STW across duration groups, gender, and employment contract
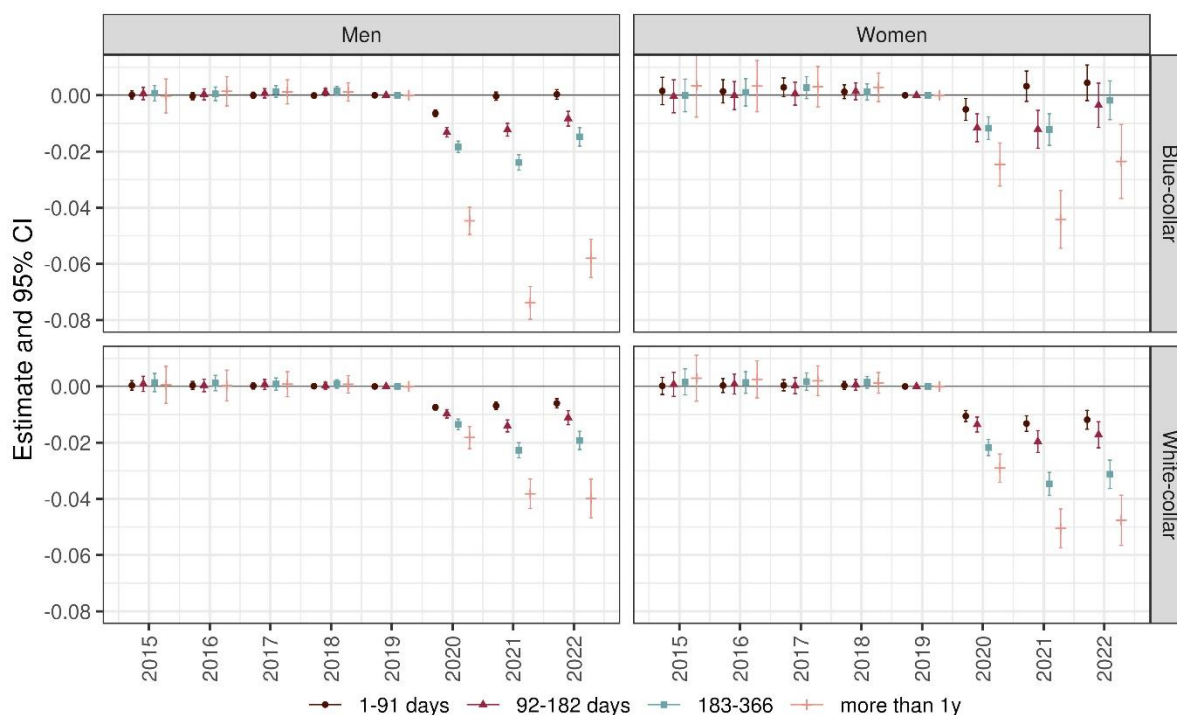


Causal effects estimates based on matched datasets per STW duration groups (balanced on pre-COVID-19 earnings trajectories and unemployment between 2015 – 2019 as well as 5-year age groups; workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), calculations by the authors.

Table 2: Lasting earnings gaps post COVID-19 STW in 2022 (% differences in daily earnings)

| Short-time work | Blue-collar workers | | | | White-collar workers | | | |
|---|---|---|---|---|---|---|---|---|
| | Women | | Men | | Women | | Men | |
| *STW duration* | | | | | | | | |
| 1-91 days | 0.4 | (0.3) | 0.0 | (0.1) | -1.2 *** | (0.2) | -0.6 *** | (0.1) |
| 92-182 days | -0.4 | (0.4) | -0.8 *** | (0.1) | -1.7 *** | (0.2) | -1.1 *** | (0.1) |
| 183days - 1year | -0.2 | (0.4) | -1.5 *** | (0.2) | -3.1 *** | (0.3) | -1.9 *** | (0.2) |
| More than 1 year | -2.4 *** | (0.7) | -5.8 *** | (0.3) | -4.8 *** | (0.5) | -4.0 *** | (0.4) |
| *STW incidence* | | | | | | | | |
| 2020 only | 0.1 | (0.3) | -0.1 + | (0.1) | -1.1 *** | (0.1) | -0.6 *** | (0.1) |
| 2020 and ´21 | -0.8 ** | (0.3) | -2.4 *** | (0.1) | -3.6 *** | (0.2) | -2.5 *** | (0.1) |
| 2021 only | 0.4 | (1.5) | -0.5 | (0.5) | -3.8 ** | (1.3) | -1.5 * | (0.6) |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic. Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

We see that the effects indeed vary across STW exposure in terms of duration and incidence, and

across job characteristics in terms of employment relation (blue-collar vs. white-collar jobs), as well

as across gender. As expected, the most pronounced lasting earnings losses pertain to long and/or recurrent STW spells and these are substantial. For example, projected onto yearly earnings in 2022, women and men in white-collar jobs who have been in STW in 2020 and again in 2021 loose about 1,500 Euro in yearly wage income compared to their respective control groups (see Table A.22 in appendix A). Indeed, this loss in absolute numbers weighs much more heavily for women than for men, as the latter have median yearly earnings of about 54,900 Euro while the former earn about 34,100 Euro per year. Losses of a similar magnitude were incurred by the relatively small group of women in white collar jobs who were in STW in 2021 only. Their projected median earnings in 2022 have been 37,700 Euro which is almost 1,800 Euro less than for the control group. For very long spells of more than one year in STW in 2020 and 2021, we project yearly earnings losses of about 2,900 Euro for men in white-collar jobs, 2,500 Euro for men in blue-collar jobs and 2,100 Euro for women in white-collar jobs (see Table A.21 in appendix A). Regarding social inequality, the losses of male blue-collar and female white-collar workers carry more weight because of their lower earnings levels. The same applies to women in white-collar jobs who spent more than 3 months in STW: regarding their yearly earnings levels of about 37,100 Euro a loss of 1,000 Euro indeed is substantial.

4.2.1 Effects of changing employer

Our theoretical analysis led us to expect that ST-workers who changed employers after STW would experience greater earnings losses than those who resumed regular work with the same firm that sent them to STW. This expectation was supported for specific groups, particularly those who underwent STW exclusively in 2020 for short durations. Among these groups, male blue-collar workers, in general did not suffer lasting earnings losses in 2022 when they had STW only in 2020 or for up to three months. However, those in this group who changed employers after STW earned 2.1% less (up to three months in STW) or 2.5% less (STW in 2020 only) in their new jobs in 2022 compared to similar workers who never experienced STW.

Earnings penalties associated with changing employers were also observed among white-collar workers, again specifically for those who had relatively short STW spells in 2020 only. Women in STW for up to three months experienced penalties of up to 2 percentage points, resulting in a shift from a general -1.2% to -3.1% for those who changed employers. Similarly, women and men in STW exclusively in 2020, as well as men in STW for up to six months, encountered employer change penalties of approximately one percentage point.

These penalties likely stem from the adverse effects of unemployment after leaving the firm in which the STW spell occurred. While ST-workers who changed firm were effectively matched to non-participants based on their pre-STW unemployment trajectories, disparities in post-STW unemployment patterns emerged between the two groups. Specifically, those who changed firms after STW were more susceptible to experiencing unemployment spells compared to similar non-ST-workers. Conversely, among ST-workers who remained with their original firm, the gaps in unemployment compared to non-ST-workers were relatively smaller, indicating that changing employers after STW directly impacts subsequent employment outcomes.

Interestingly, for longer STW spells lasting more than six months, there was no discernible difference in post-STW earnings between those who stayed with their original firm and those who changed employers. Conversely, among white-collar workers, individuals with very long STW spells exceeding one year and subsequently changing employers fared better than those who remained.

Table 3: Lasting earnings gaps post COVID-19 STW in 2022 for those who changed employers after STW (% differences in daily earnings)

| Short-time work | Blue-collar workers | | | | White-collar workers | | | |
|---|---|---|---|---|---|---|---|---|
| | Women | | Men | | Women | | Men | |
| *STW duration* | | | | | | | | |
| 1-91 days | -1.7 | (1.5) | -2.1 *** | (0.4) | -3.1 *** | (0.6) | -1.5 *** | (0.4) |
| 92-182 days | -0.4 | (0.4) | 0.2 | (1.5) | -2.8 *** | (0.6) | -2.2 ** | (0.8) |
| 183days - 1year | 1.8 | (1.5) | -4.0 *** | (0.8) | -3.6 *** | (1.0) | -1.9 ** | (0.7) |
| More than 1 year | -4.0 | (2.9) | -5.0 ** | (1.8) | -3.2 + | (1.7) | -2.3 | (1.5) |
| *STW incidence* | | | | | | | | |
| 2020 only | -0.4 | (1.2) | -2.5 *** | (0.4) | -2.2 *** | (0.5) | -1.5 *** | (0.3) |
| 2020 and ´21 | 0.5 | (1.3) | -3.5 *** | (0.7) | -4.2 *** | (0.8) | -2.7 *** | (0.7) |
| 2021 only | | (x) | -0.4 | (2.5) | -10.8 * | (4.7) | -4.2 + | (2.4) |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment from STW but *with another employer*, and similar workers who never were in STW throughout the pandemic (with or without employer changes). Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. *(x)*: too few observations (less than 50 matches). Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.


4.2.2 Analyses for different age groups

While our main models were run on data for individuals aged 30-49, we ran additional models for

younger and older workers to check for potential age effects. Overall, we find that effects of STW-

exposure do not vary greatly across age groups. A notable exception are men in white-collar jobs. In

this category, young workers aged 20 to 29 who were in STW both in 2020 and 2021 have persistent

earnings losses of -4.9% in 2022, which is statistically significantly larger than the losses of their

colleagues in prime-working ages (-2.5%). The fact that this age disparity is only observable for

rather long STW durations of at least 183 days (see upper panel of Table A.23 in appendix A)

corroborates the conjecture that it is indeed the loss in human capital – which should be more

pronounced for young and inexperienced workers with long STW spells – that leads to persistent

income losses. Moreover, it is plausible that this age disparity is observable among white-collar

workers only because they tend to be employed in knowledge-intensive jobs that require

considerable training on-the-job to perform the job well. This is also consistent with the finding that

their colleagues aged 50 to 59 tend to have the smallest losses among those with recurrent STW

spells in 2020 and 2021. In contrast, however, young women in white-collar jobs incur somewhat smaller losses than their prime-age colleagues. This may be due to care-responsibilities of (prime-age) mothers of dependent children that forced them to reduce their working hours during the pandemic independent of STW because of reduced public care provisions and school closures (Hanzl & Rehm, 2021). Younger women without such responsibilities may have predominantly been able to return to their pre-STW working hours or may even have increased hours to compensate for the reduction of their prime-age colleagues with such responsibilities.[4]

4.2.3 Analyses for different economic sectors

We have applied our design to the four economic sectors with the highest STW incidence and found that there is some variation in earnings losses across these. In manufacturing, the sector with most STW cases and which is dominated by men (see table A.1 in appendix A), persistent earnings losses post STW tend to be greater for some groups of workers, in particular women. But the differences to the results of all sectors are small and statistically not significant. In wholesale, retail trade and motor vehicle repair, the sector with almost as many STW cases as manufacturing and with a balanced gender ratio, lasting earnings losses are in some cases a little smaller than in manufacturing and in all sectors combined. These differences between sectors are statistically significant for women in white-collar jobs with STW spells in 2020 only or in 2020 and in 2021. In the latter group, lasting earnings losses are substantially lower (-2.0%) than in all sectors (-3.6%), and in manufacturing (-4.2%, see Table 2 and Table A.25 in appendix A). For the other two sectors, accommodation and food services as well as construction, no statistically significant differences can be observed. accommodation and food services seem to be a special case: here, all estimates, many of them even positive, are statistically highly uncertain and do not differ from zero, nor from the

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[4] In Austria, the mean age auf mothers at birth is well above 30 (31.5 in 2021, see Statistics Austria, 2022), which means that the vast majority of mothers with school-age children or children in institutionalized day care while at work are in our prime-age category.

results for the respective groups in all sectors. The reason for these zero findings is probably that we do not observe total earnings because tips, which are a substantial income source for many workers in this sector, are not recorded. Moreover, as labour turnover and unemployment spells are more common among accommodation and food sector workers, STW may not play a role as a negative signal and therefore post-STW earnings are not affected.

4.2.4 Robustness checks

Regarding the robustness of our results, the analysis broken down by main economic sectors has not revealed any influential cases that would drive our aggregate findings. The zero effects in accommodation and food services scale down the overall effects in our models, leading to rather conservative estimates. Results are also stable when including economic sectors as a covariate in the matching procedure.[5]

Moreover, quantile regression results are in line with the findings we have derived from our main specification. In fact, our main results give a good approximation of the average effect across the earnings distribution. In some cases, the estimated effects at the median (Q50) tend to be a little smaller than the estimated effect at the mean, while the estimated effects at the upper and lower quintile (Q75, Q25) as well as at the upper and lower decile (Q90, Q10) tend to be greater, suggesting an inverted U-shaped effect across the earnings distribution, in which the upper and the lower quantiles have to bear larger earnings losses (see Table A.27 and A.28 in appendix A).

5.  Conclusion

In this study, we analysed whether short-time work (STW), a job retention programme that was heavily used during the COVID-19 pandemic, had any lasting negative earnings effects after workers returned to regular employment. Employing a dynamic difference-in-differences design (DiD) for

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[5] Balance in pre-STW earnings trajectory is not quite as excellent when including economic sectors in the matching, but effects estimates essentially remain unchanged.

several groups of workers defined by degree of STW exposure, gender, and employment relation (blue- versus white-collar contracts), we identified lasting earnings losses that persist beyond the actual STW participation period. First and foremost, we found that these earnings losses depend on the extent of STW exposure, with greater negative effects especially in the case of long-term or recurring STW spells.

Among white-collar workers, earnings losses are most pronounced for those who have been in STW in 2020 and (again) in 2021, or whose STW spells summed up to half a year in total or more. Projected earnings in 2022 when these women and men have resumed regular employment, are about 1500 Euro lower than for their colleagues with similar profiles who remained in regular employment throughout the pandemic. This loss is considerably more important for women as it constitutes a higher proportion of their annual income. In absolute numbers, earnings losses increase to up to 3000 Euro on average for workers who have been in STW for a whole year or longer.

Among blue-collar workers, earnings losses due to STW are generally smaller than among white-collar workers. In terms of earnings inequality, this is initially good news, because their earnings are on average substantially lower than those of white-collar workers. However, male blue-collar workers who have been in STW for more than one year throughout the pandemic were found to be the group that suffered the largest earnings losses in relative terms. This group – which is fortunately not a large one – is thus much worse off after resuming regular employment, a fact that should be of policy concern when evaluating the use of STW.

The finding of substantial and enduring earnings losses among specific worker groups aligns with human capital explanations, which emphasize the limited accumulation of skills and skills obsolescence during STW. It also supports our hypothesis that the magnitude of earnings losses varies based on the duration of STW exposure, with longer periods resulting in larger and more lasting post-STW earnings gaps. We believe that the primary factors contributing to lasting earnings

losses among all groups who remained with their pre-STW employer are reductions in working hours (including overtime), fewer opportunities for promotion, and lower wage increases during and after STW compared to workers who did not experience STW.

Workers who changed employers during or after STW differ from those who stayed with their original firm. While we initially hypothesized that some may benefit from job changes, our findings indicate that, overall, ST-workers who switched firms following STW experienced greater earnings losses than those who remained. This trend is particularly pronounced for individuals who underwent STW at the onset of the pandemic for relatively short durations. Remarkably, workers, except for women in blue-collar jobs, who were in STW exclusively in 2020 for less than six months, suffered lasting earnings losses twice as large as their counterparts with similar short STW spells who remained with their original (pre-STW) firm. This discrepancy may be attributed to the increased unemployment risk associated with changing employers. Interestingly, for longer STW spells lasting over six months, there was no significant difference in earnings outcomes between those who stayed and those who switched firms. Conversely, among white-collar workers, it appears that those with very long STW spells exceeding one year, who subsequently changed employers, fared better than those who remained with their original firm.

Alongside the STW-induced design-based earnings losses, our results have implications for the widening income inequality. Particularly affected are certain worker groups with relatively low initial earnings, specifically women in white-collar jobs and men in blue-collar jobs. Given the magnitude of these groups and their vulnerability, it is crucial to closely monitor their future earnings trajectories. Additionally, examining other labour market outcomes, particularly unemployment risks, would provide further insights into the broader implications of these findings.

There are some limitations to consider when interpreting the findings of this study. Firstly, workers who were in STW in 2022 as well had to be excluded from the analysis. This was necessary because earnings in 2022 was used as the post-STW outcome measure. It is important to note that these

excluded cases mostly involved individuals with unusually long STW spells. Therefore, if anything, this exclusion likely leads to conservative estimates, as the lasting earnings losses in these cases are expected to be even larger on average than what was observed here. Another potential limitation is that the earnings measure used to compare earnings trajectories across different groups is top-coded. However, the results from quantile regression analyses indicate that this does not bias the findings. Moreover, the results are robust to several alternative specification. While these limitations should be considered, the study provides valuable insights into the relationship between STW and post-STW earnings trajectories. The exclusion of certain cases and the use of top-coded earnings do not significantly undermine the overall findings and conclusions of the study.

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APPENDIX A

Table A.1: ST-workers in the COVID-19 pandemic across economic sectors

| NACE | Women | Men | All | Share (All) |
|---|---|---|---|---|
| Manufacturing | 81,032 | 234,218 | 315,250 | 24% |
| Wholesale and Retail Trade | 156,215 | 150,110 | 306,325 | 23% |
| Accommodation and Food Service | 99,058 | 77,641 | 176,699 | 13% |
| Construction | 15,479 | 89,813 | 105,292 | 8% |
| Administration and Support Service | 36,469 | 40,767 | 77,236 | 6% |
| Transportation and Storage | 19,056 | 44,686 | 63,742 | 5% |
| Human Health and Social Work | 52,449 | 9,549 | 61,998 | 5% |
| Professional, Scientific and Technical | 33,707 | 27,792 | 61,499 | 5% |
| Other Service Activities | 30,615 | 9,892 | 40,507 | 3% |
| Arts, Entertainment and Recreation | 14,126 | 15,920 | 30,046 | 2% |
| Other Sectors | 43,583 | 38,890 | 82,473 | 6% |
| Total | 581,789 | 739,278 | 1,321,067 | 100% |

Workers in STW 2020-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.2: Median days in STW across incidence groups according to gender and employment contract

| Short-time work | Blue collar workers | | White collar workers | |
|---|---|---|---|---|
| | Women | Men | Women | Men |
| 2020 only | 91 | 61 | 91 | 91 |
| 2020 and ´21 | 261 | 241 | 242 | 242 |
| 2021 only | 61 | 60 | 61 | 61 |

Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.3: Differences in pre-pandemic earnings trajectories across STW-groups, contract, and gender

| Short-time work | Blue collar workers | | | | White collar workers | | | |
|---|---|---|---|---|---|---|---|---|
| | Women | | Men | | Women | | Men | |
| *Difference in level to No-STW groups* | | | | | | | | |
| 1-91 days | 4.8 *** | (0.6) | 2.8 *** | (0.2) | −12.2 *** | (0.3) | −3.7 *** | (0.2) |
| 92-182 days | 4.3 *** | (0.7) | 1.6 *** | (0.2) | −15.9 *** | (0.4) | −6.6 *** | (0.3) |
| 183-366 | −0.7 | (0.6) | −4.2 *** | (0.3) | −18.0 *** | (0.4) | −11.7 *** | (0.3) |
| more than 1y | 0.2 | (1.1) | −8.6 *** | (0.5) | −16.0 *** | (0.8) | −17.5 *** | (0.6) |
| *Difference in slope to No-STW groups* | | | | | | | | |
| 1-91 days | 0.0 | (0.2) | −0.1 * | (0.1) | −0.1 | (0.1) | −0.2 *** | (0.1) |
| 92-182 days | 0.0 | (0.2) | −0.1 + | (0.1) | −0.3 * | (0.1) | −0.2 * | (0.1) |
| 183-366 | 0.3 | (0.2) | 0.0 | (0.1) | −0.3 * | (0.1) | −0.2 + | (0.1) |
| more than 1y | 0.2 | (0.3) | 0.0 | (0.2) | −0.4 + | (0.2) | −0.3 | (0.2) |
| *General time trend* | | | | | | | | |
| year | 4.6 *** | (0.1) | 3.7 *** | (0.0) | 5.9 *** | (0.0) | 4.7 *** | (0.0) |

Estimates from time trend regressions for the years 2015-2019 based on full data. Estimates are percent point differences in levels and slopes of daily earnings of STW groups to those who never were in STW (calculated as coefficient of log earnings regressions times 100). Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.4: Differences in pre-pandemic earnings trajectories across STW-groups, contract, and gender

| Short-time work | Blue collar workers | | White collar workers | |
|---|---|---|---|---|
| | Women | Men | Women | Men |
| *Difference in level to No-STW groups* | | | | |
| 2020 only | 7.1 *** (0.5) | 3.6 *** (0.2) | −10.3 *** (0.3) | −3.2 *** (0.2) |
| 2020 and ´21 | −2.1 *** (0.5) | −7.5 *** (0.2) | −23.2 *** (0.4) | −17.3 *** (0.3) |
| 2021 only | −0.8 (1.6) | −4.0 *** (0.7) | −18.0 *** (1.6) | −10.5 *** (1.1) |
| *Difference in slope to No-STW groups* | | | | |
| 2020 only | 0.0 (0.2) | −0.1 * (0.0) | −0.1 (0.1) | −0.2 ** (0.1) |
| 2020 and ´21 | 0.2 (0.2) | 0.0 (0.1) | −0.4 *** (0.1) | −0.3 *** (0.1) |
| 2021 only | 0.1 (0.5) | 0.0 (0.2) | −0.2 (0.5) | −0.1 (0.3) |
| *General time trend* | | | | |
| year | 4.6 *** (0.1) | 3.7 *** (0.0) | 5.9 *** (0.0) | 4.7 *** (0.0) |

Estimates from time trend regressions for the years 2015-2019 based on full data. Estimates are percent point differences in levels and slopes of daily earnings of STW groups to those who never were in STW (calculated as coefficient of log earnings regressions times 100). Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.5: Balance metrics: Standardized mean differences for matched data sets, STW duration, all workers

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.002 | -0.002 | -0.003 | -0.003 | -0.004 | 0.000 | 0.003 | 0.002 | 0.001 | 0.002 | 0.002 | 37,326 | 5,920 |
| 1-91 days | White-collar | Women | -0.001 | -0.001 | 0.000 | -0.001 | -0.001 | -0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 0.002 | 22,528 | 7,948 |
| 1-91 days | Blue-collar | Men | 0.000 | -0.002 | -0.001 | -0.001 | -0.001 | -0.002 | 0.002 | 0.001 | 0.002 | 0.002 | 0.002 | 35,683 | 16,275 |
| 1-91 days | Blue-collar | Women | 0.000 | 0.000 | 0.003 | -0.001 | -0.004 | -0.007 | 0.002 | 0.002 | 0.000 | 0.001 | 0.002 | 4,717 | 2,676 |
| 92-182 days | White-collar | Men | -0.001 | -0.002 | -0.001 | -0.003 | -0.004 | 0.000 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 16,545 | 2,642 |
| 92-182 days | White-collar | Women | 0.000 | 0.000 | -0.001 | -0.001 | -0.002 | -0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.002 | 11,908 | 4,039 |
| 92-182 days | Blue-collar | Men | 0.001 | 0.000 | 0.002 | 0.003 | -0.001 | -0.003 | 0.002 | 0.000 | 0.001 | 0.001 | 0.001 | 15,742 | 4,336 |
| 92-182 days | Blue-collar | Women | -0.001 | -0.001 | 0.001 | 0.003 | 0.000 | -0.014 | 0.004 | 0.001 | 0.001 | 0.002 | 0.003 | 3,273 | 1,919 |
| 183-366 | White-collar | Men | -0.001 | -0.001 | -0.003 | -0.003 | -0.005 | 0.000 | 0.002 | 0.002 | 0.002 | 0.001 | 0.002 | 11,298 | 2,168 |
| 183-366 | White-collar | Women | 0.000 | -0.001 | 0.000 | 0.000 | -0.004 | -0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 10,168 | 3,445 |
| 183-366 | Blue-collar | Men | 0.000 | -0.001 | 0.002 | 0.003 | -0.002 | -0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 | 11,095 | 3,553 |
| 183-366 | Blue-collar | Women | -0.004 | -0.001 | 0.003 | -0.001 | -0.004 | -0.010 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 4,256 | 2,789 |
| more than 1y | White-collar | Men | -0.003 | -0.004 | -0.002 | -0.002 | -0.005 | 0.004 | 0.003 | 0.002 | 0.000 | 0.001 | 0.001 | 2,803 | 615 |
| more than 1y | White-collar | Women | 0.002 | 0.001 | 0.000 | -0.002 | -0.005 | -0.004 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 3,140 | 1,006 |
| more than 1y | Blue-collar | Men | -0.003 | 0.002 | 0.001 | 0.001 | -0.002 | 0.001 | 0.002 | 0.002 | -0.001 | 0.001 | 0.000 | 2,642 | 785 |
| more than 1y | Blue-collar | Women | -0.001 | -0.002 | -0.002 | -0.003 | -0.011 | -0.015 | 0.005 | -0.001 | 0.000 | -0.001 | 0.000 | 1,167 | 643 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19),
unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian
Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.6: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers who changed firm during the COVID-19 pandemic

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.002 | -0.001 | -0.002 | -0.002 | -0.003 | -0.005 | 0.005 | 0.003 | 0.002 | 0.002 | 0.003 | 4,046 | 899 |
| 1-91 days | White-collar | Women | -0.001 | 0.000 | -0.001 | -0.002 | -0.003 | 0.001 | 0.003 | 0.002 | 0.002 | 0.003 | 0.005 | 2,796 | 1,227 |
| 1-91 days | Blue-collar | Men | -0.004 | -0.001 | 0.001 | 0.001 | 0.000 | -0.008 | 0.005 | 0.004 | 0.004 | 0.005 | 0.007 | 3,519 | 2,381 |
| 1-91 days | Blue-collar | Women | 0.006 | 0.007 | 0.003 | -0.004 | -0.006 | -0.006 | 0.003 | 0.001 | 0.000 | 0.002 | 0.003 | 444 | 323 |
| 92-182 days | White-collar | Men | -0.003 | -0.004 | -0.003 | -0.006 | -0.007 | 0.001 | 0.003 | 0.003 | 0.001 | 0.003 | 0.005 | 2,098 | 521 |
| 92-182 days | White-collar | Women | 0.001 | -0.001 | 0.000 | 0.000 | -0.002 | 0.006 | 0.004 | 0.001 | 0.001 | 0.002 | 0.002 | 1,632 | 762 |
| 92-182 days | Blue-collar | Men | 0.000 | 0.001 | 0.002 | 0.004 | -0.001 | -0.013 | 0.003 | 0.001 | 0.002 | 0.000 | 0.001 | 1,636 | 804 |
| 92-182 days | Blue-collar | Women | -0.014 | -0.011 | -0.012 | -0.010 | -0.013 | -0.012 | 0.003 | 0.000 | 0.000 | 0.005 | 0.009 | 404 | 275 |
| 183-366 | White-collar | Men | 0.001 | 0.001 | 0.002 | 0.001 | -0.006 | -0.003 | 0.003 | 0.002 | 0.005 | 0.001 | 0.004 | 1,265 | 410 |
| 183-366 | White-collar | Women | 0.002 | 0.000 | 0.002 | 0.002 | -0.002 | -0.005 | 0.003 | 0.001 | 0.002 | 0.002 | 0.003 | 1,202 | 574 |
| 183-366 | Blue-collar | Men | -0.002 | 0.000 | 0.003 | -0.002 | -0.006 | -0.012 | 0.000 | 0.004 | 0.001 | 0.002 | 0.002 | 1,042 | 649 |
| 183-366 | Blue-collar | Women | 0.003 | -0.006 | 0.001 | 0.005 | 0.000 | -0.008 | 0.005 | 0.004 | 0.004 | 0.002 | 0.008 | 474 | 355 |
| more than 1y | White-collar | Men | -0.005 | -0.004 | -0.004 | -0.004 | 0.004 | 0.017 | 0.002 | 0.000 | 0.002 | 0.002 | -0.002 | 301 | 97 |
| more than 1y | White-collar | Women | 0.005 | 0.000 | 0.004 | 0.005 | -0.004 | -0.026 | -0.001 | 0.003 | 0.005 | 0.003 | -0.001 | 346 | 163 |
| more than 1y | Blue-collar | Men | 0.003 | 0.005 | 0.006 | 0.002 | 0.001 | 0.017 | 0.002 | 0.004 | -0.004 | 0.002 | 0.005 | 245 | 132 |
| more than 1y | Blue-collar | Women | -0.015 | -0.020 | 0.005 | 0.001 | -0.002 | -0.025 | 0.016 | -0.002 | 0.001 | -0.005 | -0.006 | 111 | 65 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.7: Balance metrics: Standardized mean differences for matched data sets, STW duration, young workers aged 20-29

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.001 | -0.002 | 0.005 | 0.003 | 0.001 | -0.008 | 0.004 | 0.002 | 0.000 | 0.001 | 0.001 | 3,202 | 1,625 |
| 1-91 days | White-collar | Women | -0.007 | -0.002 | -0.005 | 0.004 | 0.010 | 0.004 | 0.003 | 0.002 | 0.004 | 0.005 | 0.004 | 2,991 | 1,732 |
| 1-91 days | Blue-collar | Men | 0.003 | -0.002 | -0.001 | 0.000 | -0.003 | -0.006 | 0.000 | 0.000 | 0.004 | 0.003 | 0.001 | 5,805 | 4,513 |
| 1-91 days | Blue-collar | Women | -0.023 | 0.014 | 0.025 | 0.028 | 0.033 | -0.044 | -0.004 | -0.001 | 0.002 | 0.012 | -0.004 | 268 | 431 |
| 92-182 days | White-collar | Men | -0.007 | -0.005 | -0.001 | 0.000 | -0.003 | 0.004 | 0.004 | -0.001 | 0.002 | 0.003 | 0.003 | 1,443 | 731 |
| 92-182 days | White-collar | Women | -0.006 | -0.003 | 0.001 | 0.003 | 0.009 | 0.002 | 0.005 | 0.005 | 0.004 | 0.002 | 0.005 | 1,577 | 999 |
| 92-182 days | Blue-collar | Men | 0.001 | -0.002 | 0.000 | -0.001 | -0.005 | -0.012 | 0.002 | 0.000 | -0.001 | 0.002 | 0.000 | 2,733 | 1,369 |
| 92-182 days | Blue-collar | Women | -0.016 | 0.002 | 0.002 | -0.012 | -0.010 | -0.002 | -0.003 | 0.004 | 0.003 | 0.000 | 0.002 | 247 | 384 |
| 183-366 | White-collar | Men | -0.003 | -0.001 | 0.003 | 0.006 | -0.004 | 0.009 | 0.009 | 0.002 | 0.000 | -0.002 | 0.000 | 1,039 | 535 |
| 183-366 | White-collar | Women | -0.003 | -0.002 | 0.005 | -0.003 | -0.007 | -0.002 | 0.005 | 0.006 | 0.004 | 0.001 | 0.004 | 1,209 | 746 |
| 183-366 | Blue-collar | Men | -0.010 | -0.008 | -0.001 | -0.001 | -0.007 | -0.002 | 0.000 | 0.000 | 0.003 | 0.002 | 0.001 | 1,749 | 965 |
| 183-366 | Blue-collar | Women | -0.032 | -0.001 | 0.025 | 0.003 | -0.001 | 0.000 | -0.003 | 0.007 | 0.009 | 0.002 | 0.004 | 266 | 609 |
| more than 1y | White-collar | Men | -0.011 | 0.002 | 0.007 | 0.006 | 0.000 | 0.025 | 0.017 | 0.004 | 0.001 | 0.008 | 0.001 | 205 | 149 |
| more than 1y | White-collar | Women | -0.009 | -0.009 | 0.020 | 0.002 | -0.005 | 0.003 | 0.007 | 0.003 | 0.011 | 0.002 | 0.001 | 329 | 198 |
| more than 1y | Blue-collar | Men | -0.004 | 0.002 | -0.013 | -0.001 | -0.006 | -0.010 | 0.011 | 0.008 | 0.006 | 0.006 | 0.002 | 313 | 193 |
| more than 1y | Blue-collar | Women | 0.030 | 0.027 | 0.037 | 0.031 | 0.013 | -0.059 | 0.000 | -0.003 | 0.014 | 0.000 | -0.001 | 68 | 119 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 20-29 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.8: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers aged 50-59

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.002 | -0.002 | -0.002 | -0.003 | -0.004 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 21,035 | 2,239 |
| 1-91 days | White-collar | Women | 0.000 | 0.000 | -0.001 | -0.001 | -0.001 | -0.002 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 18,408 | 3,750 |
| 1-91 days | Blue-collar | Men | 0.002 | 0.001 | -0.001 | -0.001 | -0.001 | 0.001 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 20,661 | 7,409 |
| 1-91 days | Blue-collar | Women | 0.001 | 0.001 | 0.002 | 0.001 | -0.001 | -0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.000 | 5,482 | 1,960 |
| 92-182 days | White-collar | Men | -0.002 | -0.002 | -0.002 | -0.003 | -0.004 | 0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 9,466 | 1,039 |
| 92-182 days | White-collar | Women | -0.001 | -0.001 | -0.001 | -0.002 | -0.004 | 0.002 | 0.001 | 0.001 | 0.001 | 0.000 | 0.001 | 9,622 | 2,104 |
| 92-182 days | Blue-collar | Men | 0.002 | 0.000 | 0.000 | 0.002 | -0.002 | -0.002 | 0.002 | 0.000 | 0.000 | 0.001 | 0.002 | 9,029 | 1,901 |
| 92-182 days | Blue-collar | Women | 0.001 | 0.000 | -0.001 | -0.001 | -0.003 | -0.004 | 0.002 | 0.000 | 0.001 | 0.004 | 0.002 | 3,523 | 1,339 |
| 183-366 | White-collar | Men | -0.002 | -0.002 | -0.003 | -0.004 | -0.007 | -0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 6,594 | 952 |
| 183-366 | White-collar | Women | 0.002 | 0.001 | -0.001 | -0.001 | -0.004 | -0.001 | 0.001 | 0.000 | 0.001 | 0.001 | 0.001 | 8,948 | 2,076 |
| 183-366 | Blue-collar | Men | -0.002 | -0.004 | -0.002 | 0.000 | -0.004 | 0.001 | 0.002 | 0.002 | -0.001 | 0.001 | 0.000 | 6,755 | 1,562 |
| 183-366 | Blue-collar | Women | -0.003 | -0.001 | 0.001 | 0.000 | -0.004 | -0.002 | 0.002 | 0.000 | 0.001 | 0.001 | 0.001 | 4,479 | 1,818 |
| more than 1y | White-collar | Men | -0.001 | -0.002 | -0.003 | -0.004 | -0.006 | -0.007 | 0.001 | 0.000 | 0.001 | 0.000 | 0.001 | 1,737 | 302 |
| more than 1y | White-collar | Women | 0.002 | 0.001 | 0.000 | 0.000 | -0.002 | 0.003 | 0.002 | 0.001 | 0.000 | 0.002 | 0.000 | 2,828 | 605 |
| more than 1y | Blue-collar | Men | -0.003 | 0.000 | -0.001 | 0.000 | -0.006 | 0.006 | 0.002 | 0.001 | 0.001 | -0.001 | 0.000 | 1,596 | 361 |
| more than 1y | Blue-collar | Women | -0.004 | -0.004 | -0.003 | -0.002 | -0.006 | 0.008 | 0.004 | 0.000 | 0.000 | 0.001 | 0.000 | 1,211 | 428 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 50-59 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.9: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers in Manufacturing

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.001 | -0.004 | -0.004 | -0.006 | -0.010 | 0.002 | 0.002 | 0.001 | 0.002 | 0.001 | 0.002 | 12,757 | 2,172 |
| 1-91 days | White-collar | Women | -0.001 | 0.000 | 0.001 | 0.002 | -0.001 | -0.009 | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 2,864 | 1,615 |
| 1-91 days | Blue-collar | Men | 0.000 | 0.000 | 0.001 | -0.004 | -0.004 | 0.001 | 0.004 | 0.002 | 0.003 | 0.002 | 0.002 | 16,560 | 5,228 |
| 1-91 days | Blue-collar | Women | -0.006 | -0.005 | -0.007 | -0.007 | -0.007 | -0.009 | 0.000 | 0.000 | -0.001 | 0.002 | 0.001 | 1,933 | 1,236 |
| 92-182 days | White-collar | Men | -0.002 | -0.005 | -0.004 | -0.005 | -0.007 | -0.003 | 0.003 | 0.002 | 0.002 | 0.002 | 0.002 | 6,116 | 851 |
| 92-182 days | White-collar | Women | -0.007 | -0.006 | -0.002 | -0.002 | -0.004 | -0.008 | 0.001 | 0.001 | 0.000 | 0.001 | 0.002 | 1,523 | 746 |
| 92-182 days | Blue-collar | Men | 0.002 | -0.002 | -0.003 | 0.001 | -0.007 | 0.000 | 0.003 | 0.002 | 0.002 | 0.001 | 0.002 | 9,050 | 2,082 |
| 92-182 days | Blue-collar | Women | -0.005 | -0.009 | -0.008 | -0.002 | -0.007 | -0.014 | 0.008 | 0.002 | 0.003 | 0.003 | 0.006 | 1,356 | 815 |
| 183-366 | White-collar | Men | -0.004 | -0.005 | -0.005 | -0.004 | -0.011 | 0.002 | 0.004 | 0.003 | 0.002 | 0.001 | 0.002 | 4,092 | 609 |
| 183-366 | White-collar | Women | -0.003 | 0.001 | 0.001 | 0.001 | -0.003 | -0.001 | 0.002 | 0.001 | 0.003 | 0.000 | -0.001 | 1,275 | 594 |
| 183-366 | Blue-collar | Men | -0.002 | -0.002 | -0.002 | 0.003 | -0.008 | 0.001 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 6,098 | 1,455 |
| 183-366 | Blue-collar | Women | -0.008 | -0.003 | -0.002 | 0.001 | -0.003 | -0.003 | 0.004 | 0.002 | 0.000 | 0.002 | -0.001 | 1,167 | 668 |
| more than 1y | White-collar | Men | -0.003 | -0.005 | -0.004 | -0.002 | -0.012 | -0.001 | 0.003 | 0.000 | 0.000 | -0.004 | 0.008 | 458 | 102 |
| more than 1y | White-collar | Women | 0.001 | 0.006 | 0.004 | 0.009 | 0.004 | 0.002 | 0.003 | 0.001 | 0.004 | 0.001 | 0.000 | 244 | 121 |
| more than 1y | Blue-collar | Men | -0.009 | -0.004 | -0.008 | -0.004 | -0.021 | 0.009 | 0.005 | 0.001 | -0.003 | 0.000 | 0.005 | 661 | 153 |
| more than 1y | Blue-collar | Women | 0.011 | 0.001 | 0.006 | 0.013 | -0.006 | -0.025 | 0.003 | 0.000 | -0.001 | 0.002 | 0.000 | 250 | 143 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.10: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers in Wholesale, Retail; Motor Vehicle Repair

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.004 | -0.003 | -0.003 | -0.008 | -0.012 | 0.013 | 0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 8,230 | 4,377 |
| 1-91 days | White-collar | Women | 0.000 | -0.002 | 0.001 | 0.001 | 0.002 | -0.005 | 0.002 | 0.001 | 0.001 | 0.002 | 0.003 | 5,669 | 2,530 |
| 1-91 days | Blue-collar | Men | 0.003 | 0.001 | 0.004 | 0.006 | 0.004 | 0.000 | 0.000 | 0.001 | -0.001 | 0.002 | 0.001 | 4,002 | 2,812 |
| 1-91 days | Blue-collar | Women | -0.008 | -0.013 | -0.019 | -0.009 | 0.008 | -0.005 | 0.000 | 0.003 | -0.001 | 0.003 | -0.001 | 419 | 467 |
| 92-182 days | White-collar | Men | -0.005 | -0.006 | -0.004 | -0.008 | -0.011 | 0.006 | 0.001 | 0.000 | 0.000 | 0.000 | 0.001 | 4,548 | 1,508 |
| 92-182 days | White-collar | Women | 0.000 | -0.002 | -0.002 | -0.001 | -0.005 | 0.002 | 0.002 | 0.001 | 0.001 | 0.000 | 0.001 | 4,363 | 1,906 |
| 92-182 days | Blue-collar | Men | 0.003 | 0.000 | 0.006 | 0.008 | 0.002 | -0.001 | 0.000 | 0.003 | 0.002 | 0.002 | 0.001 | 2,666 | 946 |
| 92-182 days | Blue-collar | Women | -0.005 | -0.003 | 0.000 | 0.002 | 0.003 | -0.003 | 0.004 | -0.003 | -0.001 | 0.001 | -0.003 | 384 | 326 |
| 183-366 | White-collar | Men | -0.005 | -0.003 | -0.004 | -0.006 | -0.008 | -0.003 | 0.003 | 0.002 | 0.001 | 0.001 | 0.001 | 2,952 | 1,030 |
| 183-366 | White-collar | Women | -0.001 | -0.002 | 0.001 | 0.002 | -0.001 | 0.001 | 0.003 | 0.001 | 0.002 | 0.001 | 0.001 | 4,283 | 1,764 |
| 183-366 | Blue-collar | Men | -0.005 | -0.001 | -0.001 | 0.003 | 0.005 | -0.003 | 0.004 | 0.002 | 0.002 | 0.001 | 0.000 | 1,693 | 675 |
| 183-366 | Blue-collar | Women | -0.013 | -0.006 | -0.008 | -0.023 | -0.006 | 0.007 | -0.004 | 0.002 | 0.000 | 0.000 | 0.000 | 397 | 440 |
| more than 1y | White-collar | Men | 0.001 | 0.000 | 0.000 | -0.004 | -0.001 | -0.014 | 0.001 | 0.003 | 0.000 | 0.002 | 0.001 | 564 | 185 |
| more than 1y | White-collar | Women | 0.000 | 0.000 | 0.000 | 0.003 | 0.001 | -0.002 | 0.002 | 0.000 | 0.000 | 0.001 | 0.000 | 1,019 | 413 |
| more than 1y | Blue-collar | Men | -0.016 | -0.011 | 0.000 | 0.004 | 0.001 | -0.008 | 0.003 | -0.002 | 0.000 | 0.001 | 0.001 | 332 | 104 |
| more than 1y | Blue-collar | Women | -0.001 | 0.003 | 0.008 | -0.010 | -0.010 | -0.036 | 0.009 | 0.000 | -0.003 | 0.000 | -0.002 | 105 | 68 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.11: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers in Accommodation and Food Service

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | 0.007 | -0.002 | 0.014 | 0.013 | 0.027 | 0.003 | -0.008 | 0.000 | 0.000 | 0.000 | 0.000 | 63 | 96 |
| 1-91 days | White-collar | Women | 0.011 | -0.005 | 0.007 | 0.018 | 0.013 | -0.016 | 0.000 | 0.000 | 0.000 | 0.000 | -0.005 | 94 | 217 |
| 1-91 days | Blue-collar | Men | -0.004 | 0.002 | 0.007 | 0.011 | 0.018 | -0.035 | 0.001 | 0.003 | 0.000 | 0.004 | -0.004 | 203 | 414 |
| 1-91 days | Blue-collar | Women | 0.002 | 0.000 | 0.023 | 0.000 | 0.007 | -0.012 | -0.004 | -0.003 | -0.001 | -0.001 | 0.000 | 218 | 412 |
| 92-182 days | White-collar | Men | -0.007 | -0.001 | -0.008 | -0.007 | 0.005 | 0.012 | 0.023 | 0.000 | 0.000 | 0.000 | 0.000 | 57 | 75 |
| 92-182 days | White-collar | Women | -0.001 | 0.013 | -0.001 | 0.003 | -0.013 | -0.038 | 0.006 | 0.000 | 0.000 | 0.002 | -0.006 | 93 | 209 |
| 92-182 days | Blue-collar | Men | -0.014 | -0.015 | -0.006 | -0.003 | -0.008 | -0.012 | -0.005 | -0.001 | -0.001 | 0.001 | 0.002 | 233 | 424 |
| 92-182 days | Blue-collar | Women | -0.028 | -0.020 | -0.008 | -0.010 | -0.012 | 0.006 | -0.003 | -0.001 | 0.002 | 0.000 | 0.000 | 217 | 495 |
| 183-366 | White-collar | Men | 0.002 | 0.006 | 0.016 | -0.002 | -0.006 | -0.013 | 0.003 | 0.000 | 0.000 | 0.000 | 0.017 | 99 | 290 |
| 183-366 | White-collar | Women | -0.015 | -0.023 | -0.016 | 0.000 | -0.002 | 0.028 | 0.005 | -0.001 | 0.000 | -0.002 | 0.002 | 146 | 653 |
| 183-366 | Blue-collar | Men | 0.008 | -0.002 | 0.003 | 0.010 | 0.004 | 0.016 | 0.003 | -0.001 | -0.001 | 0.003 | -0.001 | 496 | 1,883 |
| 183-366 | Blue-collar | Women | 0.007 | 0.005 | 0.002 | 0.007 | 0.004 | 0.002 | -0.002 | -0.001 | 0.003 | 0.000 | 0.002 | 423 | 2,112 |
| more than 1y | White-collar | Men | -0.031 | -0.026 | -0.014 | -0.044 | -0.034 | 0.013 | 0.012 | 0.000 | 0.000 | 0.000 | 0.000 | 57 | 124 |
| more than 1y | White-collar | Women | 0.023 | -0.006 | -0.009 | -0.020 | -0.019 | -0.018 | -0.005 | -0.003 | 0.000 | 0.000 | 0.009 | 89 | 235 |
| more than 1y | Blue-collar | Men | -0.008 | 0.002 | 0.004 | 0.009 | 0.005 | -0.009 | 0.003 | 0.004 | 0.002 | 0.002 | -0.007 | 236 | 333 |
| more than 1y | Blue-collar | Women | -0.009 | 0.000 | -0.020 | -0.011 | -0.021 | -0.028 | -0.003 | -0.002 | 0.000 | 0.000 | -0.006 | 212 | 463 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.12: Balance metrics: Standardized mean differences for matched data sets, STW duration, workers in Construction

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-91 days | White-collar | Men | -0.008 | -0.010 | -0.010 | -0.005 | -0.007 | 0.005 | 0.000 | 0.002 | 0.001 | 0.002 | 0.002 | 2,835 | 1,061 |
| 1-91 days | White-collar | Women | -0.004 | 0.001 | -0.002 | 0.000 | 0.003 | 0.020 | 0.000 | 0.001 | 0.002 | 0.001 | 0.002 | 974 | 1,013 |
| 1-91 days | Blue-collar | Men | 0.000 | 0.001 | -0.002 | -0.001 | 0.003 | 0.003 | 0.001 | 0.003 | 0.004 | 0.002 | 0.003 | 7,232 | 8,012 |
| 1-91 days | Blue-collar | Women | -0.007 | 0.007 | 0.006 | -0.006 | 0.013 | 0.021 | -0.004 | -0.003 | 0.000 | 0.000 | -0.007 | 64 | 137 |
| 92-182 days | White-collar | Men | -0.003 | -0.004 | -0.003 | -0.001 | -0.006 | -0.009 | 0.006 | 0.005 | 0.002 | 0.002 | 0.004 | 620 | 218 |
| 92-182 days | White-collar | Women | -0.010 | -0.007 | 0.006 | -0.004 | -0.004 | -0.007 | 0.003 | 0.006 | 0.006 | 0.003 | 0.002 | 376 | 313 |
| 92-182 days | Blue-collar | Men | 0.003 | -0.003 | -0.004 | -0.002 | -0.002 | -0.001 | 0.004 | 0.003 | 0.004 | -0.002 | -0.001 | 1,472 | 968 |
| 92-182 days | Blue-collar | Women | 0.016 | 0.006 | -0.014 | -0.001 | -0.036 | 0.053 | -0.024 | -0.014 | 0.000 | 0.006 | 0.000 | 22 | 32 |
| 183-366 | White-collar | Men | 0.000 | -0.007 | -0.001 | -0.004 | 0.007 | 0.028 | 0.002 | -0.001 | -0.003 | 0.000 | 0.004 | 174 | 74 |
| 183-366 | White-collar | Women | -0.023 | -0.015 | -0.008 | 0.002 | -0.002 | 0.000 | 0.001 | -0.002 | -0.002 | -0.002 | 0.000 | 152 | 138 |
| 183-366 | Blue-collar | Men | -0.013 | -0.006 | -0.010 | -0.006 | -0.016 | -0.003 | 0.001 | -0.005 | 0.003 | 0.003 | 0.001 | 390 | 298 |
| 183-366 | Blue-collar | Women | -0.006 | -0.023 | -0.030 | -0.013 | -0.035 | -0.101 | -0.034 | 0.000 | 0.000 | 0.000 | 0.034 | 7 | 19 |
| more than 1y | White-collar | Men | 0.013 | 0.015 | 0.011 | -0.010 | 0.001 | -0.034 | 0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 42 | 29 |
| more than 1y | White-collar | Women | -0.025 | -0.019 | 0.001 | -0.030 | -0.048 | -0.061 | 0.027 | 0.000 | 0.064 | 0.000 | 0.029 | 28 | 30 |
| more than 1y | Blue-collar | Men | 0.008 | 0.000 | 0.008 | -0.010 | -0.003 | 0.026 | -0.004 | -0.006 | -0.008 | -0.004 | 0.001 | 132 | 63 |
| more than 1y | Blue-collar | Women | -0.057 | -0.041 | -0.057 | -0.040 | -0.178 | 0.154 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 4 | 4 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.13: Balance metrics: Standardized mean differences for matched data sets, STW incidence, all workers

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | -0.001 | -0.002 | -0.002 | -0.003 | -0.004 | 0.001 | 0.003 | 0.001 | 0.001 | 0.002 | 0.002 | 52,070 | 8,941 |
| STW20_only | White-collar | Women | -0.001 | 0.000 | -0.001 | 0.000 | -0.002 | -0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 31,123 | 11,247 |
| STW20_only | Blue-collar | Men | 0.001 | -0.001 | 0.000 | 0.001 | -0.002 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 44,536 | 23,393 |
| STW20_only | Blue-collar | Women | 0.000 | -0.001 | 0.001 | 0.000 | -0.002 | -0.010 | 0.002 | 0.001 | 0.000 | 0.000 | 0.001 | 6,439 | 4,025 |
| STW2021 | White-collar | Men | 0.000 | -0.002 | -0.003 | -0.004 | -0.006 | 0.003 | 0.002 | 0.002 | 0.001 | 0.001 | 0.002 | 14,296 | 3,033 |
| STW2021 | White-collar | Women | 0.001 | 0.000 | 0.000 | -0.001 | -0.004 | 0.000 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 15,428 | 5,384 |
| STW2021 | Blue-collar | Men | 0.000 | 0.000 | 0.002 | 0.002 | -0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.000 | 15,065 | 5,201 |
| STW2021 | Blue-collar | Women | -0.004 | 0.000 | 0.004 | 0.002 | -0.004 | -0.012 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 | 5,863 | 4,371 |
| STW21_only | White-collar | Men | -0.005 | -0.001 | 0.001 | -0.003 | -0.003 | 0.012 | 0.003 | 0.002 | 0.004 | 0.003 | 0.000 | 699 | 278 |
| STW21_only | White-collar | Women | 0.002 | 0.002 | 0.002 | -0.001 | 0.000 | -0.013 | 0.000 | 0.001 | 0.001 | 0.002 | -0.001 | 453 | 547 |
| STW21_only | Blue-collar | Men | -0.006 | -0.011 | -0.003 | -0.002 | 0.005 | -0.013 | 0.001 | 0.002 | 0.000 | 0.000 | 0.002 | 1,077 | 839 |
| STW21_only | Blue-collar | Women | 0.006 | 0.003 | 0.005 | 0.013 | 0.007 | -0.033 | 0.001 | 0.002 | 0.001 | 0.003 | 0.001 | 237 | 505 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.14: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers who changed firm during the COVID-19 pandemic

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | -0.002 | -0.002 | -0.002 | -0.003 | -0.004 | -0.003 | 0.004 | 0.003 | 0.002 | 0.002 | 0.004 | 6,122 | 1,368 |
| STW20_only | White-collar | Women | 0.000 | -0.001 | -0.002 | -0.001 | -0.003 | 0.001 | 0.003 | 0.002 | 0.002 | 0.003 | 0.004 | 4,043 | 1,766 |
| STW20_only | Blue-collar | Men | -0.002 | -0.001 | 0.001 | 0.001 | -0.001 | -0.008 | 0.005 | 0.003 | 0.003 | 0.004 | 0.005 | 4,776 | 2,974 |
| STW20_only | Blue-collar | Women | -0.001 | 0.004 | 0.002 | -0.007 | -0.008 | -0.007 | 0.001 | 0.001 | 0.000 | 0.000 | 0.006 | 667 | 502 |
| STW2021 | White-collar | Men | -0.001 | -0.001 | 0.000 | -0.004 | -0.004 | 0.000 | 0.002 | 0.002 | 0.002 | 0.002 | 0.005 | 1,447 | 508 |
| STW2021 | White-collar | Women | 0.003 | 0.001 | 0.003 | 0.002 | -0.001 | -0.004 | 0.003 | 0.001 | 0.002 | 0.002 | 0.002 | 1,796 | 880 |
| STW2021 | Blue-collar | Men | -0.001 | 0.002 | 0.004 | 0.000 | -0.003 | -0.011 | 0.000 | 0.002 | 0.001 | 0.001 | 0.002 | 1,492 | 848 |
| STW2021 | Blue-collar | Women | -0.002 | -0.003 | -0.003 | -0.005 | -0.017 | -0.012 | 0.005 | 0.003 | 0.001 | 0.003 | 0.004 | 653 | 516 |
| STW21_only | White-collar | Men | -0.003 | 0.006 | -0.010 | -0.010 | -0.021 | 0.008 | 0.000 | -0.003 | 0.008 | 0.005 | 0.000 | 93 | 99 |
| STW21_only | White-collar | Women | 0.025 | 0.018 | 0.007 | 0.002 | 0.001 | -0.033 | 0.000 | 0.000 | 0.000 | 0.008 | -0.010 | 79 | 138 |
| STW21_only | Blue-collar | Men | -0.026 | -0.026 | -0.009 | 0.005 | 0.006 | -0.043 | 0.003 | 0.006 | -0.004 | 0.009 | 0.004 | 122 | 196 |
| STW21_only | Blue-collar | Women | -0.030 | -0.012 | -0.019 | -0.005 | -0.033 | -0.187 | 0.008 | 0.000 | 0.000 | 0.000 | 0.000 | 15 | 98 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; workers with firm changes aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.15: Balance metrics: Standardized mean differences for matched data sets, STW incidence, young workers aged 20-29

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | -0.004 | -0.001 | 0.002 | 0.001 | -0.003 | -0.007 | 0.005 | 0.002 | 0.002 | 0.001 | 0.000 | 4,237 | 2,541 |
| STW20_only | White-collar | Women | -0.009 | -0.007 | -0.004 | 0.001 | 0.002 | -0.004 | 0.004 | 0.003 | 0.003 | 0.004 | 0.006 | 3,916 | 2,730 |
| STW20_only | Blue-collar | Men | 0.005 | -0.001 | 0.000 | 0.000 | -0.005 | -0.008 | -0.001 | -0.001 | 0.001 | 0.000 | -0.002 | 6,912 | 6,664 |
| STW20_only | Blue-collar | Women | -0.006 | 0.020 | 0.027 | 0.015 | 0.014 | -0.048 | -0.008 | 0.004 | 0.003 | 0.004 | -0.004 | 358 | 608 |
| STW2021 | White-collar | Men | -0.008 | -0.005 | -0.003 | 0.002 | 0.001 | 0.016 | 0.006 | 0.001 | 0.000 | 0.001 | 0.000 | 1,275 | 758 |
| STW2021 | White-collar | Women | -0.010 | -0.007 | 0.005 | -0.002 | -0.006 | 0.001 | 0.003 | 0.004 | 0.004 | 0.001 | 0.004 | 1,807 | 1,168 |
| STW2021 | Blue-collar | Men | -0.007 | -0.010 | -0.007 | -0.003 | -0.008 | -0.001 | 0.003 | -0.002 | -0.001 | -0.001 | 0.000 | 2,302 | 1,385 |
| STW2021 | Blue-collar | Women | -0.017 | 0.001 | -0.004 | -0.006 | -0.024 | -0.042 | 0.003 | 0.003 | 0.005 | -0.002 | 0.003 | 307 | 1,045 |
| STW21_only | White-collar | Men | 0.010 | 0.004 | 0.023 | 0.012 | 0.014 | 0.063 | 0.017 | 0.006 | 0.000 | 0.011 | 0.000 | 53 | 65 |
| STW21_only | White-collar | Women | -0.033 | -0.028 | -0.027 | -0.023 | 0.017 | 0.010 | 0.018 | 0.000 | 0.015 | 0.000 | 0.003 | 58 | 102 |
| STW21_only | Blue-collar | Men | -0.014 | -0.014 | 0.000 | -0.005 | 0.008 | 0.040 | -0.004 | -0.005 | 0.002 | 0.002 | 0.001 | 169 | 208 |
| STW21_only | Blue-collar | Women | -0.016 | 0.002 | -0.017 | 0.006 | 0.008 | -0.089 | 0.005 | 0.000 | 0.000 | 0.058 | 0.000 | 12 | 62 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 20-29 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.16: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers aged 50-59

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|------|----------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|-----------|
| STW20_only | White-collar | Men | 0.000 | -0.004 | -0.005 | -0.006 | -0.014 | 0.009 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 17,853 | 5,265 |
| STW20_only | White-collar | Women | -0.004 | -0.002 | 0.000 | 0.000 | -0.004 | 0.002 | 0.003 | 0.001 | 0.002 | 0.000 | 0.000 | 4,094 | 3,032 |
| STW20_only | Blue-collar | Men | 0.005 | 0.001 | 0.001 | 0.001 | -0.009 | 0.009 | 0.002 | 0.000 | 0.001 | 0.000 | 0.001 | 20,777 | 12,146 |
| STW20_only | Blue-collar | Women | 0.001 | 0.002 | 0.003 | 0.002 | -0.005 | -0.006 | -0.002 | 0.000 | 0.000 | 0.001 | -0.001 | 2,499 | 2,601 |
| STW2021 | White-collar | Men | -0.002 | -0.005 | -0.003 | -0.003 | -0.010 | 0.003 | 0.004 | 0.002 | 0.002 | 0.000 | 0.004 | 3,173 | 539 |
| STW2021 | White-collar | Women | -0.004 | -0.003 | -0.001 | -0.003 | -0.005 | -0.001 | 0.000 | 0.000 | 0.002 | 0.003 | -0.001 | 1,125 | 595 |
| STW2021 | Blue-collar | Men | -0.003 | -0.003 | -0.004 | -0.001 | -0.008 | 0.001 | 0.002 | 0.001 | 0.002 | 0.000 | 0.001 | 5,938 | 1,604 |
| STW2021 | Blue-collar | Women | -0.003 | 0.003 | 0.001 | 0.001 | -0.006 | 0.001 | 0.003 | 0.002 | 0.000 | 0.003 | 0.006 | 1,427 | 845 |
| STW21_only | White-collar | Men | -0.001 | -0.004 | -0.007 | -0.003 | -0.003 | 0.014 | 0.004 | -0.001 | 0.007 | 0.016 | 0.000 | 253 | 74 |
| STW21_only | White-collar | Women | 0.005 | 0.010 | 0.019 | 0.012 | 0.034 | -0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 75 | 61 |
| STW21_only | Blue-collar | Men | -0.001 | -0.003 | -0.012 | -0.001 | 0.006 | 0.009 | 0.001 | 0.004 | 0.002 | 0.005 | -0.001 | 590 | 232 |
| STW21_only | Blue-collar | Women | -0.014 | -0.022 | -0.017 | -0.004 | -0.008 | -0.015 | 0.009 | 0.004 | -0.003 | 0.000 | 0.000 | 102 | 94 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 50-59 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.17: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers in Manufacturing

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | 0.000 | -0.004 | -0.005 | -0.006 | -0.014 | 0.009 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000 | 17,853 | 5,265 |
| STW20_only | White-collar | Women | -0.004 | -0.002 | 0.000 | 0.000 | -0.004 | 0.002 | 0.003 | 0.001 | 0.002 | 0.000 | 0.000 | 4,094 | 3,032 |
| STW20_only | Blue-collar | Men | 0.005 | 0.001 | 0.001 | 0.001 | -0.009 | 0.009 | 0.002 | 0.000 | 0.001 | 0.000 | 0.001 | 20,777 | 12,146 |
| STW20_only | Blue-collar | Women | 0.001 | 0.002 | 0.003 | 0.002 | -0.005 | -0.006 | -0.002 | 0.000 | 0.000 | 0.001 | -0.001 | 2,499 | 2,601 |
| STW2021 | White-collar | Men | -0.002 | -0.005 | -0.003 | -0.003 | -0.010 | 0.003 | 0.004 | 0.002 | 0.002 | 0.000 | 0.004 | 3,173 | 539 |
| STW2021 | White-collar | Women | -0.004 | -0.003 | -0.001 | -0.003 | -0.005 | -0.001 | 0.000 | 0.000 | 0.002 | 0.003 | -0.001 | 1,125 | 595 |
| STW2021 | Blue-collar | Men | -0.003 | -0.003 | -0.004 | -0.001 | -0.008 | 0.001 | 0.002 | 0.001 | 0.002 | 0.000 | 0.001 | 5,938 | 1,604 |
| STW2021 | Blue-collar | Women | -0.003 | 0.003 | 0.001 | 0.001 | -0.006 | 0.001 | 0.003 | 0.002 | 0.000 | 0.003 | 0.006 | 1,427 | 845 |
| STW21_only | White-collar | Men | -0.001 | -0.004 | -0.007 | -0.003 | -0.003 | 0.014 | 0.004 | -0.001 | 0.007 | 0.016 | 0.000 | 253 | 74 |
| STW21_only | White-collar | Women | 0.005 | 0.010 | 0.019 | 0.012 | 0.034 | -0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | 75 | 61 |
| STW21_only | Blue-collar | Men | -0.001 | -0.003 | -0.012 | -0.001 | 0.006 | 0.009 | 0.001 | 0.004 | 0.002 | 0.005 | -0.001 | 590 | 232 |
| STW21_only | Blue-collar | Women | -0.014 | -0.022 | -0.017 | -0.004 | -0.008 | -0.015 | 0.009 | 0.004 | -0.003 | 0.000 | 0.000 | 102 | 94 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.18: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers in Wholesale, Retail; Motor Vehicle Repair

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|------|----------|-----|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|---------|-----------|
| STW20_only | White-collar | Men | -0.004 | -0.004 | -0.005 | -0.010 | -0.015 | 0.021 | 0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 9,388 | 6,229 |
| STW20_only | White-collar | Women | 0.000 | -0.002 | 0.000 | 0.002 | 0.001 | -0.002 | 0.002 | 0.001 | 0.001 | 0.001 | 0.003 | 6,637 | 2,948 |
| STW20_only | Blue-collar | Men | 0.002 | 0.000 | 0.002 | 0.004 | 0.005 | 0.011 | 0.001 | 0.001 | -0.001 | 0.001 | 0.000 | 4,268 | 3,856 |
| STW20_only | Blue-collar | Women | -0.007 | -0.009 | -0.013 | -0.008 | 0.006 | -0.001 | 0.000 | 0.003 | -0.001 | 0.001 | -0.001 | 510 | 604 |
| STW2021 | White-collar | Men | -0.004 | -0.003 | -0.005 | -0.010 | -0.011 | 0.013 | 0.001 | 0.001 | 0.000 | 0.000 | 0.001 | 4,864 | 2,607 |
| STW2021 | White-collar | Women | -0.001 | -0.003 | -0.002 | -0.001 | -0.004 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 7,931 | 3,974 |
| STW2021 | Blue-collar | Men | 0.005 | 0.002 | 0.006 | 0.006 | 0.003 | 0.000 | -0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 3,315 | 1,529 |
| STW2021 | Blue-collar | Women | -0.003 | -0.004 | -0.008 | -0.021 | -0.016 | 0.003 | 0.000 | -0.002 | 0.000 | -0.001 | -0.001 | 648 | 774 |
| STW21_only | White-collar | Men | -0.008 | 0.004 | -0.007 | -0.009 | -0.004 | 0.025 | -0.001 | -0.001 | 0.000 | 0.000 | -0.001 | 182 | 124 |
| STW21_only | White-collar | Women | -0.005 | -0.002 | -0.003 | 0.000 | 0.005 | 0.001 | -0.001 | 0.003 | 0.000 | -0.003 | 0.003 | 167 | 290 |
| STW21_only | Blue-collar | Men | -0.020 | -0.018 | -0.011 | 0.006 | 0.018 | -0.003 | -0.001 | 0.009 | 0.000 | 0.003 | -0.002 | 139 | 123 |
| STW21_only | Blue-collar | Women | 0.013 | 0.020 | -0.003 | 0.008 | -0.005 | -0.025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 31 | 39 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.19: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers in Accommodation and Food Service

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | 0.020 | 0.012 | 0.017 | 0.017 | 0.026 | -0.002 | -0.002 | 0.000 | 0.000 | 0.000 | 0.000 | 93 | 157 |
| STW20_only | White-collar | Women | 0.019 | 0.012 | 0.012 | 0.009 | 0.011 | 0.012 | 0.005 | -0.005 | 0.000 | 0.000 | -0.007 | 137 | 337 |
| STW20_only | Blue-collar | Men | -0.012 | -0.011 | -0.005 | -0.006 | 0.001 | -0.035 | -0.001 | -0.001 | 0.000 | 0.004 | 0.000 | 275 | 428 |
| STW20_only | Blue-collar | Women | -0.004 | -0.012 | 0.006 | 0.000 | 0.005 | 0.024 | -0.007 | -0.003 | -0.005 | -0.001 | -0.002 | 258 | 525 |
| STW2021 | White-collar | Men | 0.017 | 0.015 | 0.013 | 0.003 | -0.015 | 0.000 | 0.009 | 0.000 | 0.000 | 0.000 | 0.000 | 120 | 469 |
| STW2021 | White-collar | Women | -0.016 | -0.012 | -0.020 | -0.006 | -0.011 | 0.050 | 0.002 | -0.004 | -0.003 | -0.006 | -0.002 | 156 | 1,015 |
| STW2021 | Blue-collar | Men | -0.013 | -0.005 | -0.018 | -0.020 | -0.016 | 0.021 | 0.001 | 0.001 | 0.000 | 0.003 | -0.001 | 508 | 2,699 |
| STW2021 | Blue-collar | Women | 0.003 | 0.004 | 0.005 | 0.007 | 0.010 | 0.000 | -0.001 | 0.001 | 0.003 | 0.001 | 0.003 | 458 | 2,997 |
| STW21_only | White-collar | Men | -0.309 | -0.320 | -0.305 | -0.295 | -0.250 | -0.115 | 0.000 | 0.000 | 0.000 | 0.000 | 0.053 | 4 | 18 |
| STW21_only | White-collar | Women | -0.052 | -0.047 | 0.005 | -0.027 | -0.021 | 0.020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 10 | 81 |
| STW21_only | Blue-collar | Men | -0.027 | -0.022 | -0.014 | -0.022 | -0.025 | 0.017 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 40 | 272 |
| STW21_only | Blue-collar | Women | 0.019 | -0.007 | 0.016 | 0.014 | -0.009 | -0.027 | 0.002 | -0.015 | -0.005 | -0.004 | 0.011 | 26 | 288 |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.20: Balance metrics: Standardized mean differences for matched data sets, STW incidence, workers in Construction

| STW | Contract | Sex | DR 15 | DR 16 | DR 17 | DR 18 | DR 19 | Age | UE 15 | UE 16 | UE 17 | UE 18 | UE 19 | Matched | Unmatched |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STW20_only | White-collar | Men | -0.007 | -0.009 | -0.010 | -0.007 | -0.009 | 0.010 | 0.001 | 0.001 | 0.001 | 0.002 | 0.002 | 3,191 | 1,427 |
| STW20_only | White-collar | Women | 0.000 | 0.003 | -0.001 | -0.002 | 0.004 | 0.027 | 0.000 | -0.001 | 0.001 | 0.000 | 0.003 | 1,128 | 1,490 |
| STW20_only | Blue-collar | Men | 0.001 | -0.001 | -0.004 | -0.003 | 0.001 | 0.006 | 0.000 | 0.001 | 0.002 | 0.000 | 0.002 | 7,901 | 9,055 |
| STW20_only | Blue-collar | Women | 0.003 | 0.023 | 0.014 | 0.017 | 0.008 | 0.027 | -0.011 | -0.007 | 0.000 | 0.000 | 0.004 | 74 | 169 |
| STW2021 | White-collar | Men | -0.001 | 0.008 | -0.001 | -0.005 | -0.002 | 0.008 | 0.005 | 0.004 | 0.002 | 0.000 | 0.002 | 266 | 133 |
| STW2021 | White-collar | Women | -0.017 | -0.004 | -0.005 | -0.010 | -0.014 | 0.001 | 0.005 | -0.002 | 0.003 | -0.001 | 0.004 | 187 | 195 |
| STW2021 | Blue-collar | Men | 0.001 | -0.001 | -0.006 | -0.003 | -0.005 | 0.005 | 0.000 | 0.002 | 0.004 | 0.000 | 0.000 | 792 | 563 |
| STW2021 | Blue-collar | Women | 0.006 | -0.034 | -0.054 | -0.053 | -0.100 | -0.016 | 0.021 | 0.000 | 0.000 | 0.024 | 0.020 | 11 | 26 |
| STW21_only | White-collar | Men | -0.005 | -0.022 | 0.005 | 0.020 | 0.005 | -0.094 | -0.004 | 0.000 | 0.000 | 0.000 | 0.000 | 25 | 11 |
| STW21_only | White-collar | Women | 0.046 | 0.003 | -0.003 | -0.066 | -0.050 | -0.169 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 9 | 15 |
| STW21_only | Blue-collar | Men | -0.016 | -0.039 | -0.026 | -0.044 | -0.031 | 0.020 | 0.005 | -0.003 | -0.004 | -0.006 | 0.010 | 125 | 131 |
| STW21_only | Blue-collar | Women | - | - | - | - | - | - | - | - | - | - | - | - | - |

Coarsened exact matching (CEM) is performed separate for each group (STW x Contract x Sex) based on prior earnings trajectories (log daily rates 2015 to 2019, DR 15 - DR 19), unemployment (UE 15 – UE 19) and age; all workers aged 30-49 with earnings beyond the minimum threshold for the observation period 2015-2022. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.21: Median predicted yearly earnings of ST-workers post-STW (2022) and gaps to control group

| Short-time work | Sex | Contract | N (30-49y) | Yearly earnings | Gap to control |
|---|---|---|---|---|---|
| more than 1y | Men | White-collar | 11,700 | 55,253 | -2,920 |
| more than 1y | Men | Blue-collar | 14,200 | 40,860 | -2,458 |
| more than 1y | Women | White-collar | 15,800 | 36,276 | -2,131 |
| 183-366 | Men | White-collar | 41,900 | 58,965 | -1,352 |
| 183-366 | Women | White-collar | 52,900 | 35,766 | -1,100 |
| 92-182 days | Women | White-collar | 55,500 | 37,077 | -869 |
| 92-182 days | Men | White-collar | 54,900 | 62,468 | -817 |
| 183-366 | Men | Blue-collar | 52,800 | 43,105 | -672 |
| 1-91 days | Men | White-collar | 117,300 | 64,192 | -546 |
| more than 1y | Women | Blue-collar | 8,600 | 25,826 | -521 |
| 1-91 days | Women | White-collar | 110,700 | 39,341 | -449 |
| 92-182 days | Men | Blue-collar | 64,000 | 44,337 | -329 |
| 92-182 days | Women | Blue-collar | 25,000 | 27,533 | -270 |
| 183-366 | Women | Blue-collar | 34,700 | 26,242 | -147 |
| 1-91 days | Men | Blue-collar | 155,500 | 44,192 | -26 |
| 1-91 days | Women | Blue-collar | 35,500 | 27,842 | 10 |

Workers aged 30-49 (N tot in STW: 856,300). Based on TWFE-estimates. Predictions based on non-significant estimates in grey. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.22: Median predicted yearly earnings of ST-workers post-STW (2022) and gaps to control group

| Short-time work | Sex | Contract | N (30-49y) | Yearly earnings | Gap to control |
|---|---|---|---|---|---|
| 2021 only | Women | White-collar | 6,024 | 37,668 | -1,761 |
| 2020 and ´21 | Men | White-collar | 54,800 | 54,931 | -1,487 |
| 2020 and ´21 | Women | White-collar | 82,100 | 34,086 | -1,450 |
| 2021 only | Men | White-collar | 4,300 | 60,737 | -977 |
| 2020 and ´21 | Men | Blue-collar | 71,900 | 41,125 | -873 |
| 2020 only | Men | White-collar | 166,700 | 64,660 | -639 |
| 2021 only | Men | Blue-collar | 10,000 | 42,753 | -546 |
| 2020 only | Women | White-collar | 152,300 | 39,951 | -514 |
| 2020 and ´21 | Women | Blue-collar | 49,900 | 25,886 | -281 |
| 2021 only | Women | Blue-collar | 5,800 | 28,047 | -216 |
| 2020 only | Men | Blue-collar | 204,500 | 44,423 | -87 |
| 2020 only | Women | Blue-collar | 48,00 | 28,251 | 0 |

Workers aged 30-49 (N tot in STW: 856,300). Based on TWFE-estimates. Predictions based on non-significant estimates in grey. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.23: Lasting earnings gaps among young workers aged 20-29 post COVID-19 STW in 2022 (% differences in daily earnings)

| Short-time work | Blue collar workers | | | | White collar workers | | | |
| | Women | | Men | | Women | | Men | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *STW duration* | | | | | | | | |
| 1-91 days | 0.1 | (1.6) | 0.1 | (0.2) | −0.9 + | (0.5) | 0.2 | (0.4) |
| 92-182 days | −0.1 | (1.7) | −0.4 | (0.3) | −1.6 * | (0.7) | −1.9 ** | (0.6) |
| 183days - 1year | 2.1 | (1.8) | −1.5 *** | (0.5) | −1.1 | (0.8) | −4.7 *** | (0.8) |
| More than 1 year | −5.1 | (3.4) | −5.8 *** | (1.2) | 0.4 | (1.6) | −6.4 *** | (1.6) |
| *STW incidence* | | | | | | | | |
| 2020 only | −0.1 | ( 1.4) | 0.1 | ( 0.2) | −0.7 + | ( 0.4) | −0.1 | ( 0.3) |
| 2020 and ´21 | −2.4 + | ( 1.3) | −1.9 *** | ( 0.4) | −2.0 ** | ( 0.6) | −4.9 *** | ( 0.7) |
| 2021 only | | *(x)* | −1.6 | ( 1.2) | 2.0 | ( 4.2) | −3.4 | ( 2.1) |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic. Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. *(x)*: too few observations (less than 50 matches). Workers aged 20-29. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.


Table A.24: Lasting earnings gaps among workers aged 50-59 post COVID-19 STW in 2022 (% differences in daily earnings)

| Short-time work | Blue collar workers | | | | White collar workers | | | |
| | Women | | Men | | Women | | Men | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *STW duration* | | | | | | | | |
| 1-91 days | −0.3 | (0.3) | −0.2 + | (0.1) | −0.7 *** | (0.2) | −0.2 * | (0.1) |
| 92-182 days | −0.8 * | (0.4) | −1.2 *** | (0.2) | −1.5 *** | (0.2) | −0.9 *** | (0.1) |
| 183days - 1year | −0.7 * | (0.3) | −1.3 *** | (0.2) | −2.6 *** | (0.2) | −1.4 *** | (0.2) |
| More than 1 year | −1.6 ** | (0.6) | −6.3 *** | (0.5) | −3.1 *** | (0.4) | −3.5 *** | (0.5) |
| *STW incidence* | | | | | | | | |
| 2020 only | −0.7 ** | ( 0.2) | −0.4 *** | ( 0.1) | −0.9 *** | ( 0.1) | −0.5 *** | ( 0.1) |
| 2020 and ´21 | −0.7 * | ( 0.3) | −2.1 *** | ( 0.2) | −2.8 *** | ( 0.2) | −1.6 *** | ( 0.2) |
| 2021 only | −0.5 | ( 1.1) | −0.9 | ( 0.5) | −1.3 | ( 1.1) | 0.0 | ( 0.7) |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic. Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. Workers aged 50-59. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.25: Lasting earnings gaps post COVID-19 STW in 2022 (% differences in daily earnings) in the four economic sectors with the most STW cases

| Short-time work | Blue collar workers | | | | White collar workers | | | |
|---|---|---|---|---|---|---|---|---|
| | Women | | Men | | Women | | Men | |
| *Manufacturing (NACE C)* | | | | | | | | |
| 1-91 days | −0.3 | (0.5) | −0.1 | (0.1) | −1.5 *** | (0.4) | −0.7 *** | (0.1) |
| 92-182 days | −0.9 | (0.6) | −1.0 *** | (0.2) | −2.3 *** | (0.6) | −1.4 *** | (0.2) |
| 183days - 1year | −1.2 + | (0.6) | −1.5 *** | (0.2) | −3.2 *** | (0.7) | −1.9 *** | (0.2) |
| More than 1 year | −3.9 ** | (1.4) | −2.7 *** | (0.7) | −5.8 *** | (1.6) | −4.2 *** | (0.7) |
| *Wholesale, Retail Trade and Motor Vehicle Repair (NACE G)* | | | | | | | | |
| 1-91 days | −1.4 | (1.1) | 0.3 | (0.3) | 0.4 | (0.3) | −0.4 * | (0.2) |
| 92-182 days | −0.3 | (1.1) | −0.5 | (0.3) | −1.0 ** | (0.4) | −1.3 *** | (0.2) |
| 183days - 1year | −2.1 | (1.3) | −0.8 * | (0.4) | −1.7 *** | (0.4) | −1.7 *** | (0.3) |
| More than 1 year | −3.6 + | (2.0) | −0.2 | (0.9) | −3.0 *** | (0.8) | −3.5 *** | (0.8) |
| *Accommodation and Food Service Activities (NACE I)* | | | | | | | | |
| 1-91 days | −0.5 | (1.8) | −1.1 | (1.6) | 4.0 | (2.9) | −0.4 | (2.4) |
| 92-182 days | −0.1 | (2.0) | 0.6 | (1.7) | −1.4 | (3.2) | 0.1 | (3.2) |
| 183days - 1year | 1.1 | (1.4) | −1.6 | (1.1) | 1.6 | (2.3) | −1.5 | (2.2) |
| More than 1 year | −1.9 | (1.8) | −6.2 *** | (1.6) | −0.4 | (2.7) | −1.8 | (2.3) |
| *Construction (NACE F)* | | | | | | | | |
| 1-91 days | −0.6 | (3.5) | 0.3 | (0.2) | −1.0 | (0.8) | −0.2 | (0.3) |
| 92-182 days | | *(x)* | −0.2 | (0.4) | −2.9 * | (1.3) | −1.3 * | (0.7) |
| 183days - 1year | | *(x)* | −0.1 | (0.9) | −6.1 ** | (2.3) | −3.1 * | (1.2) |
| More than 1 year | | *(x)* | −2.4 + | (1.2) | | *(x)* | | *(x)* |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic. Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. *(x)*: too few observations (less than 50 matches). Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.26: Lasting earnings gaps post COVID-19 STW in 2022 (% differences in daily earnings) in the four economic sectors with the most STW cases

| Short-time work | Blue collar workers | | | | White collar workers | | | |
|---|---|---|---|---|---|---|---|---|
| | Women | | Men | | Women | | Men | |
| *Manufacturing (NACE C)* | | | | | | | | |
| 2020 only | −0.8 + | ( 0.4) | −0.4 *** | ( 0.1) | −1.8 *** | ( 0.4) | −0.9 *** | ( 0.1) |
| 2020 and ´21 | −1.6 ** | ( 0.6) | −1.9 *** | ( 0.2) | −4.2 *** | ( 0.7) | −2.2 *** | ( 0.2) |
| 2021 only | −0.3 | ( 1.7) | −1.2 * | ( 0.6) | −4.4 * | ( 1.9) | −1.2 | ( 0.9) |
| *Wholesale, Retail Trade and Motor Vehicle Repair (NACE G)* | | | | | | | | |
| 2020 only | 0.0 | ( 1.0) | 0.1 | ( 0.2) | 0.5 + | ( 0.3) | −0.6 *** | ( 0.2) |
| 2020 and ´21 | −0.9 | ( 0.9) | −0.5 + | ( 0.3) | −2.0 *** | ( 0.3) | −2.0 *** | ( 0.2) |
| 2021 only | | *(x)* | 1.3 | ( 1.1) | −1.9 | ( 1.5) | −0.7 | ( 0.9) |
| *Accommodation and Food Service Activities (NACE I)* | | | | | | | | |
| 2020 only | 1.4 | ( 1.9) | −1.2 | ( 1.6) | 0.3 | ( 2.3) | −1.9 | ( 2.0) |
| 2020 and ´21 | 0.2 | ( 1.3) | −1.9 + | ( 1.1) | 2.2 | ( 2.4) | −0.8 | ( 2.1) |
| 2021 only | | *(x)* | | *(x)* | | *(x)* | | *(x)* |
| *Construction (NACE F)* | | | | | | | | |
| 2020 only | −0.2 | ( 3.1) | 0.3 + | ( 0.2) | −0.7 | ( 0.7) | −0.2 | ( 0.3) |
| 2020 and ´21 | | *(x)* | −0.9 | ( 0.6) | −5.6 ** | ( 2.1) | −2.8 * | ( 1.1) |
| 2021 only | | *(x)* | −0.9 | ( 1.1) | | *(x)* | | *(x)* |

Estimates from two-way-fixed-effects regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic. Standard errors in parentheses. ***/**/*/+: estimates statistically significant at the 0.1%/1%/5%/10% confidence level. *(x)*: too few observations (less than 50 matches). Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.27: Lasting earnings gaps among workers post COVID-19 STW in 2022 (% differences in daily earnings) across earnings quantiles (STW duration)

| Contract | Sex | STW | Q 10 | Q 25 | Q 50 | Q 75 | Q 90 |
|---|---|---|---|---|---|---|---|
| Blue-collar | Women | 1-91 days | 0.3 (-0.7, 1.2) | 0.0 (-0.2, 0.4) | 0.1 (-0.2, 0.4) | 0.0 (-0.7, 0.7) | 0.5 (-0.8, 1.5) |
| Blue-collar | Women | 92-182 days | -1.4 (-2.5, -0.2) | -0.6 (-1.0, -0.2) | -0.1 (-0.4, 0.2) | -0.3 (-1.0, 0.5) | 0.0 (-1.7, 1.4) |
| Blue-collar | Women | 183-366 | -1.9 (-2.8, -1.0) | -0.8 (-1.2, -0.4) | -0.4 (-0.7, -0.1) | -0.9 (-1.8, 0.0) | -0.1 (-1.4, 1.2) |
| Blue-collar | Women | more than 1y | -4.2 (-5.9, -2.6) | -2.3 (-3.1, -1.4) | -1.8 (-2.4, -1.1) | -1.8 (-3.3, -0.3) | -1.5 (-4.1, 1.6) |
| Blue-collar | Men | 1-91 days | 0.2 (-0.1, 0.4) | 0.1 ( 0.0, 0.2) | 0.0 (-0.1, 0.1) | 0.0 (-0.2, 0.1) | -0.2 (-0.5, 0.1) |
| Blue-collar | Men | 92-182 days | -1.1 (-1.5, -0.8) | -0.7 (-0.8, -0.5) | -0.6 (-0.8, -0.5) | -0.7 (-0.9, -0.4) | -0.7 (-1.1, -0.3) |
| Blue-collar | Men | 183-366 | -1.9 (-2.4, -1.4) | -1.3 (-1.5, -1.0) | -1.0 (-1.1, -0.8) | -1.5 (-1.8, -1.2) | -1.9 (-2.5, -1.3) |
| Blue-collar | Men | more than 1y | -6.8 (-7.7, -5.6) | -5.7 (-6.2, -5.2) | -4.2 (-4.7, -3.7) | -5.6 (-6.3, -4.8) | -6.4 (-7.9, -5.2) |
| White-collar | Women | 1-91 days | -1.6 (-2.1, -1.2) | -0.8 (-1.0, -0.6) | -0.7 (-0.9, -0.5) | -1.2 (-1.5, -0.8) | -1.7 (-2.3, -1.1) |
| White-collar | Women | 92-182 days | -2.5 (-3.1, -1.9) | -1.3 (-1.6, -1.0) | -1.5 (-1.7, -1.1) | -2.1 (-2.5, -1.6) | -2.3 (-3.1, -1.6) |
| White-collar | Women | 183-366 | -4.1 (-4.8, -3.5) | -2.6 (-2.9, -2.3) | -2.5 (-2.8, -2.2) | -3.6 (-4.1, -3.0) | -3.4 (-4.4, -2.4) |
| White-collar | Women | more than 1y | -7.0 (-8.2, -5.7) | -4.4 (-4.9, -3.9) | -4.2 (-4.7, -3.7) | -5.3 (-6.2, -4.3) | -4.8 (-6.5, -3.4) |
| White-collar | Men | 1-91 days | -0.9 (-1.1, -0.6) | -0.2 (-0.3, -0.1) | -0.5 (-0.6, -0.4) | -0.8 (-0.9, -0.6) | -1.0 (-1.3, -0.7) |
| White-collar | Men | 92-182 days | -1.8 (-2.2, -1.4) | -0.7 (-0.9, -0.6) | -1.1 (-1.2, -0.9) | -1.4 (-1.6, -1.1) | -1.5 (-1.9, -1.0) |
| White-collar | Men | 183-366 | -2.6 (-3.1, -2.1) | -1.5 (-1.7, -1.4) | -1.6 (-1.8, -1.4) | -2.1 (-2.4, -1.8) | -2.5 (-3.1, -2.0) |
| White-collar | Men | more than 1y | -6.4 (-7.2, -5.4) | -3.9 (-4.4, -3.4) | -3.2 (-3.5, -2.8) | -3.9 (-4.5, -3.2) | -4.0 (-5.0, -2.9) |

Estimates from two-way-fixed-effects quantile regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic, compared within the specified quantiles of the log earnings distribution. Confidence intervals in parentheses using standard errors computed from a Huber sandwich estimate which assumes which presumes local (in quantiles) linearity (in x) of the conditional quantile functions (method "nid", see Koenker, 2022). Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Table A.28: Lasting earnings gaps among workers post COVID-19 STW in 2022 (% differences in daily earnings) across earnings quantiles (STW incidence)

| Contract | Sex | STW | Q 10 | Q 25 | Q 50 | Q 75 | Q 90 |
|---|---|---|---|---|---|---|---|
| Blue-collar | Women | STW20_only | -0.6 ( -1.5, 0.3) | -0.2 ( -0.4, 0.1) | 0.0 ( -0.3, 0.2) | -0.2 ( -0.7, 0.4) | 0.3 ( -0.6, 1.3) |
| Blue-collar | Women | STW2021 | -2.3 ( -3.2, -1.6) | -1.2 ( -1.5, -0.9) | -0.8 ( -1.0, -0.5) | -1.0 ( -1.6, -0.3) | -0.8 ( -2.0, 0.4) |
| Blue-collar | Women | STW21_only | -1.0 ( -4.8, 1.5) | 0.3 ( -1.7, 1.3) | 0.6 ( -0.7, 2.1) | 0.7 ( -2.6, 3.3) | 1.6 ( -5.6, 7.6) |
| Blue-collar | Men | STW20_only | -0.2 ( -0.4, 0.1) | -0.1 ( -0.2, 0.0) | -0.1 ( -0.2, 0.0) | 0.0 ( -0.2, 0.1) | -0.2 ( -0.4, 0.1) |
| Blue-collar | Men | STW2021 | -3.4 ( -3.8, -2.9) | -2.2 ( -2.4, -2.0) | -1.7 ( -1.9, -1.6) | -2.2 ( -2.6, -2.0) | -2.9 ( -3.3, -2.4) |
| Blue-collar | Men | STW21_only | -0.3 ( -1.5, 1.2) | -0.6 ( -1.4, 0.2) | 0.1 ( -0.7, 0.6) | -0.3 ( -1.1, 0.6) | -1.1 ( -2.5, 0.5) |
| White-collar | Women | STW20_only | -1.6 ( -2.1, -1.3) | -0.8 ( -1.0, -0.7) | -0.8 ( -1.0, -0.6) | -1.3 ( -1.6, -1.0) | -1.6 ( -2.0, -1.1) |
| White-collar | Women | STW2021 | -4.7 ( -5.3, -4.1) | -3.0 ( -3.2, -2.7) | -2.8 ( -3.1, -2.6) | -4.1 ( -4.6, -3.7) | -3.9 ( -4.7, -3.1) |
| White-collar | Women | STW21_only | -2.7 ( -6.3, 0.7) | -0.7 ( -1.7, 0.5) | -2.2 ( -3.8, -0.4) | -3.0 ( -5.2, -1.0) | -6.1 (-11.5, -1.6) |
| White-collar | Men | STW20_only | -1.0 ( -1.3, -0.8) | -0.2 ( -0.3, -0.2) | -0.6 ( -0.7, -0.5) | -0.9 ( -1.0, -0.7) | -1.1 ( -1.3, -0.8) |
| White-collar | Men | STW2021 | -3.4 ( -3.9, -3.0) | -2.2 ( -2.4, -2.0) | -2.1 ( -2.3, -1.9) | -2.6 ( -2.8, -2.3) | -3.3 ( -3.8, -2.8) |
| White-collar | Men | STW21_only | -1.6 ( -3.4, 0.9) | -0.2 ( -1.2, 0.8) | 0.0 ( -0.7, 0.9) | -1.3 ( -2.9, -0.1) | -3.2 ( -5.3, -0.3) |

Estimates from two-way-fixed-effects quantile regressions for the year 2022 based on matched data sets. Estimates are percent point differences in daily earnings between ST-workers after returning to regular employment and similar workers who never were in STW throughout the pandemic, compared within the specified quantiles of the log earnings distribution. Confidence intervals in parentheses using standard errors computed from a Huber sandwich estimate which assumes which presumes local (in quantiles) linearity (in x) of the conditional quantile functions (method "nid", see Koenker, 2022). Workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), own calculations.

Figure B.1: Earnings effects of COVID-19 STW across incidence groups, gender, and employment contract
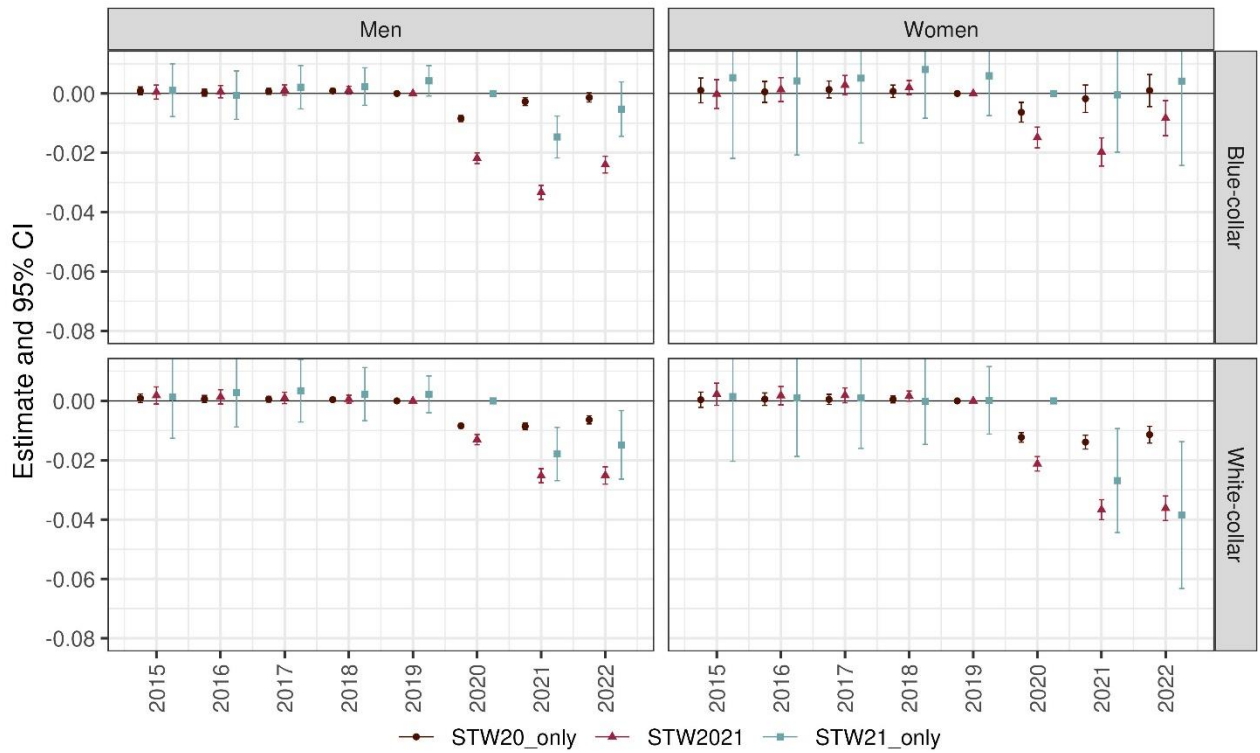


Causal effects estimates based on matched datasets per STW incidence types (balanced on pre-COVID-19 earnings trajectories and unemployment between 2015 – 2019 as well as 5-year age groups; workers aged 30-49. Source: Register data from the Austrian Labour market data base (https://arbeitsmarktdatenbank.at/), calculations by the authors.