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Standard and non-standard working arrangements in Norway – consequences of COVID-19

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ABSTRACT

This study investigates how work-related consequences of COVID-19 in Norway during the first wave varied between workers in different employment arrangements. The generalised linear model (GLM) regressions estimate the relative risk of being directed to work from home, temporarily laid off, having reduced working time and income loss in a representative sample of 3002 workers. The models compare temporarily employed and self-employed workers with permanently employed workers and workers in voluntary and involuntary part-time positions with full-time workers. Results indicate that the self-employed had a higher likelihood of experiencing reduced working time and income loss. Temporary employment did not entail a higher likelihood of any measured outcomes. Part-time workers had a higher chance of income loss and a lower chance of being directed to work from home than full-time workers. Results also indicate that employees in part-time positions had a higher likelihood of having reduced working hours. The findings are discussed with perspectives on flexibility, risk and how standard jobs form regulation and welfare policy. Despite the government's efforts to increase the safety nets for new groups of workers, our results indicate that the coverage was not wide enough. Thus, illustrating the individual economic risk inherent in non-standard employment relationships.

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Introduction

The COVID-19 crisis shook Norwegian working life immediately following the government's announcement of policy measures to limit the spread of the disease on March 12 2020. Consequences for employees in this first wave of the pandemic during the winter and spring of 2020 spanned from adapting new work routines to imposed home office and to temporary or permanent job and income loss (Mamelund et al. 2020). As with most social consequences, the burden of the international crisis and the local Norwegian lockdown was unevenly distributed, with temporary and permanent job loss more often registered among lower income, lower education groups, younger workers and immigrants (Alstadsæter et al. 2020). To minimise businesses' and individuals' economic consequences of public health measures, the Parliament swiftly changed the welfare and work regulations, extending welfare coverage for both employees and the self-employed.

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Official Norwegian registers show a large increase in the number of unemployed during the first weeks of the crisis. However, the registers provide less information about how the risk of layoffs is associated with the type of employment relationship: whether they are temporary or permanent, or if part-time work is voluntary or involuntary. Furthermore, the registers do not include information about income and working time losses amongst workers who are uncovered by the temporary layoff regulations or who do not qualify for unemployment benefits.

Therefore, this study investigates how the work-related consequences of COVID-19 are associated with standard and non-standard working arrangements using survey data collected from a representative sample of 3002 workers in March and April 2020. Specifically, the study determines how fixed and temporary employment, self-employment and full-time, voluntary and involuntary part-time work were associated with working from home, reduced working hours, income loss and temporary layoffs during the first wave of COVID-19 in Norway.

Norway, along with neighbouring countries Denmark and Finland, has succeeded in keeping morbidity and mortality at a low level, with no excess mortality due to COVID-19 in the first or second wave.[1] The relatively early and strict lockdowns, low population densities, few large cities, a population with high trust in government and economic buttressing of businesses and workers enabled by the oil fund are some possible explanations for the low morbidity and mortality (Ursin et al. 2020; Christensen and Lægreid 2020). The situation parallels that in Australia and New Zealand, although these countries are islands and have had much greater success in disease elimination (Jefferies et al. 2020; O'Sullivan et al. 2020). As observed by O'Sullivan et al. (2020) for Australia, the wider social impacts of COVID-19 in Norway stem from concerns about personal safety and job security due to the policy measures taken to limit the spread of the virus rather than from the disease itself (Ursin et al. 2020).

COVID-19 policy measures and unemployment levels in Norway

The policy measures implemented by the Norwegian government in March 2020 were first directed at limiting the spread of disease. Quickly, the focus was also on containing negative economic effects and then on mitigating the social cost of the implementations (Ursin et al. 2020). Non-pharmaceutical intervention (NPI) to reduce the spread of disease imposed by the government included restrictions on travel, border control and social distancing measures. Schools and kindergartens were closed, and anyone who could work from home was encouraged to do so. The measures directly affected temporary and permanent layoffs in industries where social distancing was impossible (e.g. hairdressers and physiotherapists), as businesses were forced to temporarily keep closed. Sports and cultural arrangements were prohibited, as social gatherings were kept at a minimum. As a secondary effect, the measures removed the customer base for retail, travel, hotels and restaurants with consequent layoffs.

Although individual employment protection is strong in Norway, collective employment protection is rather weak, allowing companies in economic decline to adjust the number of employees following agreed-upon principles. Norwegian employers in the private sector can also temporarily lay off employees, thereby alleviating the employees' duty to work for the employer and the employers' duty to pay wages while retaining the

employment relationship. Normally, the employer pays for the first 15 days of the temporary lay-off period, after which the government takes over the financial burden. This state-sponsored flexibility is designed to delay or avoid unnecessary dismissals due to fluctuations in the market (Svalund et al. 2013). Accompanying the NPI restrictions, the Norwegian Parliament changed the regulations governing temporary layoffs with immediate effect, allowing laid-off workers to be paid full wages up to the income limit of 600,000 NOK (91,733 AUD) for the first 20 days. After that, the benefits amounted to 80% of income below NOK 300,000 and 62.4% of income between NOK 300,000 and 600,000. The government reduced the employers' responsibility for paying wages from 15 to 2 days, after which the government assumed responsibility. After the employer-funded period, the employees attained the right to unemployment benefits if they were laid off at a level of at least 40% of their working time and if their income in the former year was above the minimum of 75,000 NOK.

At the height of the first wave in April 2020, 420,000 people signed up for unemployment benefits. The unemployment rate rose to 15%, from a normal level of around 3%. Most of these workers were, however, temporarily laid off from their position. The risk of layoffs followed patterns of social inequality – it is higher among employees with lower education, income and social background. Women were hit more than men initially, but within a couple of months, males in the private sector were more exposed to layoffs. The exception was among employees with small children, where more females were laid off (Alstadsæter et al. 2020). What these official numbers on layoffs do not show, however, is the working time and income loss of employees who did not get laid off but were not called in for work as usual.

The self-employed are not employees and normally do not qualify for unemployment benefits. Through regulatory changes, the government granted self-employed temporary access to unemployment benefits if they had income loss due to COVID-19, after covering the first 16 days of income loss themselves. The benefit was based on earnings from 2019 and covered 80% of income up to 600,000 NOK.

Non-standard jobs and economic risk in a welfare state

The standard employment relationship (SER) is defined as full-time, continuous employment with one employer (Vosko 2009, 396). Non-standard employment relationships (NSER) are relationships that deviate from SER. In this study, NSER comprises self-employed workers, workers in temporary positions and voluntary and involuntary part-time positions. The norm of SER dominates Norwegian working life. The relatively high share of part-time employees at 24%,[2] mainly women, is the exception. The temporary employed comprise 6.5%[3] of the labour force and the self-employed comprise 6.3%.[4] Temporary agency workers account for around 2% of the hours worked (Nergaard 2018).

NSER have been advised to increase companies' numerical flexibility, allowing them to swiftly adjust their workforce according to fluctuations in business needs. The strategy involves organising businesses' workers into the stable core of permanent full-time career employees and the numerically adjustable periphery of temporary employees, part-time employees, self-employed and temporary agency workers and consultants (Atkinson 1984). A study of Norwegian private sector companies in 2010 showed that they actively used staffing to counter the economic effects of the financial crisis. Just above half of the

companies economically affected by the crisis had reduced the number of new hires, half had temporarily or permanently dismissed employees or asserted to voluntary layoffs, and almost as many had reduced over time. While dismissing, employees have negative connotations and long-term implications, reducing new hires and overtime is much easier to implement (Nesheim 2013). In case studies of manufacturing companies after the same crisis, it was seen as an important signal to union representatives that contracts governing external labour from temporary work agencies or consultants were terminated before any dismissals of permanent staff (Svalund et al. 2013).

Shifting the economic risk of employment to the worker, NSER is often associated with insecure or precarious employment conditions for the workers (Broughton et al. 2016). However, precarious employment defined as 'uncertain, unpredictable and risky from the workers' viewpoint (Kalleberg 2009, 2) and NSER are not interchangeable concepts (Vosko 2010). Separating the concepts of non-standard and precarious work, Burgess and Campbell (1998) asserted the importance of emphasising which characteristics of employment arrangements generate precariousness. They concluded that precarious employment is characterised by a lack of protective regulation, short or uncertain duration, lack of standard employment benefits and ambiguous or unprotected legal status.

Bosch (2004) argued that the essence of SER lies not in the form it takes as full-time permanent employment, but in the functions it provides for employees, employers and society. The SER protects employees and their families from a pure market relationship and provides a reliable framework for firms and their employees' cooperation. For society, the SER provides reduced inequality and an incentive for investment in human capital by its members.

The type of employment relationship and the dichotomy between standard and non-standard jobs represent an important feature of employment regimes and social relations because legislative models have been framed around the SER (Burgess and Campbell 1998). Bosch (2004) highlighted the social-democratic welfare system of the Scandinavian model as a possible model for a more flexible SER, where full-time permanent employment is not a requirement for security. Norway, along with the other Nordic countries, is often highlighted as a country where NSER is less associated with precarity due to a relatively egalitarian and inclusive society with high levels of social security, high union density and comprehensive welfare policies (Broughton et al. 2016).

Recent policy development in Norway before the pandemic seems to be directed at retaining the share of workers in standard employment, while acknowledging that a certain (low) level of atypical work is integral to the Norwegian labour market. Providing flexibility for businesses is one reason for allowing a small share of non-standard work, but the discourse also highlights certain categories of workers who appreciate the possibility of flexible work schedules, such as students. Changes to the Working Environment Act (WEA) made in 2015 were aimed at easing firms' possibilities to hire temporary workers in which the stated aim was to help less attractive workers (for instance, those who have been inactive for some years) to enter Norwegian working life. The regulatory changes also involved increased restrictions on the possible length of temporary positions, and in sum, any effect of the regulatory change on employment or in the share of temporary employment was minimal (Strøm et al. 2018).

Changes to the WEA in 2006 and 2013 were aimed at decreasing (female) part-time work by making it easier for part-time employees to demand an increase in their working time. (Kavli et al. 2019). Studies of the healthcare sector, a sector with a high share of part-time workers and an unmet demand for labour, show that policymakers' changes aimed at combating involuntary part-time are sometimes undermined by workplace level practices. The limited power resources of certain categories of workers lacking formal qualifications or language skills means that employers can meet demands for increased working time with offers of more shifts at nights and weekends and at several workplaces (Kavli et al. 2019). During the last two decades, the share of part-time workers has increased amongst the self-employed, men younger workers and less educated and low skilled workers. The share of part-time increased in part-time in retail trade, hotels and catering and personal services, while it decreased amongst women and in public services (Nätti and Nergaard 2019). Although there are no signs of insecurity increasing amongst part-time employees regarding full-time employees (Nätti and Nergaard 2019), the increase in part-time in sectors with a lower degree of unionisation and amongst groups that have weaker labour market positions can indicate a trend towards part-time work moving from a 'flexible SER' (reduced working time, but with the same level of employment protection and social security) to a more precarious position.

Rasmussen et al. (2019) compared NSER workers in the four Nordic countries in their analyses of job insecurity, understood as instability or uncertainty associated with their current job, and income insecurity, by measuring whether the person was dissatisfied with the number of hours worked in their current job. They found that both measures of insecurity were higher for employees in marginal part-time positions (< 12 h) and employees in temporary positions than amongst full-time permanent employees in Norway, although the associations were stronger in Sweden and Finland. The authors concluded that these differences between countries cause institutional settings and differences in the degree of voluntariness associated with employment forms (Rasmussen et al. 2019). The voluntariness of employment arrangements has been shown to be associated with several job quality indicators, including job security (Kauhanen and Natti 2015).

Some Nordic scholars have argued that the government policies during the crisis have expanded the welfare state coverage to formerly unsupported workers, such as freelancers and the self-employed (Greve et al. 2021), making coverage more inclusive. Nonetheless, framing it around the existing unemployment benefits, earnings and hours thresholds still apply. These thresholds potentially restrict access to benefits for employees who work part-time, combine sources of income or have fluctuating income between years.

In summary, there is a need to empirically investigate the resulting employment-related consequences of the expanded welfare state coverage for workers in various types of employment relationships.

Materials and methods

The analyses utilise data from the twelfth wave of the Norwegian Employment Outlook Survey (EOS) collected between 24 March and 20 April 2020. The EOS is run annually amongst a representative sample of workers with the goal of surveying a broad spectrum of work-related themes. Respondents were recruited through the Kantar-panel, and they

answered the survey online (Computer-assisted self-interviewing). The 2020 data comprise a representative sample of 3002 Norwegian employees. The 20-minute questionnaire measures several aspects of working life, including working arrangements. In 2020, questions about COVID-19 work-related consequences were added at the end of the survey.

The employment-related consequences of COVID-19 analysed in this study were measured with a multi-item question, the main question being: 'Have you, as a worker, experienced either of the following because of the coronavirus outbreak?' Response alternatives were 'Yes', 'No' and 'Don't know/not relevant'. Also, the respondent could choose not to answer the question. The items were: daily work routines are different; less work; more work; directed to work from home; reduction of working time; leave to care for children due to kindergarten and school closures; early retirement offer; temporarily laid off; permanently laid off; resigned voluntarily; and income loss.

In the analyses, I concentrated on four employment-related consequences: 'directed to work from home', 'reduction of working time', 'temporarily laid off' and 'income loss'. Very few respondents had been permanently laid off (1%), resigned (1%), been offered early retirement (1%) or had taken leave to take care of children (7%) at the time of the survey (analyses not shown). The low share makes it less interesting to analyse these outcomes. The answers were recoded into dummy variables where workers who had experienced these consequences were given the value 1 ('yes') and others were given the value 0 ('no' and 'don't know/not relevant'). Those who had not answered the question were not included in the analyses.

Working arrangements measured in the survey comprise temporary or permanent position, self-employment, full-or part-time position, whether one wishes to work more, the reason for part-time work, on-call work and temporary agency work. Based on the questionnaire, I identified two main variables with mutually exclusive categories. 1) Type of employment relationship: permanently employed, temporary employed and self-employed. 2) Working-time organisation: Full-time, voluntary part-time (work part-time, do not want to work more and main reason for part-time is not lack of full-time positions), involuntary part-time (work part-time, want to work more and main reason for part-time work is lack of full-time position) and finally, the remainder not fulfiling the criteria of voluntary or involuntary part-time termed 'ambivalent part-time' (work part-time, most would like to work more, but most have other explanations for part-time than lack of full-time positions, like health or taking care of family).

Control variables include gender (male/female), age group, whether completed tertiary education or not, private or public sector, industry (20 categories) and number of employees at the workplace. The control variables were collected by the panel provider, Kantar.

Methods

The methods used include descriptive statistics of the whole sample and for subcategories based on the employment relationships and types of working-time organisation. Also, descriptive statistics of the share of workers in each relationship type who have experienced each of the COVID-19 employment-related consequences are displayed. Differences between workers in different types of relationships and working-time

organisation are tested using Chi-square tests. These descriptive statistics were weighted by age, gender and highest level of education to account for non-response. Weights were not applied to the data in the multivariate analyses. There was a low share of missing responses in the data. The exception was for sector (missing = 344) and industry (n = 58). These variables were appended from panel data and are most likely missing at random, meaning that it is unlikely that neither missing information about sector nor industry is associated with the other variables in this study.

Multivariate regressions were performed separately for each employment-related outcome, with type of employment relationship and working-time organisation entered separately as the main explanatory variables. All regression models controlled for the same background variables. I used STATAs generalised linear model (GLM) regression with a modified Poisson approach and robust standard errors to estimate the relative risk of experiencing each outcome. As advanced by Zou (2004), this approach estimates relative risk consistently and effectively, supplying easily interpretable measures without the tedious computations required to convert odds ratios to relative risks when using logistic regression. Robustness checks were conducted by computing the same models using standard ordinary least squares (OLS) and logistic regression, also in STATA.

Results

Descriptive statistics

Table 1 shows the characteristics of the whole samples and workers with each type of employment relationship and working-time organisation. Table 2 shows how types of employment relationships and working-time organisation overlap. In the whole sample, 91% are permanently employed, 6% are temporarily employed, and 3% are self-employed. Also, 85% work full-time, 7% voluntary part-time, 4% involuntary part-time and 4% ambivalent part-time. Compared to official data on the Norwegian working population, the sample is somewhat skewed towards employees in full-time employment. Some of the explanations for this is that only those who have full-or part-time employment as their main activity are invited to participate in the EOS. Thus students, retired and other people with marginal part-time jobs as a side activity are not part of our sample.

The temporary and self-employed are compared to permanent employees, which is considered the standard employment relationship. The temporary employed are younger and more often female than permanent employees. Temporary employment is more common amongst employees with tertiary education, mostly because the youngest employees more often than older employees have completed tertiary education. Temporary employment is more common in the public sector than in the private sector, and is overrepresented amongst workers in childcare, schools and education and research and analysis. Involuntary part-time positions are more common amongst the temporary employed. They are also more often temporary agency workers (TAW) or on-call workers than permanent employees are.

Self-employed are more often men and about the same age as permanent employees. Working in the primary industries (mainly farming and fishing) and in the media, public relations and the cultural- and sports- and organisational sector is more common amongst the self-employed. Most self-employed say they work in the private sector. By

Table 1. Descriptive analysis of sample characteristics. Weighted.

		Employment relationship			Working time			
	Total	Permanent[a]	Temporary	Self-empl.	Full-time[a]	Voluntary part-time	Involunt. part-time	Ambiv. part-time
N (Unweighted)	3002	2753	139	99	2550	230	86	114
Female	47%	47%	60%**	28%**	42%	76%***	73%***	78%***
Age								
Below 30	21%	19%	49%***	17%	20%	14%	42%***	29%*
30–44	29%	29%	25%	30%	29%	19%***	33%	34%
45–59	36%	37%	21%***	33%	38%	36%	17%***	24%**
60+	14%	14%	5%**	21%	13%	32%***	8%	12%
Highest level of completed education								
Non-tertiary education	60%	61%	47%***	58%	58%	72%**	76%**	68%
Tertiary education	40%	39%	53%***	42%	42%	28%**	24%**	32%
Industry								
Public admin.	9%	9%	3%**	-	9%	8%	3%	4%
Childcare/educ	11%	10%	23%***	7%	10%	14%	14%	16%
Health services	9%	9%	9%	6%	8%	16%***	8%	21%***
Social services	2%	2%	3%	1%	2%	3%	-	0%
Health care	4%	4%	4%	1%	3%	9%***	17%***	8%**
Defence/police/ justice	3%	3%	1%	1%	3%	1%	3%	0%
Primary industries	1%	1%	-	14%***	1%	2%	-	-
Manufacturing	7%	7%	3%	6%	7%	4%	2%	2%
Building/ construction	7%	7%	0%***	10%	7%	3%	2%	4%
Wholesale/ retail	9%	9%	8%	12%	7%	12%	25%***	16%**
Transportation	5%	6%	0%*	5%	6%	2%*	-	4%
Culture/sports/ org.	3%	2%	6%*	7%**	2%	3%	5%	2%
Media/PR	2%	2%	2%	9%***	2%	1%	3%	-
Research/analysis	2%	1%	10%***	-	2%	0%	-	1%
Travel and hotel	2%	2%	3%	2%	2%	3%	4%	2%
Restaurant/ bars	2%	2%	3%	1%	2%	5%**	11%***	3%
Telecom/IT	4%	4%	5%	2%	5%	2%	1%	1%
Finance/insurance	3%	3%	4%	1%	3%	3%	2%	1%
Business services	3%	3%	1%	3%	3%	2%	-	5%
Oil/gas/energy	6%	7%	2%*	-	7%	0%**	-	1%*
Other	7%	7%	7%	13%	8%	7%	2%	7%
Sector								
Private sector	61%	60%	46%***	95%***	62%	45%***	55%	57%
Public sector	39%	40%	54%**	5%***	38%	55%***	45%	43%

[a]Reference category for chi-square test, ***p < 0.001, **p < 0.01, *p < 0.05

definition, this should be 100%; however, some self-employed may have interpreted the question as to which sector they mainly offer their services. The self-employed do not stand out with significantly different working-time arrangements than permanent employees, but it is noteworthy that none of the self-employed in our sample are categorised as involuntary part-time.

Employment-related consequences of COVID-19

Table 3 describes the employment-related consequences across types of employment relationships and working time. Amongst all workers, 48% had worked from home more often than usual and 41% had been directed to work from home because of COVID-19. Fewer have experienced the more dire employment related consequences: 18% had

Table 2. Descriptive analysis of sample characteristics, employment relationship and working time organisation. Weighted.

		Employment relationship			Working time			
	Total	Permanent[a]	Temporary	Self-empl.	Full-time[a]	Voluntary part-time	Involunt. part-time	Ambiv. part-time
N (Unweighted)	3002	2753	139	99	2550	230	86	114
Employment relationship								
Permanent	91%	100%	-	-	93%	87%*	73%***	80%***
Temporary	6%	-	100%	-	4%	7%	27%***	14%***
Self-employed	3%	-	-	100%	3%	6%	-	6%
Working time								
Full-time	85%	87%	62%***	79%	100%	-	-	-
Voluntary part-time	7%	6%	9%	12%	-	100%	-	-
Involuntary part-time	4%	3%	18%***	0%	-	-	100%	-
Ambivalent part-time	4%	4%	11%***	9%	-	-	-	100%
Other employment relationship types (not exclusive):								
Temporary Agency Worker	1%	1%	9%***	2%	1%	1%	1%	2%
On-call worker	2%	1%	18%***	3%	0%	5%***	20%***	14%***

[a]Reference category for chi-square test, ***p < 0.001, **p < 0.01, *p < 0.05

Table 3. Work-related consequences of COVID-19 by employment relationship and working-time organisation. Descriptive statistics, weighted.

		Employment relationship			Working time			
	Total	Permanent[a]	Temporary	Self-employed	Full-time[a]	Voluntary part-time	Involuntary part-time	Ambivalent part-time
Unweighted N	2991	2743	139	98	2541	230	86	114
Directed to work from home	41%	41%	43%	28%*	45%	25%***	18%***	23%***
Reduction of working-time	18%	17%	25%*	37%***	16%	25%**	37%***	31%***
Temporary laid-off	13%	13%	12%	13%	12%	14%	31%***	20%*
Income-loss	12%	11%	19%**	40%***	10%	15%	30%***	26%***

[a]Reference category for chi-square test, ***p < 0.001, **p < 0.01, *p < 0.05

reduced working time, 13% had been temporarily laid off, and 12% had experienced income loss. The consequences vary greatly between different types of employment relationships and working-time arrangements (Table 3).

There is no significant difference in the share of permanently and temporarily employed working from home or directed to work from home. Fewer self-employed have had to work from home more often due to COVID-19. Fewer voluntary and involuntary part-time employees worked from home than full-time employees, with the lowest share amongst involuntary part-time employees. A significantly higher share of temporary than permanent employees had reduced working time. Also, twice as many self-employed than permanent employees had reductions in working time. More part-time employees than full-time employees had reduced working time, the highest share amongst employees in involuntary part-time positions.

The reduction in working time experienced by the surveyed workers can be paid or unpaid. Employees who were temporarily laid off were almost entirely compensated by the severance packages offered by the government up to a certain level. The data did not

show any significant difference in the share of workers in different employment relationships who were temporarily laid off. However, more workers in involuntary part-time positions and ambivalent part-time positions were temporarily laid off than full-time workers.

The descriptive results in Table 3 show that while 11% of permanently employed had experienced income loss, 19% of temporarily employed and 40% of self-employed had a loss of income due to COVID-19. Amongst employees in involuntary part-time and ambivalent part-time positions, 30% and 26% had an income loss compared to 10% of workers in full-time positions and 15% working voluntary part-time.

Multivariate regression analysis

The effects of the COVID-19 measures have varied greatly between sectors with travel, hospitality, restaurant and the cultural sector alongside retail being the industries with the most dire economic consequences of the social distancing measures during the first wave (Alstadsæter et al. 2020). However, some sectors like hospitals, daycare and grocery stores have needed more workers. Both temporary positions, self-employment and part-time work are unevenly distributed in the population and between industries and sectors. Most notably, temporary positions are prominent in the public sector, while voluntary and involuntary part-time positions are prominent both in the public health sector and in restaurants, bars and retail; sectors greatly differ in COVID-19 consequences. The self-employed are overrepresented in agriculture alongside media/PR and culture.

When analysing the likelihood of experiencing the different employment-related consequences of the COVID-19 interventions, we strive to compare workers with the same traits in comparable workplaces. Analyses of the relative risk of experiencing each employment consequence of COVID-19 amongst employees in different employment relationships and working time organisations are shown in Tables 4 and 5, respectively. These analyses include controls of gender, age, completed tertiary education, business size, industry and sector. The multivariate analysis gives an indication of whether each employment relationship type increases or decreases the likelihood of experiencing each COVID-19 consequence, holding other traits of workers and businesses constant.

Table 4 shows the relative risk of experiencing each of the COVID-19 employment consequences amongst temporary employees and self-employed compared to permanent employees. When workers' demographic traits, industry, sector and business size are controlled for, the differences in consequences of COVID-19 between employees in permanent and temporary positions are smaller than in the descriptive statistics and no longer significant. The differences between self-employed and permanent employees are also smaller in the multivariate model, but the self-employed still have a 1.5 times higher relative risk of having reduced working time and almost triple the relative risk of having had a loss of income.

Table 5 shows that individual and business traits and industries account for some of the differences in consequences between employees in part-time and full-time positions and that they disguise other differences. Employees in all categories of part-time positions still have a lower likelihood of being directed to work from home than those in full-time positions. Compared to full-time workers, those in voluntary part-time positions had a higher likelihood of reduced working time and income loss. However, the relative risk of temporary layoff was not significantly higher amongst voluntary part-time workers

Table 4. GLM regression of work-related COVID-19-consequences. Main explanatory variable: Employment relationship.

Dependent variable	Directed to work from home		Reduction of working-time		Temporary laid-off		Income-loss	
	RR	SE	RR	SE	RR	SE	RR	SE
Employment relationship (Ref. Permanently employed)								
Temporary	0.988	(0.085)	1.113	(0.248)	0.584	(0.241)	1.547	(0.390)
Self-employed	0.727	(0.144)	1.574**	(0.272)	0.658	(0.196)	2.722***	(0.492)
Male	0.904*	(0.037)	0.921	(0.090)	0.828	(0.097)	1.153	(0.138)
Age (Ref. 45–59)								
Below 30	0.864	(0.072)	1.317	(0.200)	1.490*	(0.263)	1.190	(0.236)
30–44	0.998	(0.047)	1.530***	(0.164)	1.227	(0.166)	1.109	(0.157)
60+	1.019	(0.054)	0.800	(0.116)	0.970	(0.153)	0.895	(0.149)
Highest level of completed education (Ref. Non-tertiary)								
Tertiary education	1.676***	(0.083)	0.620***	(0.067)	0.809	(0.106)	0.843	(0.112)
Industry (Ref. Public administration)								
Childcare/educ	1.114	(0.064)	2.424***	(0.636)	0.930	(0.537)	1.371	(0.588)
Health services	0.241***	(0.038)	1.417	(0.409)	1.728	(0.920)	1.472	(0.619)
Social services	1.058	(0.133)	1.016	(0.589)	0.911	(0.978)	0.582	(0.623)
Health care	0.137***	(0.050)	0.556	(0.297)	0.000***	(0.000)	1.522	(0.809)
Defence/police/ justice	0.778	(0.100)	2.727**	(0.889)	1.789	(1.250)	1.521	(0.854)
Primary industries	0.554	(0.178)	0.552	(0.343)	1.534	(1.195)	0.709	(0.520)
Manufacturing	0.588***	(0.081)	0.802	(0.285)	2.291	(1.326)	1.158	(0.560)
Building/ construction	0.547***	(0.085)	0.700	(0.261)	1.171	(0.718)	0.991	(0.481)
Wholesale/ retail	0.752*	(0.093)	2.169**	(0.623)	4.447**	(2.458)	2.416*	(1.029)
Transportation	0.469***	(0.077)	2.158**	(0.632)	3.267*	(1.800)	2.551*	(1.070)
Culture/sports/ org.	1.096	(0.116)	2.643**	(0.840)	3.357*	(2.024)	3.007*	(1.360)
Media/PR	1.256	(0.165)	2.024	(0.735)	4.602*	(2.738)	1.910	(0.949)
Research/analysis	0.987	(0.097)	0.309	(0.314)	0.753	(0.817)	1.008	(0.797)
Travel and hotel	0.460*	(0.145)	2.985***	(0.965)	8.651***	(4.881)	4.967***	(2.271)
Restaurant/ bars	0.539*	(0.165)	2.711**	(0.915)	6.502**	(3.713)	5.044***	(2.272)
Telecom/IT	1.143	(0.105)	0.843	(0.339)	1.091	(0.742)	1.230	(0.614)
Finance/insurance	1.067	(0.111)	0.243	(0.180)	0.418	(0.369)	0.720	(0.453)
Business services	0.838	(0.129)	1.801	(0.616)	4.291*	(2.451)	2.096	(1.021)
Oil/gas/energy	0.789*	(0.087)	0.514	(0.226)	0.738	(0.494)	0.715	(0.386)
Other	0.834	(0.083)	1.603	(0.481)	2.801	(1.572)	2.141	(0.921)
Sector (Ref. private sector)								
Public sector	1.121	(0.074)	0.719*	(0.097)	0.327***	(0.096)	0.484**	(0.110)
Number of employees (Ref. 1–21)								
21–100	1.198**	(0.083)	0.748*	(0.087)	0.801	(0.110)	0.960	(0.145)
101+	1.420***	(0.092)	0.610***	(0.076)	0.688**	(0.095)	0.682*	(0.113)
Constant	0.349***	(0.035)	0.169***	(0.047)	0.087***	(0.047)	0.080***	(0.034)
Observations	2,495		2,495		2,497		2,497	

All control variables shown in table. ***p < 0.001, **p < 0.01, *p < 0.05

than full-time workers. Workers in involuntary part-time positions do not have a significantly higher likelihood of reduced working time than full-time employees when compared in the same industry, sector and individual traits, and they do not have

Table 5. GLM regression of work-related COVID-19-consequences. Main explanatory variable: Working-time organisation.

Dependent variable	Directed to work from home		Reduction of working-time		Temporary laid-off		Income-loss	
	RR	SE	RR	SE	RR	SE	RR	SE
Working time (ref. full-time)								
Voluntary part-time	0.708***	(0.074)	1.358*	(0.201)	1.237	(0.214)	1.479*	(0.290)
Involuntary part-time	0.589*	(0.129)	1.307	(0.288)	1.147	(0.312)	2.426***	(0.642)
Male	0.872***	(0.036)	0.962	(0.100)	0.826	(0.100)	1.305*	(0.170)
Age (Ref. 45–59)								
Below 30	0.914	(0.073)	1.240	(0.201)	1.280	(0.244)	0.987	(0.213)
30–44	0.994	(0.046)	1.516***	(0.170)	1.229	(0.172)	0.972	(0.148)
60+	1.043	(0.056)	0.820	(0.120)	0.883	(0.147)	0.854	(0.149)
Highest level of completed education (Ref. Non-tertiary)								
Tertiary education	1.668***	(0.082)	0.626***	(0.071)	0.790	(0.108)	0.910	(0.131)
Industry (Ref. Public administration)								
Childcare/educ	1.104	(0.064)	2.280**	(0.606)	0.742	(0.454)	1.059	(0.478)
Health services	0.244***	(0.039)	1.368	(0.403)	1.513	(0.827)	1.354	(0.590)
Social services	1.085	(0.132)	1.014	(0.586)	0.000***	(0.000)	0.638	(0.678)
Health care	0.165***	(0.059)	0.563	(0.300)	0.000***	(0.000)	1.193	(0.690)
Defence/police/ justice	0.792	(0.100)	2.682**	(0.901)	1.323	(1.067)	1.310	(0.827)
Primary industries	0.522*	(0.166)	0.599	(0.371)	1.544	(1.214)	0.960	(0.679)
Manufacturing	0.610***	(0.083)	0.721	(0.263)	2.506	(1.488)	0.983	(0.495)
Building/ construction	0.566***	(0.088)	0.630	(0.242)	1.210	(0.762)	0.854	(0.432)
Wholesale/ retail	0.808	(0.099)	1.950*	(0.573)	4.994**	(2.822)	2.092	(0.913)
Transportation	0.463***	(0.077)	2.006*	(0.601)	3.534*	(1.988)	2.609*	(1.108)
Culture/sports/ org.	1.083	(0.120)	2.434**	(0.806)	3.478*	(2.154)	3.287**	(1.494)
Media/PR	1.267	(0.169)	1.930	(0.711)	4.521*	(2.753)	1.943	(0.986)
Research/analysis	0.957	(0.095)	0.323	(0.331)	0.794	(0.863)	1.109	(0.877)
Travel and hotel	0.428*	(0.145)	2.622**	(0.882)	9.447***	(5.433)	4.949***	(2.280)
Restaurant/ bars	0.617	(0.180)	2.708**	(0.909)	7.747***	(4.504)	4.551**	(2.143)
Telecom/IT	1.165	(0.106)	0.825	(0.335)	1.245	(0.860)	1.202	(0.609)
Finance/insurance	1.087	(0.114)	0.119*	(0.121)	0.239	(0.272)	0.555	(0.384)
Business services	0.908	(0.135)	1.643	(0.582)	4.871**	(2.852)	2.055	(1.015)
Oil/gas/energy	0.802*	(0.088)	0.433	(0.200)	0.700	(0.492)	0.613	(0.345)
Other	0.839	(0.084)	1.557	(0.473)	2.947	(1.690)	2.212	(0.963)
Sector (Ref. private sector)								
Public sector	1.145*	(0.077)	0.664**	(0.094)	0.369**	(0.113)	0.455***	(0.109)
Number of employees (Ref. 1–21)								
21–100	1.185*	(0.083)	0.745*	(0.088)	0.897	(0.126)	0.882	(0.132)
101+	1.414***	(0.091)	0.579***	(0.073)	0.715*	(0.101)	0.566***	(0.090)
Constant	0.359***	(0.036)	0.180***	(0.051)	0.075***	(0.042)	0.090***	(0.038)
Observations	2,396		2,396		2,398		2,398	

All control variables shown in table. ***p < 0.001, **p < 0.01, *p < 0.05

a significantly higher likelihood of being temporarily laid off. However, workers in involuntary part-time positions have more than two-and-a-half times greater likelihood of experiencing an income loss than full-time employees.

Robustness checks using OLS and logistic regression models show the same directions and relative sizes of coefficients as the models displayed here. The OLS results show the same significance values. When using a logistic model, the coefficients for reduced working time and income loss for workers in voluntary part-time are insignificant, indicating no significant difference from full-time workers. These two associations should therefore be interpreted with caution.

Discussion

Results from the multivariate analyses show that the self-employed have a higher likelihood of experiencing a reduction of working-time and income following the COVID-19 measures than permanent employees. Employment consequences do not differ between temporary and permanent employees. Furthermore, the results show that workers in involuntary and voluntary part-time work have a higher likelihood of income loss than full-time workers. Voluntary part-time workers had a significantly higher likelihood of reduced working hours compared to full-time workers, while the likelihood was insignificantly higher for involuntary part-time workers. There was no significant difference in the likelihood of being temporarily laid off either by employment relationship or working time.

The lack of differences between temporary employed and permanently employed might come as a surprise, as temporary employment is a much researched and politically debated employment category in Norway. While the fixed duration categorising the employment relationship in general can be characterised as a type of objective job insecurity, during the first wave of the COVID crisis, there seems to be no immediate added economic risk associated with temporary employment. In Norway, temporary employed are, during their contract period, governed by the same level of employment protection and have access to the same benefits as permanently employed in the case of layoffs. However, there might be long-term employment consequences for temporary employed that this study did not cover, for instance, a reduced likelihood of contract renewal. The risk of this will probably vary between sectors. As most temporary employees work in the public sector – mainly in childcare, education and research and sectors that have not seen a lowered demand for personnel – it is just as likely that the main share of temporary employees will get their contracts renewed as normally.

A key difference between employees and the self-employed is that the latter formally bear both control over their own labour and the risks associated with it. This is also apparent in the tailoring of unemployment benefits, which only covers employees or salaried freelancers and not self-employed or income from self-employment. During times of high economic activity in society, the risk of self-employment may be hidden, but as our analyses show, when economic activity falls, the self-employed are the ones taking the income loss. One cause of the income loss was the restrictions imposed by the government. As during the financial crisis (Leschke 2012), the government extended social security coverage to the self-employed and freelancers (Greve et al. 2021). Despite these extensions, our results show that the self-employed were less protected against income loss during the first wave of the pandemic than permanent employees.

The extended unemployment benefits were modelled on the existing unemployment benefits already encompassing income and hours thresholds. Although these were lowered, the thresholds themselves are a key feature of the unemployment benefits. Limiting the reach of the benefit to those who have lost their jobs, only former job holders are eligible for the benefit. This aspect is one manifestation of how welfare is modelled around the SER. Another example is that many self-employed workers combine wages from salaried freelancing and part-time employment with their income from self-employment. Combining several sources of income is especially common in the

culture and music industry (Broughton et al. 2016), an industry that was especially hard hit by the COVID-19 restrictions. Combining income and wages makes workers eligible for both unemployment benefits and business rescue packages if each separate type of income last year is above the given threshold. However, as income from self-employment does not count when unemployment benefit levels are calculated and salary from any employment is not counted as business revenue, these workers combining sources of income are more exposed to income loss than workers in standard employment relationships or larger business owners with a larger and more steady revenue yearly.

Another explanation of the income loss of the self-employed, despite policy intentions to extend their coverage, could be that the regulations were quite complex, making it hard for the self-employed to know which packages to apply for. Also, many self-employed are used to economic fluctuations and may have an economic buffer of savings, potentially inclining them to postpone applying for support. A report on workers in the Norwegian cultural sector found that more individuals had used the economic support schemes in the fall of 2020 than in the spring of the same year. One possible explanation for this is that it takes some time for a scheme to be established until individual workers apply (Grünfeld et al. 2020).

A different discussion concerns what coverage the self-employed should expect to have in the welfare state. Although the self-employed (in theory) bear both the control of their labour and the risks and gains associated with this, the income losses during the pandemic were mainly due to factors that the self-employed could not control themselves. For instance, as society was under lockdown, all sports and cultural arrangements were prohibited, and personal service industries were not allowed to operate. While employees in these sectors were temporarily laid off, still receiving a substantial part of their income, temporary layoffs were not an option for the self-employed. Also, even before the pandemic, the independence of many self-employed was contested. The term 'bogus self-employment' is used to describe contractual relationships between workers and employers that should have been employment relationships. Some self-employed workers experience increased levels of economic risk and insecurity because they operate outside the welfare state's employment protection and income insurance offered to employees, but without the full autonomy of self-employment (Broughton et al. 2016; Thörnquist 2015).

Part-time employees have had a higher risk of income loss than full-time employees, especially strong for involuntary part-time employed. However, there was no significant difference in the risk of being temporarily laid off or in reduced working time between involuntary part-time and full-time employees. We know from earlier research that many part-timers usually work more than their contracted working time. Consequently, they constitute a flexible working reserve that can easily be asked to work more or work less, depending on the need of the employer (Nicolaisen et al. 2019). The employees might have interpreted the question regarding working time as meaning a reduction in their contracted working time, thus not accounting for any reduction in extra shifts. Also, as we are comparing part-time workers to full-time workers, it is important to note that many full-time workers reported a reduction in working hours, but without the corresponding income loss. When schools and daycare facilities closed during the lockdown in March and April, the government allowed parents with children under the age of 12 years full-

wage coverage of the time needed to take care of their children through the normal 'sick-child-days' benefit. Thus, many full-time employees worked reduced hours while being paid in full during the first wave. Part-time employees are covered by the same 'sick-child-days'. However, there is no benefit covering not being called in for working or declining to take on extra shifts.

The possibility of temporary layoffs supported by the government increase businesses' numerical flexibility, while avoiding dismissals (Svalund et al. 2013). However, temporary layoffs require administration and negotiation with employees. Part-time workers, and especially involuntary part-time workers, constitute a flexible working-time reserve. They can be utilised at peak times and then not called in extra at slow times. An easy first step for businesses to reduce labour costs is to reduce overtime and stop calling part-time workers for extra shifts (Nesheim 2013). The self-employed also have contractual relationships with employers, often short-term or gig-based. Our results reveal that the economic risks associated with these flexible working arrangements lie with the workers in non-standard relationships instead of the businesses or the welfare state. Although the risks associated with NSER might have been smaller in Norway than in other countries (Bosch 2004; Rasmussen et al. 2019), workers in SER enjoy more of the security offered by the welfare state than NSER workers.

In summary, the data collected during the first wave of COVID-19 in Norway are analysed in this study. In March and April 2020, when the data were collected, nobody knew how long the COVID-19 restrictions would last. The situation seemed temporary, calling for temporary solutions. Since spring, the COVID-19 restrictions have been loosened and then tightened again in fluctuation with the infection rate. Likewise, policy measures have been altered and prolonged, and new policy measures have been taken. Future studies should investigate the long-term effects of the crisis and policy measures on workers in different types of employment relationships. The effect of the crisis on employment should also be followed up with research on whether the consequences of these employment outcomes regarding future employment, poverty and health differ according to the employment status of the workers.

Although the focus of this study has been on how COVID-19 employment consequences have varied between types of employment relationships, we must not lose sight of how the crisis and measures have also affected workers in standard employment relationships differently. The luckiest workers were confined to their home office or hardly affected at all, while some sectors shut down completely, leaving temporarily laid-off workers awaiting an insecure future as the pandemic persists. It is recommended that future studies also look at the long-term consequences of the policy measures for workers in standard employment relationships.

In conclusion, the results show that under the first wave of the COVID-19 crisis, some employment relationships, mainly involuntary part-time and self-employment, involved a higher risk of short-term income loss than others. The results reveal that the economic risks associated with these flexible working arrangements lie with the workers in non-standard relationships instead of the businesses or the welfare state. Despite efforts made, the welfare state has not supplied the same degree of coverage to workers in non-standard employment relationships.

Notes

1. https://www.euromomo.eu/graphs-and-maps/ . Retrieved 4 January 2021.
2. Part-time work: https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tesem100. Last visited 08.01.2021.
3. Temporary employment: https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tesem110. Visited 08.01.21
4. Self-employed: http://appsso.eurostat.ec.europa.eu/nui/show.do. Visited 08.01.21.

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