

Preserving Job Matches during the COVID-19 Pandemic

Firm-level evidence on the Role of Government Aid

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Preserving job matches during the COVID-19 pandemic: firm-level evidence on the role of government aid*

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Abstract

We analyze the impact of the COVID-19 pandemic and government policies on firms' aid take-up, layoff and furlough decisions. We collect new survey data for 10,642 small, medium and large Danish firms, and match to government records of all aid-supported furloughed workers during the pandemic as well as administrative accounting data. This is the first representative sample of firms reporting the pandemic's impact on their revenue and labor choices, showing a steep decline in revenue and a strong reported effect of labor aid take-up on lower job separations. Relative to a normal year, 30 percent more firms have experienced revenue declines. Comparing firms' actual layoff and furlough decisions to their reported counterfactual decisions in the absence of aid, we estimate 81,000 fewer workers were laid off and 285,000 workers were furloughed. Our results suggest the aid policy was effective in preserving job matches at the start of the pandemic.

Keywords: COVID-19, aid packages, firm labor responses.

JEL Codes: H12, J38, J63, M54.

Word count: 5817.

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1 Introduction

Firms and the labor-based decisions of their managers are responsible for a large share of the economic impact of the COVID-19 pandemic. About 60 percent of workers in high-income countries in Europe and North America have jobs that do not allow them to work from home (Dingel and Neiman; 2020), and pandemic-related layoffs risk becoming permanent (Barrero et al.; 2020; Alstadsæter et al.; 2020). As the economic shock of the pandemic has induced job losses at a large scale (Del Rio-Chanona et al.; 2020; Coibion et al.; 2020; Bartik et al.; 2020; Sterk and Sedláček; 2020), labor market-focused government responses have put the economy “on pause”, providing furlough support with the aim of preserving job matches that would be ready to resume when the public health threat ends.

The concept of these policies is not new, as similar programs limited employment losses from the Great Recession (Cahuc et al.; 2018; Giupponi and Landais; 2018). However, there are now dual overarching goals of containing the virus by limiting interpersonal contact, while helping people and businesses weather the economic damage. Whether these policies are successful ultimately depends on the decisions of firm managers to apply for different aid packages and then determine which workers to furlough and for how long. Their choices thus affect the allocation of trillions of dollars in aid globally, and there is still a dearth of evidence on what these choices have been, and the resulting effect.

This paper presents the first analysis of firm behavior in response to policies enacted to mitigate the economic damage from the COVID-19 pandemic. Using a novel survey of firm managers from April/May 2020 linked to administrative register data on furlough records from June 2020 as well as accounting data, we document the economic damage done to firms, their choices from the menu of aid packages offered by the Danish government, and how that aid affected their management of labor. In particular, our survey elicited counterfactual estimates of what layoff and furlough decisions would have been in the absence of aid. Our main finding is that aid packages led to large avoidance of layoffs and even larger increases in the number of workers furloughed. Moreover, furloughs were concentrated in firms where the economic damage from the pandemic was most severe, and in industries with significant face-to-face contact. Thus, at least in its initial phase, the policy appears to have been successful in mitigating both economic damage and public health risk by encouraging firms to pay infection-prone workers to stay home.

Our preferred estimates indicate that the aid packages offered in Denmark helped to reduce the number of workers laid off by approximately 81,000 and increased the number of workers furloughed by 285,000. We base these estimates on comparisons of firms’ actual layoff and furlough decisions with information from the survey on what they planned to do had aid not been available. Assuming that firms accurately report their counterfactual outcomes in the absence of aid, our estimates identify the effect of the policy packages on the firms that used them. While this requires the assumption that firms accurately report counterfactual outcomes, we provide evidence to help support this assumption comparing the government register of all furloughed workers with our

survey responses. We also consider alternative estimates of policy effects under the assumption that firms’ decisions to take aid were random, conditional on observables. In general, the findings are similar, and indicated that our preferred estimates based on reported counterfactuals may be a lower bound on the true effect. Finally, we characterize the furloughs using the government register data and document that the average worker is furloughed for approximately 77 days out of a maximum of 90. Workers that are part time and low wage, working in an industry experiencing a larger negative shock were more likely to be furloughed.

As the economic ramifications of the pandemic continue to evolve, so will the need of policymakers and economists to understand how businesses act and react. The policies enacted in Denmark and firms’ responses to them may provide lessons for other countries that have, or plan to, implement similar policies.

2 Institutional setting

The government policy packages in Denmark focus on providing subsidies for retaining employees, propping up businesses with fixed cost grants and allowing for deferral in tax obligations. We briefly describe each in turn, though with a focus on the labor-based policies.¹ The costs of the aid programs in Denmark are estimated to be close to 100 billion Danish kroner (14.7 billion US\$, 13.4 billion Euro) and it was predicted that they would prevent 100,000 job losses ([Finansministerium; 2020](#)).² This figure is within the margin of error of our estimates.

Labor-related support: furlough support and sick leave

The Danish government is subsidizing 75 percent of salary costs, subject to a cap, for employees that otherwise would have been laid off as a result of financial stress caused by COVID-19.³ The requirement for a company to be eligible is that it otherwise would have laid off a minimum of 30 percent of its employees. It is also required that employees spend five days of vacation time before becoming eligible.⁴ Furloughed employees are not allowed to work, such that those working from home are not eligible for this policy.

Other countries have enacted similar policies. In Germany, Italy and the UK, the government subsidizes up to 80 percent of salary costs for furloughed workers. The Dutch government subsidizes 90 percent of wages if firm revenue is expected to decrease by 20 percent, and in France the

¹We provide a summary table of government programs in selected countries in the Appendix.

²As of 18 May 2020, the government had committed around 1.5 billion US\$ in employment subsidies for firms. As of 22 May, the government had received 31,000 applications of which 28,000 had been approved. The register data with all approved applications by June 8 2020 included 29,471 firms and 233,293 records of furloughed workers.

³In Denmark, social-security benefits are paid through general taxes. European countries have a minimum number of days for sick leave, which must be covered by the firm. In Denmark, the government is covering the first month of sick leave that would have normally been the responsibility of the firm.

⁴Our survey elicits predictions of the share of employees that would be laid off, and we do not observe a discontinuity at 30 percent.

compensation level is 70 percent subject to a cap. Sweden does not subsidize furloughs, but subsidizes a reduction in hours worked to 80 percent of capacity with workers receiving 90 percent of their salary. The United States has an additional direct payment to citizens, beyond unemployment insurance, though they do not offer wage subsidy support for job retention.

Non-labor related support: fixed costs and tax payments

To help firms survive and cover their immediate costs, governments have offered various non-salary cost subsidies, including payments for firms experiencing revenue declines beyond a certain threshold. Some countries offer to cover a share of fixed costs up to a cap, such as Denmark, Sweden and the UK, while others offer a lump sum, such as the Netherlands, Germany and France.

A number of countries are also delaying tax payments, such as value added tax (VAT) payments and payroll taxes. Denmark, Germany, Sweden, UK and the Netherlands all have corporate tax deferral schemes, and the United States has a 50 percent payroll tax reduction for affected firms that do not carry out layoffs and delayed corporate tax filings. France, similarly, has instituted early corporate tax repayments and postponed employers' social security contribution. In Italy, there is a six-month suspension of loan repayment for small and medium sized firms.

Policies are generally not mutually exclusive, and any firm that meets the thresholds of eligibility for a type of policy can apply for government support.

3 Data and methodology

To study firm responses to pandemic-related aid, we collected survey data from around one-quarter of Denmark's private-sector firms. To validate their responses and understand how firms decided which workers to furlough, we also use administrative register data on aid disbursements for furlough support as well as Danish Statistics accounting data on firms' revenues and other characteristics.

3.1 Survey methodology and characteristics

We developed a self-responder survey that was sent out on 23 April 2020 to 44,374 firms; effectively the entire population of private-sector firms with more than 3 employees in Denmark. Participation was voluntary, and no financial compensation was offered to respondents.⁵

We received 10,642 responses by 1 June 2020 yielding a response rate of 24 percent. The respondents are representative of the population of firms with respect to both firm size and industry. The response rate across firm size ranged from 20 percent for small firms (3-5 employees) to 35 percent for large firms (51+ employees), and ranged from 17 percent for firms in the accommodation and food industry to 29 percent in manufacturing. The resulting distribution of firm shares across

⁵The survey was carried out by Epinion, a private survey firm in Denmark. The respondent managers will receive a special advance report with our findings after the completion of the survey. The report also provides a comparison of the individual firms' answers against a relevant group of other firms.

industries is, however, nearly identical to the distribution of firm shares in the population.⁶ The survey included a total of 23 questions, including basic firm characteristics (such as employment in January, revenue change between January and the current month, closure status, costs and liquidity) and a series of questions on government aid take-up and labor choices. The survey included a list of available aid packages and asked respondents to indicate which packages they used. All firms were asked to report the number of employees they furloughed and laid off as a result of the pandemic, and firms that reported taking aid were also asked to report the number of furloughs and layoffs that they would have expected to enact if they had not taken aid. Our main results are based on survey data and the figures reported by the respondents.

3.2 Danish register data

We used two sources of administrative data from the Danish government. The first consists of firm accounts for 40,358 firms and employment data for 2016 through 2019, including annual revenue and employment, which we use primarily for benchmarking and validation. We estimate the distribution of revenue changes and the rate of job separations in a “normal” year. The second type of data we used is the government register on the requests for wage aid support from 9 March 2020 to 8 June 2020. The register data included 233,293 unique employee furlough requests, from 29,471 firms. We matched 3,002 firms from this furlough register with our surveyed firms.

Survey validation

The two main potential issues with our survey data are truthfulness and accuracy. We can proxy for truthfulness by verifying the reported firm characteristics and actual furlough responses against 2019 accounting data and June 2020 government register data on aid take-up. The median difference between the reported employment count and the accounting records is 1, while the 10th percentile difference is -2 (lower report in the survey) and the 90th percentile difference is 16 (higher report in the survey). In terms of furloughs, nearly 90 percent of firms accurately reported their wage aid take-up and number of furloughed workers.⁷ This high level of alignment in the responses in our survey and the Danish government registers suggests the managers responding to the survey were truthful in their responses.

The second issue is the accuracy of reports. The June 2020 aid take-up register data lists all employees within each firm that have been included in the furlough aid request. We find that the reported number of workers furloughed relative to the register data is within 5 workers for nearly

⁶The survey was sent to a special email inbox for government mail, which typically yields a substantially higher response rate than regular email surveys. The Data Appendix provides details on the survey and its representative nature relative to the population. Table A.1 reports the response rates across firm size and industry, along with the share of firm type in the sample relative to the share of that firm type in the population. Figure A.1 depicts the distribution of employment across the sample and population, and Figure A.2 depicts the share of firms within each industry in the sample and in the population.

⁷The Data Appendix includes details on the verification process, this statistic comes from Table A.3.

80% of firms, and exactly the same for nearly half of the firms. This suggests managers responding to the survey were also accurate in their reports of current labor actions. While we cannot directly test whether the counterfactual statements on furloughs and layoffs are accurate, we can consider the respondent’s decision authority and the resulting distribution of responses. Over 90 percent of the respondents were owner-managers or CEOs and thus know — or make — the financial and labor choices in the firm, so it is a reasonable assumption that these managers are in the best position to make these sorts of predictions for their own firms.⁸ We can proxy for the quality in predictions by considering the distributions of the responses relative to aid thresholds, as bunching around these levels could be a result of managers defaulting to a response. We do not find evidence of bunching around these thresholds, and indeed see responses throughout the distribution.⁹

4 Results

The majority of firms — 66 percent — reported a negative impact of COVID-19 on their revenue, while about 26 percent report no change and about 8 percent report an increase in revenue. These firms are most likely to take up all forms of aid. When they do, they are much less likely to lay workers off, and more likely to place workers on furlough. While furlough support is evenly distributed across men and women, workers most likely to be furloughed work in lower paying jobs and in industries with significant interpersonal contact.

4.1 The reported impact of COVID-19 on firm revenue

Figure 1 plots the distribution of the reported revenue change in the shaded bars, and overlays the distribution of revenue change for the population of similar firms between 2015 and 2016 in the outlined bars.¹⁰ While in any given year many firms experience decreases in revenue, the decline reported in April 2020 is unprecedented. Overall, 30 percent more firms faced declines in revenue relative to 2016, and one quarter more firms face declines in revenue beyond 35 percent (a common threshold for aid). The pattern of revenue decline is similar across firm size bands, though the magnitude of the reported impact is heterogeneous across industries. While nearly all industries have over half of the firms reporting expected decreases in revenue, some industries are particularly hard hit — such as accommodation and food services, arts and entertainment, education, manufacturing and retail.¹¹

⁸The remainder of the respondents were non-managing owners or other administrative staff.

⁹This includes responses reporting expected levels below the threshold, which would have in principle rendered the firm ineligible for aid. We include these graphs and further discussion in the supplementary Data Appendix.

¹⁰The “normal times” data is from 2016 as that is the latest available date in the register data. It includes the population of limited liability firms in Denmark with more than 3 employees.

¹¹We provide a more thorough descriptive exercise of the firm size and industry differences in the Data Appendix.

4.2 Firm decisions about aid packages

According to our survey, the bulk of firms taking up government aid in Denmark are, in fact, those in the most need. The majority of firms reporting no expected change in revenues also report not being aid recipients.¹² Approximately 56 percent of firms in our survey reported taking advantage of one or more government aid programs, with nearly all firms experiencing revenue decreases beyond 50 percent taking some form of aid. Out of the remaining 44 percent that did not take aid, about half chose not to do so despite being eligible.

Figure 2 summarizes the aid take-up relationship with revenue change impact at the industry level. Each circle represents an industry at the 1-digit NACE level, and the size of the circle shows the relative share of firms accounted for by each industry. Firms in accommodation and food — the hardest-hit industry — are the firms most likely to take on aid. Retail and manufacturing firms report revenue declines that are at the median, with approximately 60 percent of them taking on aid.

Several non-mutually exclusive aid packages were made available to eligible firms. Table 1 reports the set of firm characteristics that correlate with aid take-up of each type and combination of packages. We run linear probability models starting with whether the firm took up any aid package, and subsequently iterating through the possible package combinations. Column (1) includes all firms in the sample, while the remaining columns include only the firms that took on aid. The last rows in the table indicate the share of firms and employment that account for each of the policy types.

Column (1) reports that approximately 56 percent of firms took on aid, and they were less likely to do so if they reported no change or an increase in revenues. Larger firms were slightly more likely to take on aid, and more affected industries were more likely to take on aid. Column (2) shows that nearly 11 percent of all firms took on all three aid types (20 percent of aid-taking firms). This choice was more common for hard-hit sectors, but we find no relationship with firm size.

The outcome variables of Columns (3) through (5) take on a value of one if the firm took on only labor, cost or fiscal aid. While a sizeable share of aid-takers chose only labor aid (about 19 percent) or only fiscal aid (22 percent), a much smaller share (4 percent) took on only cost aid. The direction of revenue change is not correlated with take-up of labor-only aid, but firms not experiencing a decrease are less likely to take up cost-only aid and more likely to take up fiscal-only aid. The most affected industries are also much less likely to take up fiscal-only aid. The patterns are relatively consistent when we consider the possible bundles including two types of aid in Columns (6) through (8).

These correlations suggest that firms not experiencing distress are less likely to take up most types of aid (with the exception of fiscal aid), especially in bundles of two or three types. The relationship with firm size is economically small and mixed, while industry is most often the strongest

¹²The median firm reporting not receiving any aid has an expected revenue change of zero.

predictor of bundle choice.

4.3 The effects of aid on employment decisions

Firms that took aid were more likely to furlough and less likely to lay off workers relative to non-aid takers. In general, among firms receiving aid, the share of workers furloughed increases with the firm’s revenue losses, suggesting the policy is having the intended effect. The layoff shares for aid-taking firms seem largely independent of the size of the revenue loss. Firms that did not take aid enact more layoffs than furloughs if they experience a revenue decrease of more than 50 percent, but at lower distress levels the difference is not statistically significant.

However, we cannot draw conclusions about the effectiveness of aid policies from a simple comparison between aid takers and non-takers, as taking aid is naturally a choice and not a random assignment.¹³ If firms taking aid were more likely to furlough workers in response to a revenue shock instead of laying them off, the observed differences in employment decisions could overstate the policy’s effects.

Employment effects based on stated counterfactuals

In an effort to address the self-selection of firms into the different aid packages, we asked respondents to report their expected counterfactual choices. Among firms that took aid, we asked what share of workers they would have laid off and furloughed in the absence of aid. Furthermore, we can also observe how firms’ adoption of different aid packages is correlated with their outcomes in the absence of aid.

Our analysis requires an assumption that the reported counterfactuals are correct. In the absence of clear experimental variation in aid packages, our alternative is to assume that selection of these aid packages is random (conditional on observable covariates in the data). A simple comparison between aid takers and non-takers would imply an assumption that the counterfactual outcomes for a firm that took aid can be proxied by the outcomes of a firm with similar characteristics that did not take aid. Economic models of selection are predicated on the notion that firms know their business, and as such should be able to foresee immediate alternative outcomes. In this sense, our approach could be superior to a quasi-experimental design. The primary concern in this scenario is that firms may not report their counterfactuals carefully, even if they are capable of doing so. In this section, we consider evidence about the validity of the counterfactual reports and alternative estimates based on more conventional assumptions about selection on observables.

Table 2 reports estimates of the effects of labor aid, cost aid, and fiscal aid on the share of workers furloughed and laid off. Columns (1) and (2) focus only on aid-takers, and the dataset includes two observations for each firm: one corresponding to their actual furloughs and layoffs,

¹³In time we may be able to observe identifying thresholds of eligibility, but our data suggests that 53 percent of firms that were eligible to take aid chose not to do so.

and one that reports their counterfactual furloughs and layoffs. Using these data, we estimate a model:

$$Y_{jT} = \alpha + \beta_0^L L_j + \beta_0^C C_j + \beta_0^F F_j + T \times (\beta_1^L L_j + \beta_1^C C_j + \beta_1^F F_j) + X_j \gamma + \varepsilon_{js} \quad (1)$$

where firms are indexed by j , and $T = 0$ if the observation measures the firm's reported outcomes in the absence of aid, and $T = 1$ if it measures the firm's actual outcomes. The key variables are binary indicators for whether the firm took labor aid (L_j), cost aid (C_j), or fiscal aid (F_j). Recall that these aid packages are not mutually exclusive; firms can take up any combination of the three. The coefficients $\beta_0^L, \beta_0^C, \beta_0^F$ measure differences in counterfactual outcomes for firms that took up particular aid packages. The coefficients $\beta_1^L, \beta_1^C, \beta_1^F$ measure the difference in observed outcomes, relative to counterfactuals, for a given aid package. Firm-specific controls, X_j , include log of January employment, the size of the revenue change, and industry at the 2-digit NACE level. The term ε_{jT} captures idiosyncratic reporting error and other factors that affect layoff and furlough decisions.

We interpret $\beta_1^L, \beta_1^C, \beta_1^F$ as effects of treatment on the treated — that is, the average effect of each policy on the firms that take them up.¹⁴ Firms that took labor aid increase the share of furloughs by 25.6 percentage points. The reduction in layoffs from taking labor aid is 6.0 percentage points. Cost aid also increases the furlough share, but by a smaller margin: 3.9 percentage points.¹⁵ Cost aid also reduces layoffs by 6.8 percentage points. For labor aid and cost aid, the effects have the signs that would be predicted by theory, and intended by policymakers. Fiscal aid, however, is estimated to increase layoffs by 1.1 percentage points, and we cannot rule out negative effects on furloughs. While unclear, this could be simply reflecting selection into this type of aid.

Our estimates of $\beta_0^L, \beta_0^C, \beta_0^F$ measure selection into treatment on the basis of counterfactual outcomes. The coefficients suggest that firms choosing labor aid expected 4.8 percentage points more furloughs, and 13.5 percentage points more layoffs, relative to firms that also took aid but chose different packages. Hence, the firms that took labor aid are those that also had expected to enact relatively high layoffs and furloughs. Firms that took cost aid had expected significantly higher layoffs, but not furloughs. Firms taking fiscal aid also expected slightly higher furlough share (1.6 pp) and layoff share (2.4 pp).

Estimates based on selection on observables

Columns (3) and (4) in Table 2 are based on comparisons of actual reported outcomes between firms that took aid and firms that did not. These are identified under the assumption that firms' counterfactual outcomes in the absence of aid are well-proxied by the actual outcomes of the firms that did not take aid. This is a useful benchmark model to compare against our analysis based on

¹⁴Under the aforementioned assumption that firms accurately report counterfactuals.

¹⁵Firms that want to furlough workers can pair cost aid and labor aid.

stated counterfactuals.

For this analysis, we are estimating a standard cross-sectional model:

$$Y_j = \alpha + \beta^L L_j + \beta^C C_j + \beta^F F_j + X_j \gamma + \varepsilon_j \quad (2)$$

where the variables and parameters have interpretations analogous to equation (1). We assume $E[\varepsilon_j | L_j, C_j, F_j, X_j] = 0$.

Under these modeling assumptions, the estimated effects of the different aid packages on the share of workers furloughed and laid off are, in fact, similar to those estimated based on stated counterfactuals in Columns (1) and (2). Comparing the two sets of estimates is useful to help us understand the nature of the selection bias introduced by firms' choice of aid packages. Under both models, labor aid leads to large increases in the share of workers furloughed and substantial, albeit smaller, reductions in the share of workers laid off. This is what the policy is intended to do: firms that take labor aid would have laid off more workers without aid, but they cut layoffs roughly in half and substantially increased furloughs. If the counterfactuals are accurate, firms furloughed significantly more workers than they had planned to lay off, suggesting that the policy not only saved employment matches, it also encouraged firms to put workers on leave who might have otherwise stayed on the job. While under normal circumstances inducing furloughs would be undesirable, it is certainly not so in the context of the pandemic, where a key goal is to encourage social distancing.

With regard to cost aid, the picture is less clear. Both models indicate that cost aid increases the furlough share by 3.9 to 5.7 percentage points, but disagree about the effect on layoffs. In the model based on stated counterfactuals (Columns 1 and 2), cost aid is estimated to reduce layoffs by 6.8 percentage points. In the model of selection on observables (Columns 3 and 4), cost aid has no discernible effect on layoffs.

This difference could arise if, relative to firms that did not take aid, firms taking cost aid would have higher layoffs in the absence of aid. The evidence on selection in Column (2) suggests this could be the case. Focusing on the results for cost aid in Columns (1) and (2), we could conclude that cost aid encourages reduced layoffs and increased furloughs. Unlike the case for labor aid, cost aid seems to reduce layoffs by more than it increases furloughs. One interpretation is that taking cost aid allowed firms to offset payments of rent or other fixed costs, which encouraged them to redirect funds to keep workers on the job whom they might otherwise have been forced to lay off. It is worth noting that less than 1 percent of workers are employed in firms that only take cost aid, as most firms that take cost aid bundle it with another policy (see Table 1).

The results for fiscal aid consistently indicate that it has no effect on furloughs, and a small, but statistically significant, positive effect on layoffs. Firms that take only fiscal aid employ around 16 percent of all workers, so even this small increase in layoffs could have a significant impact on the total number of workers who lose their jobs. Furthermore, taking fiscal aid alone is more likely among firms that did not experience revenue declines, and that are not in the most affected

industries (see Table 1, Column 5). Still, the mechanism through which increased fiscal aid would lead firms to lay off a larger share of their workforce is not clear. Perhaps firms that defer tax payments or take government-backed loans lay workers off to restructure in anticipation of future loan payments. As the goal of fiscal-type aid is targeted at non-labor outcomes — such as, for example, firm survival and longevity — we will only be able to evaluate these relationships with additional data in due time.¹⁶

4.4 Characterizing the furloughs

While 233,293 people are registered and receiving government aid under the furlough scheme, the patterns of furlough activity are not uniform. Across the entire population of furloughed workers, the median number of furloughed days is 77 — the maximum allowable is 90 days. The average monthly salary of a furloughed worker is approximately DKK 25,000 (US\$3,700), and the average hours worked pre-pandemic was 28 hours per week. Non-full-time workers make up 42 percent of the total furloughed workers, and have a higher average number of days furloughed, at 73 days, relative to full-time workers who are furloughed for an average of 65 days.

At the firm level, most firms choose to furlough employees for similar amounts of time. The standard deviation of within-firm count of furlough days is 1.58, and nearly half of the firms furlough groups of employees for the same amount of time. At the industry level, Figure A.7 summarizes the relationship between average furlough days, hourly wage, and revenue shock. The size of the circle indicates the sum of the number of furloughed workers in the industry. Firms in harder hit industries tend to have lower wages, lower incidence of full-time workers, and larger average number of furloughed days (especially for non-full-time workers). Firms in less hard hit industries furloughed fewer workers but for a similar length of time to other firms.

Firms in our survey have approximately 30 percent white collar and 6 percent blue collar employees working from home who are thus excluded from the furlough decision. If we assume workers are paid their marginal product and higher wage workers are also more productive, it makes sense that firms choose to furlough part-time workers with lower wages. For these groups, we see both a higher overall number of furloughs and longer durations conditional on being furloughed. Finally, furloughs are more concentrated in service and direct-contact industries. Unlike the evidence from other countries that layoffs have been more likely among female workers (Montenovo et al.; 2020), we do not see a difference across gender in the likelihood of being furloughed.

¹⁶Our survey included questions on cost changes, cost shares and firm liquidity. However, these questions had much lower response rates relative to the rest of the survey. As such, we leave exploring this type of outcome to future work including register data and leave some exploratory basic descriptive statistics in our Data Appendix.

5 Conclusion

The COVID-19 pandemic has caused widespread disruption to lives and livelihoods across the world. On many margins, Danish policies intended to mitigate the economic damage have worked as intended. Firms that took aid were also those in the most need, and their decisions bolstered business survival and consumption of their employees. Because furlough aid covered 75 percent of pay, employers still had non-trivial financial commitments to consider when deciding who to lay off and who to put on temporary leave. They were more likely to furloughed those whose productivity was temporarily reduced by the pandemic, as well as allowing a large share of the most at-risk employees to remain home. These outcomes stands in contrast with evidence from the United States’ Paycheck Protection Program, where [Chetty et al. \(2020\)](#) report “little impact on employment rates at small businesses”. They attribute this lack of impact to aid being taken up by firms that did not experience large job losses. The differences across the two countries have many sources, but certainly illustrate the importance of managerial decision-making and the need to bear it in mind when designing policy.

In normal times, the potential distortions created by furlough policies may be undesirable. Indeed, even in a more standard business cycle downturn, active labor market programs may prevent unproductive matches from dissolving and obstruct the reallocation of employment toward more productive uses. In the early phases of the pandemic, such concerns are less relevant as the economic shock is unrelated to productivity or other market fundamentals. Further, the public health benefits make it optimal to borrow against the future to preserve job matches while providing people uninterrupted payments facilitates compliance with stay-at-home orders.

This calculus is evolving as the pandemic moves into the next phase and countries attempt to take their economies “off pause”. As the social cost of going to work decreases, such policies are being re-evaluated and perhaps become more targeted to minimize distortions to the labor market reallocation decisions. For instance, firms should be creative in finding new ways to provide services and keep workers safe on the job, and over the medium run, workers may be in greater demand in certain sectors. Policy might adjust to facilitate some reallocation while supporting consumption and longer-run job matches.

We have one of the best datasets available today to examine the impact of the COVID-19 pandemic on firms and their responses to government policy, with a representative sample, high response rate and links to administrative data. Our analysis can help consider these decisions and their implications, and we hope it is useful for policymakers in this turbulent time. The policy program implemented in Denmark is exceedingly similar to policy programs in many other countries and can help provide a benchmark for these countries as well as a target for those looking to start one.

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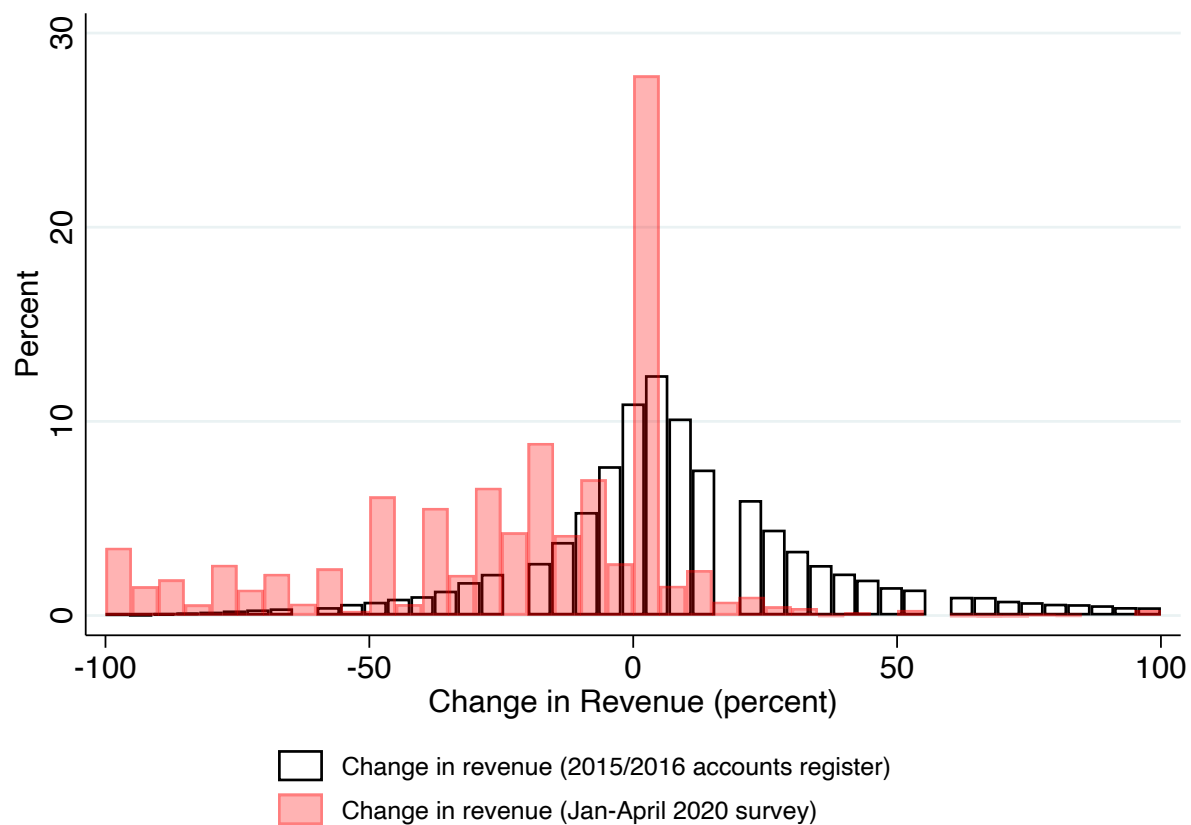
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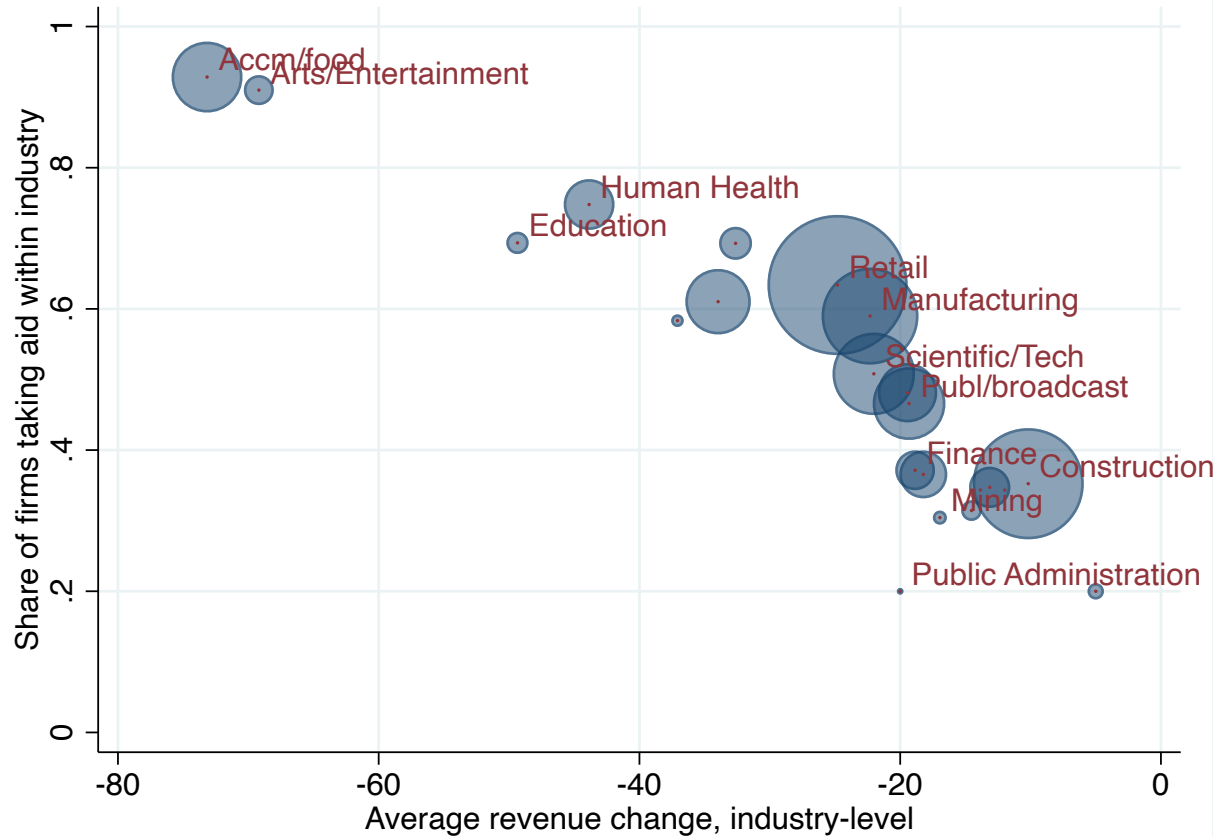
Exhibits

Figure 1: Distribution of revenue changes in “normal” and COVID times



Notes: The outlined black bars plot the distribution of the firm level change in revenue between 2015 and 2016, using Danish register data for the universe of firms with more than 3 employees in both 2015 and 2016 ($N = 40,358$). The shaded bars plot the distribution of the reported revenue change from the authors' survey of firm managers responding to the effect of COVID-19 on their firms ($N = 10,642$). The COVID-19 survey was sent to over 44,000 firms with more than 3 employees, had a 24 percent response rate and yielded a representative sample along firm size and industry categories.

Figure 2: Aid take up aid by industry and expected change in revenue



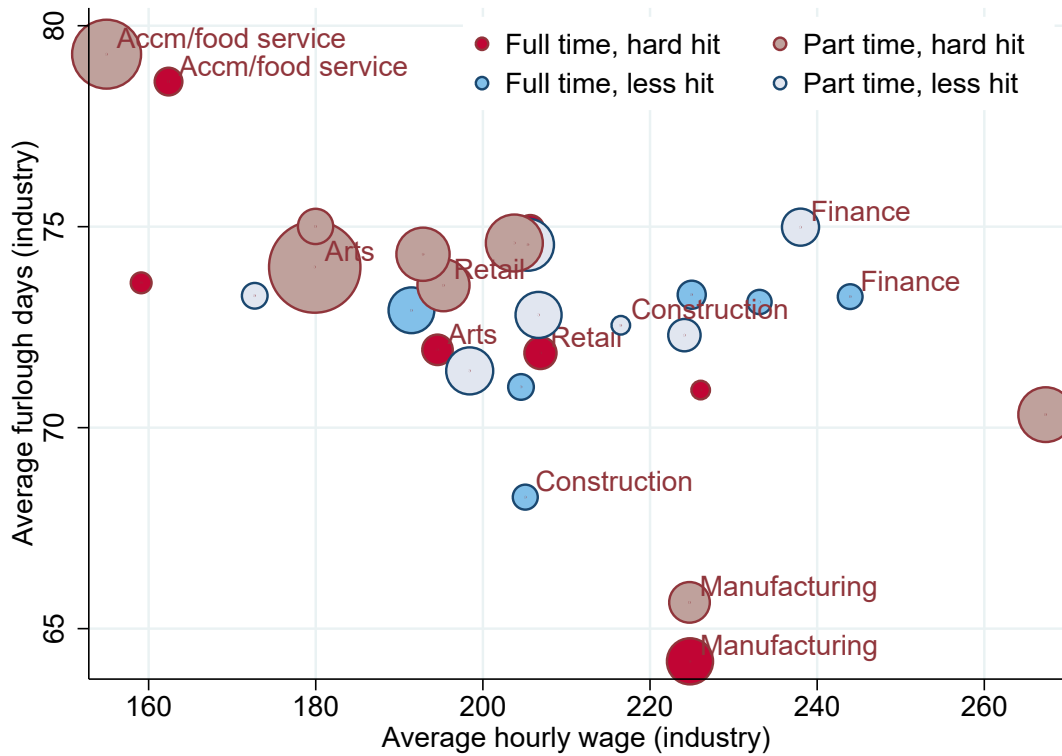
Notes: Data from author's COVID-19 survey. This graph reports the industry-level average revenue change (x-axis) and the industry-level average aid take-up (y-axis), weighted by industry size. Each circle represents an industry at the 1-digit NACE level, and the size of the circle shows the relative share of the economy accounted for by each industry.

Table 1: Regression results: policy choice

	All types		Only one type			2 types		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Any aid	All three	Labor	Cost	Fiscal	Labor+Cost	Labor+Fiscal	Cost+Fiscal
Revenue change								
Increase	-0.459*** (0.016)	-0.181*** (0.011)	0.042 (0.030)	-0.030*** (0.008)	0.336*** (0.035)	-0.123*** (0.006)	0.002 (0.029)	-0.046*** (0.008)
No change	-0.420*** (0.011)	-0.164*** (0.007)	0.018 (0.018)	-0.045*** (0.004)	0.369*** (0.020)	-0.115*** (0.006)	-0.009 (0.016)	-0.053*** (0.004)
Firm characteristics								
Ln(employment)	0.022*** (0.003)	0.005 (0.004)	0.007* (0.004)	-0.015*** (0.002)	0.003 (0.004)	-0.030*** (0.003)	0.044*** (0.004)	-0.014*** (0.002)
Industry								
Manufacturing	0.128*** (0.033)	0.048 (0.033)	0.100*** (0.036)	0.006 (0.023)	-0.237*** (0.058)	0.053** (0.025)	0.108*** (0.034)	-0.079** (0.039)
Construction	0.015 (0.033)	-0.018 (0.033)	0.180*** (0.039)	0.008 (0.024)	-0.175*** (0.060)	0.025 (0.025)	0.078** (0.035)	-0.098** (0.039)
Retail	0.178*** (0.032)	0.100*** (0.032)	0.121*** (0.035)	-0.013 (0.023)	-0.308*** (0.057)	0.087*** (0.024)	0.104*** (0.033)	-0.092** (0.039)
Accm/Food	0.366*** (0.033)	0.373*** (0.039)	-0.040 (0.035)	0.017 (0.025)	-0.441*** (0.057)	0.222*** (0.032)	-0.050 (0.033)	-0.081** (0.040)
Education	0.267*** (0.036)	0.234*** (0.043)	0.111*** (0.042)	-0.013 (0.025)	-0.458*** (0.057)	0.242*** (0.036)	0.006 (0.036)	-0.123*** (0.040)
Arts	0.228*** (0.046)	0.091* (0.053)	0.098* (0.054)	0.009 (0.034)	-0.359*** (0.066)	0.215*** (0.053)	0.066 (0.048)	-0.120*** (0.042)
Observations	10505	5868	5868	5868	5868	5868	5868	5868
Share of firms (total)	0.555	0.107	0.106	0.023	0.124	0.077	0.092	0.027
Share of empl (total)	0.569	0.101	0.141	0.006	0.159	0.028	0.127	0.007
Share of firms (aid)	1.000	0.193	0.190	0.041	0.223	0.138	0.165	0.049
Share of empl (aid)	1.000	0.177	0.248	0.010	0.280	0.049	0.223	0.012

Notes: ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels. Standard errors in parentheses. All columns are linear probability models, estimated with OLS. Each outcome variable is an indicator for each type of aid. The omitted category from revenue impact is “experienced a decrease in revenue”. Log of employment is calculated based on reported employment in January. Regressions include industry dummies at the 1-digit NACE level, reporting only selected industries based on relevance (share of the economy) and relative impact.

Figure 3: Furlough characteristics from population of wage support aid-takers



Notes: Data from the Danish government registry of disbursement of wage support for furloughed workers from March 9 to June 9 2020. The data includes 233,293 workers across 29,471 firms. This graph reports the industry-level average hourly wage of furloughed workers (x-axis) and the industry-level average number of furloughed days of furloughed workers (y-axis). Each circle represents an industry at the 1-digit NACE level, and the size of the circle shows the relative number of furloughed employees accounted for by each industry and worker type. Full time refers to workers who were reported to work a 37-hour week pre-pandemic, while part time refers to anyone who works fewer than 37 hours. The lighter shades depict part-time worker data and the darker shade depicts full-time worker data.

Table 2: Relationship between aid type and furloughs, layoffs

	Only Aid Takers		All firms	
	(1) Furlough	(2) Layoff	(3) Furlough	(4) Layoff
Aid eligible			-0.020*** (0.004)	0.014*** (0.002)
Observed outcomes				
Labor aid	0.256*** (0.008)	-0.060*** (0.005)	0.269*** (0.006)	-0.044*** (0.003)
Cost aid	0.039*** (0.010)	-0.068*** (0.005)	0.057*** (0.009)	-0.001 (0.004)
Fiscal aid	-0.011 (0.007)	0.011*** (0.004)	-0.008 (0.006)	0.007*** (0.002)
Reported counterfactuals				
Labor aid	0.048*** (0.008)	0.135*** (0.007)		
Cost aid	-0.000 (0.010)	0.122*** (0.008)		
Fiscal aid	0.016** (0.008)	0.024*** (0.006)		
Firm controls	✓	✓	✓	✓
Industry	✓	✓	✓	✓
Observations	10540	10678	9267	9267
# Firms	5270	5339	9267	9267

Notes: ***, **, and * correspond to statistical significance at the 1%, 5%, and 10% levels. Standard errors in parentheses. Columns (1) and (2) are estimated on a sample that only includes firms who actually took aid. Each firm has two observations: one with its actual outcomes, and one with the outcome in the absence of aid, as reported in the survey. The coefficient estimates for labor, cost, and fiscal aid in the top panel correspond to actual firm outcomes. The bottom panel corresponds to counterfactual outcomes, as described in equation (1). Columns (3) and (4) use data on observed outcomes for all firms. All models also include: revenue loss, log of January employment, and unrestricted industry effects at the 1-digit NACE level.

“Preserving job matches during the COVID-19 pandemic: firm-level evidence on the role of government aid,” June 20, 2020

A Data Appendix

A.1 Sample characteristics

The Danish COVID-19 survey was sent to 44,374 firms; effectively the entire population of firms with more than 3 employees in Denmark. The survey was sent out on 23 April 2020, and by 1 June 2020 we had received 10,642 responses, yielding an overall response rate of 24 percent. This Data Appendix provides details on the sample characteristics and how representative the sample is relative to the Danish population of firms with more than 3 employees.

Table A.1: Distribution of Survey Responses

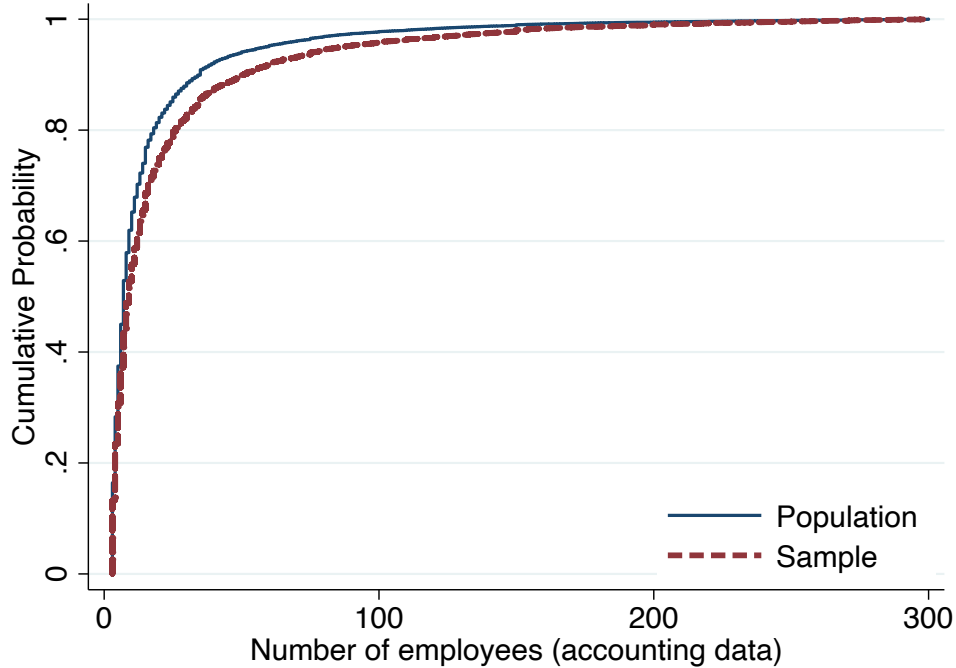
	Resp N	Popn N	Response rate	Share in sample	Share in popn
Firm size					
3-5 emp	3202	15768	0.20	0.30	0.36
6-9 emp	2283	10488	0.22	0.22	0.24
10-25 emp	2817	10860	0.26	0.27	0.24
26-50 emp	1063	3801	0.28	0.10	0.09
51+ emp	1200	3457	0.35	0.11	0.08
Industry					
Accommodation/Food	472	2840	0.17	0.04	0.06
Construction	1477	7182	0.21	0.14	0.16
Manufacturing	1561	5416	0.29	0.15	0.12
Other	2406	10497	0.23	0.23	0.24
Professional/Technical	1116	3892	0.29	0.11	0.09
Publishing/Broadcasting	788	3001	0.26	0.07	0.07
Wholesale/Retail	2745	11546	0.24	0.26	0.26
Total	10565	44374	0.24	1.00	1.00

Notes: This table reports the sample counts and response rate for our COVID-19 impact survey. The top panel reports the respondent numbers across firm size bands, and the bottom panel reports the respondent numbers across different industries. Column “Resp N” reports the total number of survey respondents. Column “Popn N” reports the total number of firms in the population. Column “Response rate” reports the response rate as the difference between the number of respondents and the population within the firm size band or industry. Column “Share in sample” reports the share of firms represented in each size band or industry relative to the entire sample — the number of respondents divided by the total sample. Column “Share in popn” reports the share of firms represented in each size band or industry relative to the entire population of firms — the number of respondents divided by the total population count.

Table A.1 shows the number of respondents within each employment size band, the response rate and the proportion of each set of firms in our sample and in the population. While we

had a higher response rate among larger firms relative to smaller firms, the final share of firms sampled from each size band is not vastly different from the share of firms in the total population. Figure A.1 shows the cumulative distribution function for our sample and the population firm size. In all, approximately 45 percent of the firms in our sample have fewer than 10 employees, while 40 percent have between 10 and 50, and 15 percent have more than 50 employees.

Figure A.1: Cumulative distribution function of firm employment



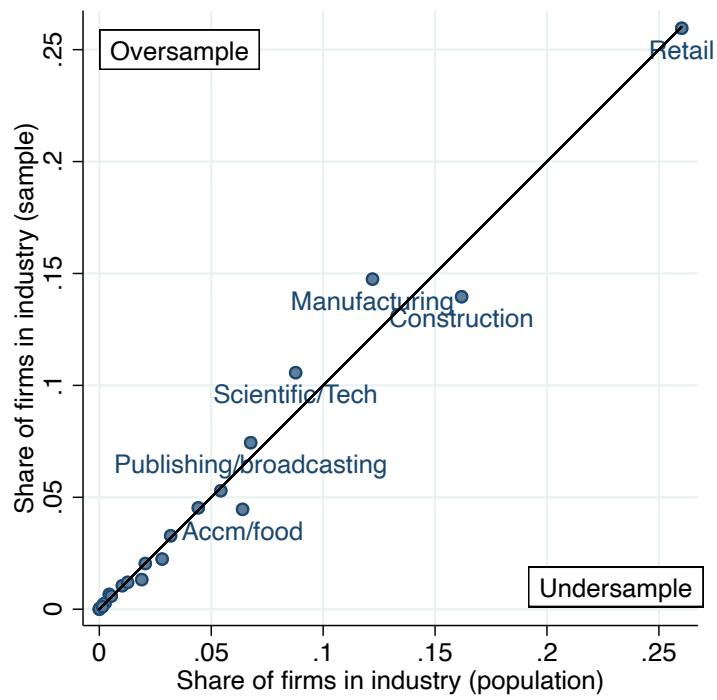
Notes: The red line represents the cumulative distribution function of firm employment in our survey sample. The blue line represents the cumulative distribution function of the remainder of the population of firms in Denmark with more than 3 employees. Employment truncated at 99th percentile (300 employees) for exposition. Population $N = 33,513$. Sample $N = 10,642$.

Similarly, the industry mix in our sample is relatively similar to the industry mix in the total population, and with fairly similar response rates across industries. The bottom panel of Table A.1 reports the response rates, sample and population shares for the largest industries in the sample. The representative nature of our sample in terms of industry composition is depicted in Figure A.2, where we plot the share of firms within each of the NACE 1-digit industries in our sample and in the population. Some industries were slightly over-sampled (like manufacturing and professional/technical services) while others were slightly under-sampled (like construction), but all are quite close to the 45-degree line.

A.2 Response rates

The overall response rate we received was relatively high for this type of non-incentivized, voluntary survey. As all questions were voluntary, not all survey questions had the same response rate. Table A.2 reports the response rates by firm size and industry for our main variables. Effectively all respondents provided answers to the establishment employment size, share of furloughed workers

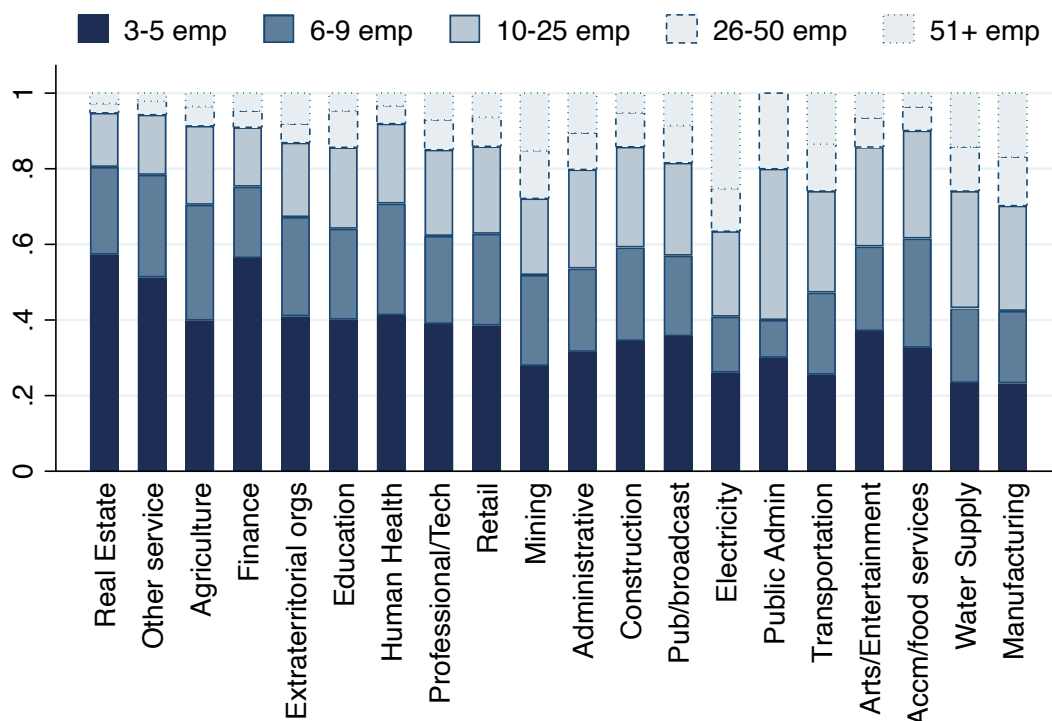
Figure A.2: Industry composition of sample firms



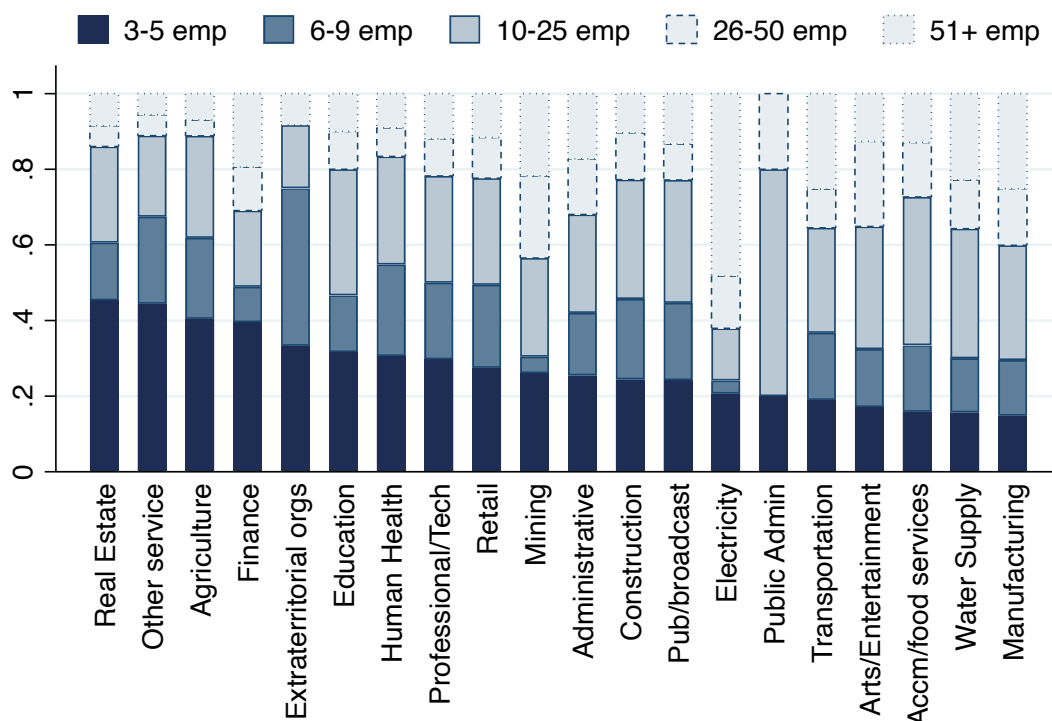
Notes: Each circle marker in the graph represents an industry-level share of firms, as they appear in the sample and in the full population. Industry markers above the 45-degree line mean industry is over-sampled. Industry markers below the 45-degree line mean the industry is under-sampled. Population $N = 33,513$. Sample $N = 10,642$.

Figure A.3: Firm size distribution within industry, population

(a) Population



(b) COVID-19 Survey Sample



App. 4

Notes: Population N = 33,513. Sample N = 10,642. Industry defined by 1-digit NACE codes. Graph shows the distribution of firm size (number of employees) in the population and in the sample for each industry.

and share of laid-off workers. Less than half, however, responded to the labor cost share, fixed cost share and liquidity questions. If there was selection in the type of firm that chose to respond to these questions, it does not seem to have been across firm size and industry. The share of respondents across the various size bands and industry categories is relatively similar.

Table A.2: Survey response rates

	N	Empl	Furlough	Layoff	Labor Costs	Fixed Costs	Liq
Firm size							
3-5 emp	2652	1.00	0.99	0.99	0.39	0.38	0.38
6-9 emp	2039	1.00	0.99	0.99	0.40	0.39	0.41
10-25 emp	3110	1.00	1.00	1.00	0.39	0.38	0.37
26-50 emp	1217	1.00	0.99	0.99	0.40	0.39	0.40
51+ emp	1534	1.00	1.00	1.00	0.37	0.36	0.35
By industry							
Accommodation/Food	472	0.99	0.98	0.98	0.51	0.51	0.44
Construction	1477	0.99	1.00	1.00	0.27	0.26	0.31
Manufacturing	1560	0.99	1.00	1.00	0.33	0.32	0.37
Other	2419	0.99	0.99	0.99	0.39	0.38	0.36
Professional/Technical	1118	0.99	0.99	0.99	0.50	0.48	0.43
Publishing/Broadcasting	787	1.00	1.00	1.00	0.54	0.52	0.47
Wholesale/Retail	2746	0.99	1.00	1.00	0.38	0.36	0.38
Total	1511	0.99	0.99	0.99	0.42	0.41	0.40

Notes: As survey questions cannot be mandatory, the response rates of individual questions vary. This table reports the response rates of the main variables in our analysis for each size band and industry group. Column “N” reports the number of observations in each group. “Empl” reports the share of firms that responded to the question on the number of employees question. “Furlough” reports the share of firms that responded to the question on the share of employees that were furloughed. “Layoff” reports the share of firms that responded to question on the share of employees that were laid off. “Labor costs” reports the share of firms that responded the question on labor cost shares. “Fixed costs” reports the share of firms that responded the question on fixed cost shares. “Liq” reports the share of firms that responded the question on liquidity availability.

A.3 Data validity

There is an inherent trade-off in using administrative register data and survey data: register data are official and while the reports are verified by the government, data are not timely and are still susceptible to biased responses as whatever firms report matters for administrative purposes.¹⁷ Survey data, on the other hand, are more flexible on timing and can be responsive, though it relies on truthful reporting with no downside to misreporting. As such, the onus is on the researchers to validate the survey responses. We briefly outline the steps we took to verify our data.

¹⁷For example, when there are thresholds for reporting requirements (Garicano et al.; 2016).

Figure A.4: Furlough numbers: reported in survey vs register data

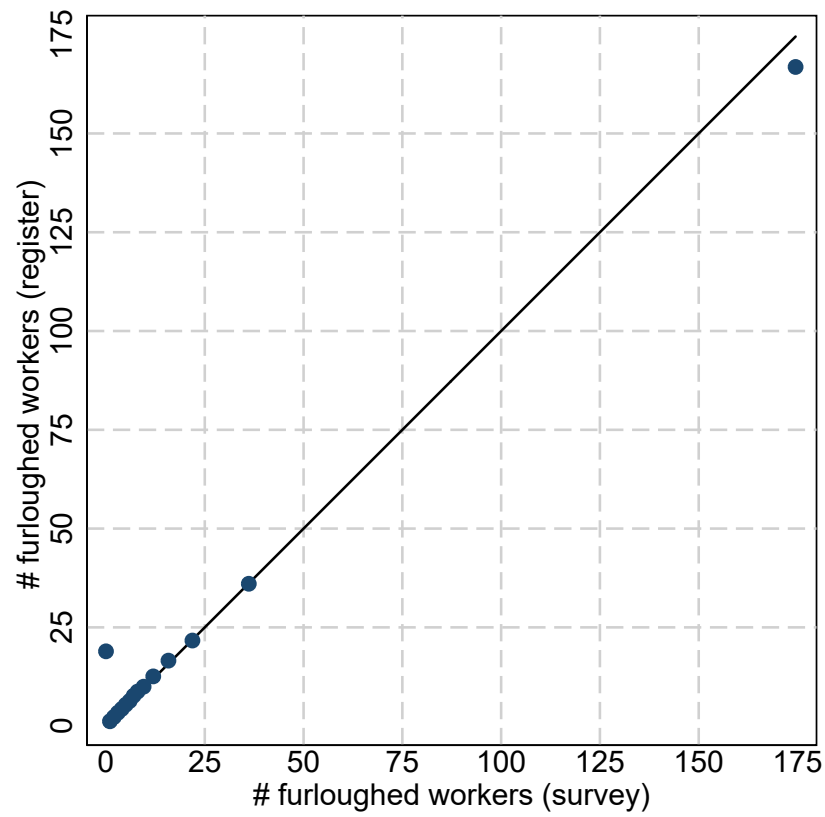


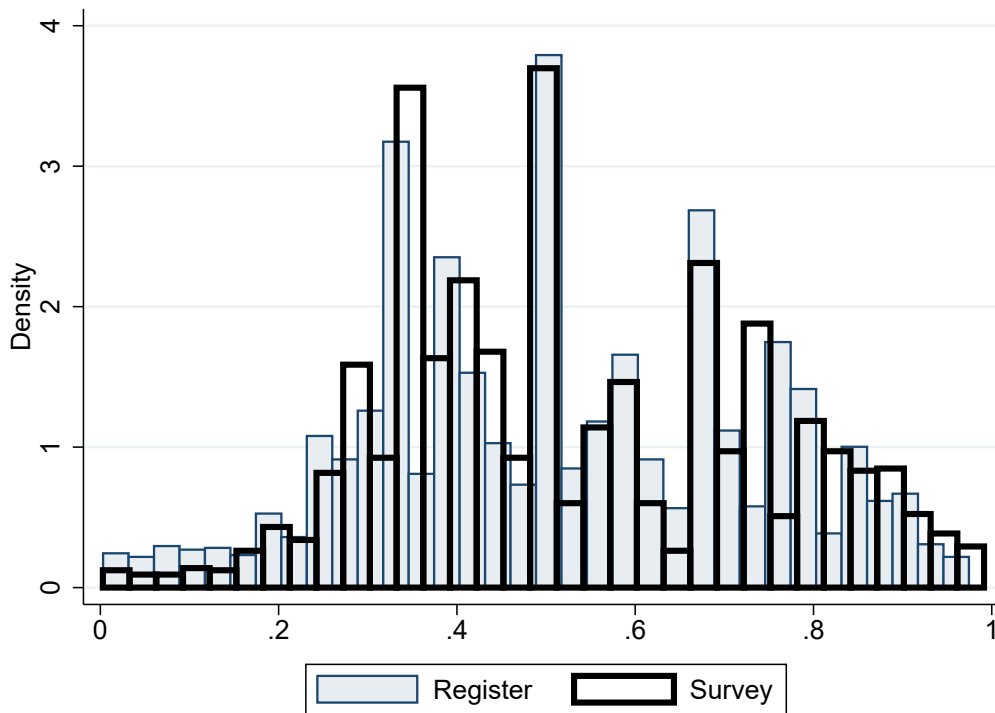
Table A.3: Number of firms reporting furloughs/no furloughs in the administrative register and the COVID survey

		Survey		Total
		No furloughs	Furloughs	
Register	No furloughs	6972	633	7605
	Furloughs	543	2459	3002
Total		7515	3092	10607

First, the survey respondent is crucial in the quality of the data. In our survey, over 90 percent of the respondents were owner-managers or CEOs, and thus know (or make) the financial and labor choices in the firm.¹⁸ Furthermore, all firms have a unique firm identifier with links to accounting register data up to 2019 and Danish Statistics data up to 2016, allowing for further verification.

Second, the two main concerns regarding the quality of the reporting are truthfulness in reports of actual furloughs and layoffs, and accuracy in the predictions of the counterfactual figures. We can directly test the veracity of the reported actual furloughs against government register data on aid requests, but the veracity of the counterfactual predictions are inherently un-testable. We have to assume that the responding firm managers are in the best position to make these sorts of predictions for their own firms. If we were to see bunching at the aid threshold levels in the data, this might suggest managers did not carefully answer the question and simply defaulted to the value they thought was the minimum acceptable. However, we do not see evidence of this in the reports.

Figure A.5: Distribution of the share of furloughed workers

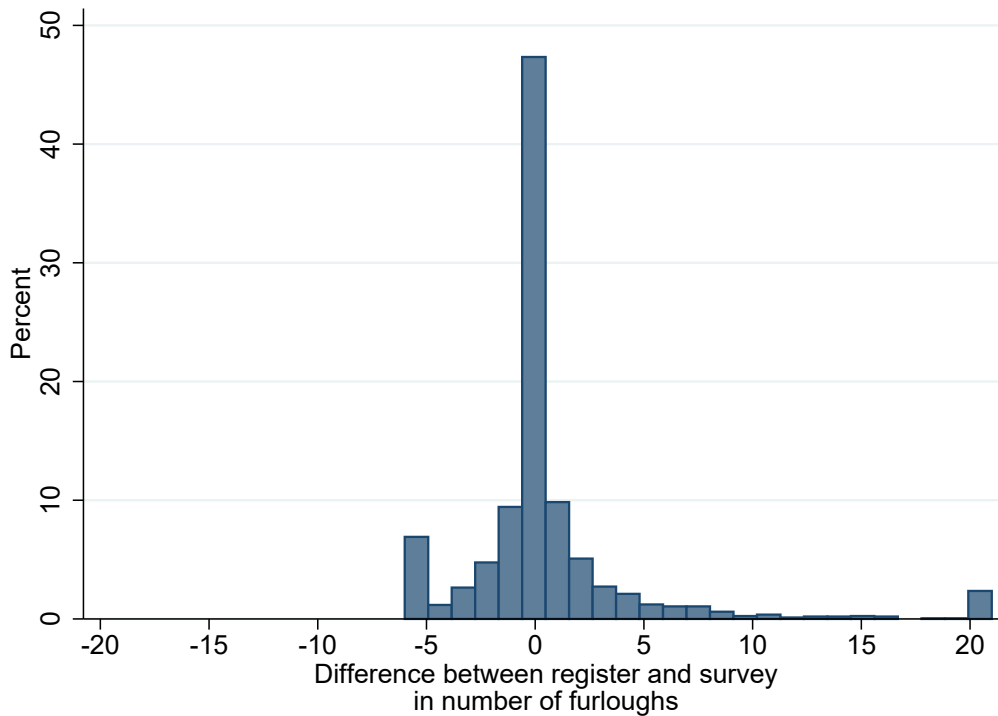


A.4 Labor aid takers and furloughed workers

Figure A.7 shows the relationship between the revenue impact of firms that experienced a negative shock and the share of actual share of furloughed or laid off workers. The solid squares represent firms that took at least one type of aid, while hollow squares represent firms that did not take aid. Circles show the relationships for the outcome of actual furloughs. Solid circles represent firms that took at least one type of aid, while hollow circles represent firms that did not take aid. The

¹⁸The remainder of the respondents were non-managing owners or other administrative staff.

Figure A.6: Distribution of the difference in actual furloughed workers



difference between aid-taking and non-aid taking firms is stark: those that did take aid laid off significantly fewer workers at the higher end of the impact values, and furloughed substantially more workers. Those that did not take aid laid off more workers than they furloughed.

A.5 Direction of revenue change

We document that, in general, the direction of the revenue change is relatively similar across firm size bands, and the majority of the variation is driven by industry. Figure A.8a shows the expected change in revenue across the firm size bands, and Figure A.8b shows the same data across industries.

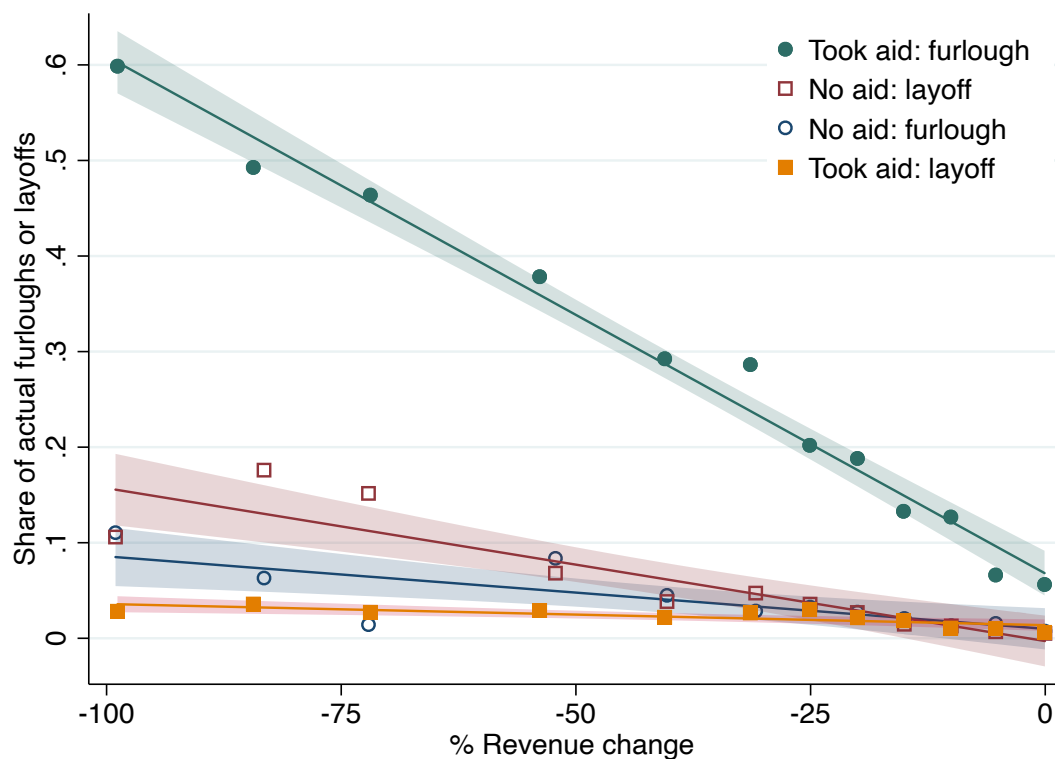
A.6 Other outcomes: costs, liquidity and survival expectations

Cost and liquidity

Approximately 40 percent of the respondents chose to report their monthly costs in January and April, as well as the share of their costs accounted for by labor and fixed costs, and their available liquidity (including cash-on-hand and available loans). Table B.5 reports the average value of these responses by three different types of firms: firms experiencing different levels of revenue change, by their aid recipient status, and by firm size.

All firms reported lower costs in April relative to January, though the share of costs taken up by labor or fixed expenses remained relatively similar. Likewise, liquidity remained stable across the two months.

Figure A.7: Labor response to revenue change by firms aid taker status



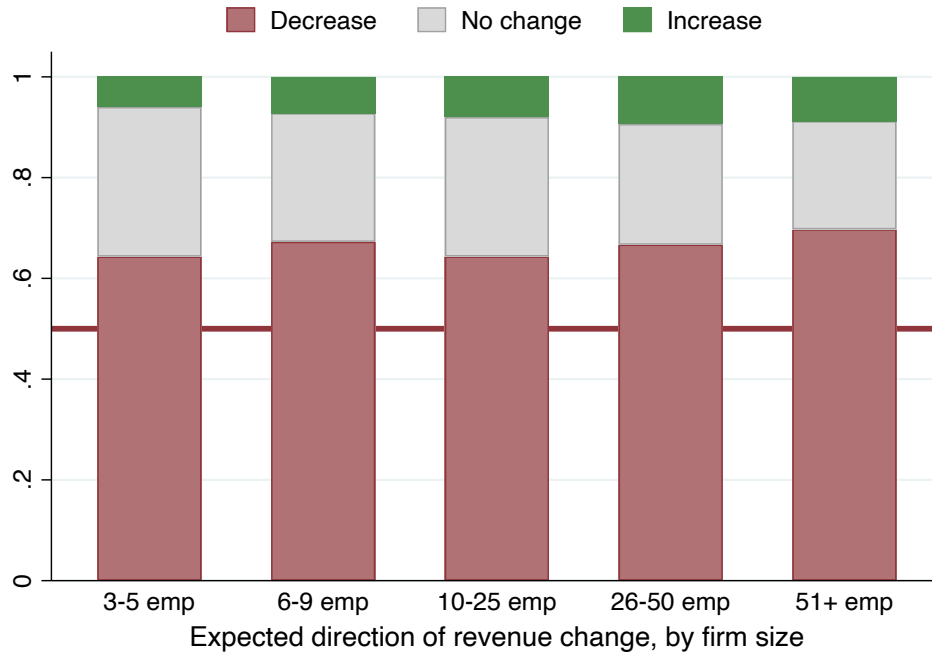
Notes: This graph shows the binned scatterplot of the simple relationship between the percentage revenue change in firms and the share of employees that they report actually furloughing or laying off. Squares show the relationships for the outcome of actual layoffs. Solid squares represent firms that took at least one type of aid, while hollow squares represent firms that did not take aid. Circles show the relationships for the outcome of actual furloughs. Solid circles represent firms that took at least one type of aid, while hollow circles represent firms that did not take aid.

Table A.4: Summary statistics of furloughed workers

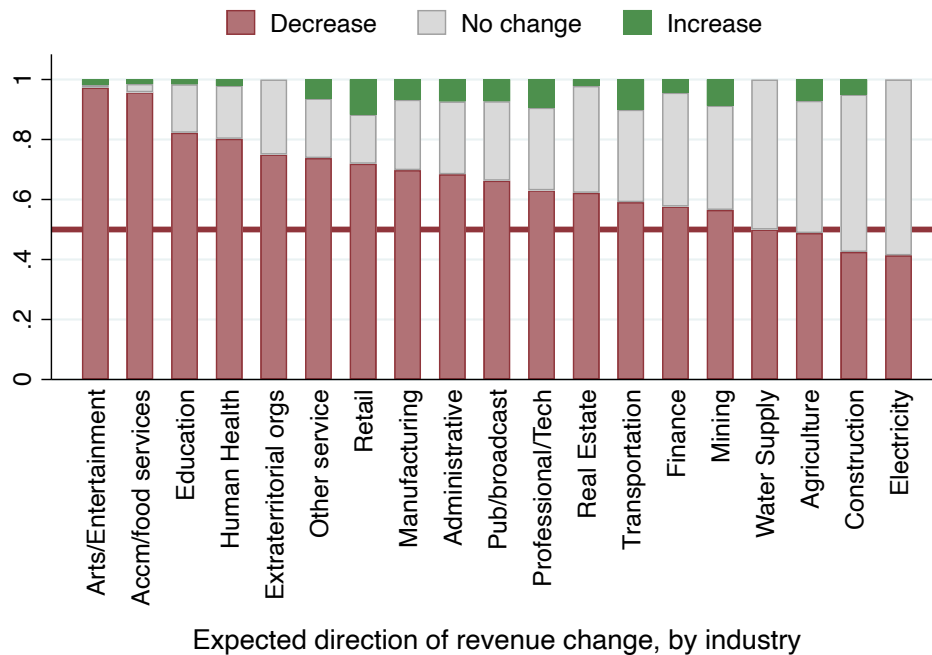
	Mean	SD	25th pctile	Median	75th pctile	N
Worker-level summary statistics						
Share male	0.50	0.50	0.00	0.00	1.00	242126
Weekly hours worked (pre-COVID)	28.15	12.61	18.00	37.00	37.00	242126
Monthly earnings (000s DKK)	24.90	19.28	9.06	24.82	35.06	242126
Total firm compensation (000s DKr)	37.71	25.55	13.72	37.32	59.40	242126
Share full time	0.58	0.49	0.00	1.00	1.00	242126
# days furloughed	68.27	21.90	62.00	77.00	83.00	242126
# days furloughed (FT workers)	64.67	22.77	52.00	72.00	81.00	140331
# days furloughed (non-FT workers)	73.22	19.59	70.00	79.00	86.00	101795
Firm-level summary statistics						
Share male	0.48	0.40	0.00	0.50	1.00	29471
Weekly hours worked (pre-COVID)	30.56	8.51	26.00	34.75	37.00	29471
Monthly earnings (000s DKK)	24.38	13.33	15.29	24.08	31.86	29471
Total firm compensation (000s DKr)	43.96	20.23	28.41	44.53	58.50	29471
Share full time	0.63	0.40	0.25	0.77	1.00	29471
# days furloughed	73.54	19.14	66.43	80.00	88.00	29471
# employees furloughed	8.22	44.86	1.00	3.00	6.00	29471
# days furloughed (FT workers)	72.54	19.51	64.54	79.00	87.00	23987
# days furloughed (non-FT workers)	73.91	19.22	68.00	81.00	88.00	16907

Figure A.8: Expected direction change in revenue

(a) By firm size



(b) By industry



Notes: See Table A.1 for the sample size of each industry and size band in the sample. The figure shows the share of firms reporting an expected decrease, increase or no change in revenue as a result of the pandemic. Panel (A) shows the distribution across firm size bands, and Panel (B) shows the distribution across industries.

B Policy Appendix

On 14 March 2020, the Danish government, labour unions and employer organizations reached an agreement that included temporary salary compensation for employees at risk of losing their jobs, effective for the period from 9 March 2020 to 9 June 2020 ([Ministeriet; 2020](#)). On 18 April 2020 the government aid packages were extended to 8 July 2020 and also substantially expanded ([Regeringen; 2020](#)).

Table B.5: Costs and liquidity, averages

	Mo. costs (Jan)	Mo. costs (April)	Lab. share cost (Jan)	Lab. share cost (Apr)	Fix share cost (Jan)	Fix share cost (Apr)	Liq (Jan) 100k Kr.	Liq (Apr) 100k Kr.
Decrease	31.43	21.98	0.58	0.59	0.31	0.35	45.87	44.12
Increase	40.68	28.75	0.56	0.58	0.29	0.30	50.06	52.32
No change	31.96	24.20	0.57	0.59	0.29	0.31	50.05	51.20
By aid recipient								
Did not take aid	37.02	26.22	0.58	0.60	0.29	0.31	52.21	52.46
Took aid	29.49	21.06	0.58	0.58	0.31	0.35	43.95	42.49
By firm size								
3-5 emp	4.85	2.89	0.58	0.59	0.32	0.35	19.06	18.22
6-9 emp	8.09	5.58	0.59	0.60	0.30	0.33	22.10	21.70
10-25 emp	17.89	12.83	0.59	0.60	0.30	0.33	38.85	38.01
26-50 emp	39.78	27.10	0.57	0.58	0.29	0.33	67.66	66.73
51+ emp	140.22	106.08	0.54	0.55	0.30	0.33	139.10	138.00
Total N	4225	3971	4017	3897	3894	3782	4083	4039

Notes: The table reports financial indicators of surveyed firms in terms of monthly cost in January(column 1), monthly cost in April (column 2), labor cost shares in January (column 3), labor cost shares in April(column 4), fixed cost shares in January(column 5), fix cost shares in April (column 6), liquidity in January (column 7) and liquidity in April (column 8) across groups with different revenue change expectations, aid recipients and firm size. Last row of the table reports number of total observations for each indicator.

Table B.6: Summary of firm aid government programs.

Country	Furlough support	Loan and grant	Cost subsidy	Others
Denmark	- 75% of employee salaries are covered by the government, up to DKK30,000 per employee per month. Eligibility: firm would layoff at least 30% of its workers. Firm covers the remaining 25% of the salaries.	Loan guarantee on 70% of new corporate loans related to COVID-19. Eligibility: SMEs with losses of 50% or more. Large: revenue losses of 30% or more.	Between 25% and 80% of fixed costs for firms experiencing between 35 and 100% decreases in turnover, but remaining open. 100% of fixed costs are compensated for firms forced to close.	Employers are paid sickness reimbursement for salaries and benefits from to first day of absence instead of the 30th. 30 day VAT payments delay.
Germany	- Govt covers up to 80% (87 if family) of salaries and 100 % of the social-security contributions for reduced working hours. Working hours can be reduced with reduced wages. Eligibility: at least 10 % of workers affected	100% - loan guarantee up to 25% of the revenue of 2019. Max EUR 500k in loans for firms with 10-50 employees and 800k for > 50 employees.	Direct payment to self-employed and firms with 10 employees or less, up to EUR 15,000.	Reduced VAT rate to 7% for restaurants for 12 months
Sweden	- Employers can cut the working hours by 80%. Government covers most of the salary, workers receive 90%.	- Loan guarantee of 70% to companies, up to SEK 75 million in loans per company. No legal company size limit	Between 22.5% and 75% of fixed costs for firms with min SEK 250k in turnover and a decrease of at least 30% this year.	VAT by sole proprietors might be postponed.
Netherlands	Up to 90% of wages are compensated. If: At least 20% decreases in revenue in March to May compared to 2019 and the workers are not laid off.	- Loan guarantee of 50%, min EUR 1.5m and max EUR 150m per company.	Firms forced to close can apply for EUR 4000 lump-sum payment	VAT, income, corporate and turnover taxes might be deferred.
France	70% of wages, up to EUR 45.68 per hour not worked, are compensated, if a business is forced to close or reduce activities due to COVID-19.	- 70 % to 90% of loans might be guaranteed by the State. - Different percentages of guarantees apply to different sizes of firms	Lump-sum transfer of up to EUR 1500. For: Very small businesses, self-employed etc., if decreases of 70% in revenue or forced to closure	Early corporate tax repayment, postponed employers social security contribution
Italy	- 80% of salaries covered, with a maximum of EUR 1.200 for a maximum of 9 weeks.	Fee-free loan guarantee for SMEs, EUR 5m max guarantee	regional fund to assist firms with redundancy payments for 9 weeks of suspension for a max of 5 employees	6 months suspension of loan repayment for SMEs
UK	Up to 80% of salaries with a maximum of 2,500 GBP are paid for the next three months for retained workers. All employers are eligible to apply	- Guarantee of loan repayments up to GBP 5m for SMEs. Loan guarantee of 80% for loans up to GBP 25m for large firms, between GBP 45m - GBP 500m in turnover	Cash grant between GBP 10,000 and GBP 25,000, if firm uses properties for retail, hospitality or leisure and a property value of maximum GBP 51,000.	VAT deferral for the second quarter of 2020
USA	Unemployment insurance payments plus USD 600 per month, under it the majority of workers get a replacement rate over 100	Low interest federal loans to affected small businesses	50% payroll tax reduction for affected firms that do not layoff workers	Tax payments deferred

Sources:

OECD Country Policy Tracker, 2020

<https://www.government.se/press-releases/2020/03/crisis-package-for-small-enterprises-in-sweden/>,<https://www.nortonrosefulbright.com/en/knowledge/publications/a9a1127f/covid-19-italy-sets-up-a-wage-compensation-fund-to-help-employers-overcome-the-crisis><https://ftpa.com/en/new-rules-on-furlough-leave-is-your-company-eligible-to-french-state-aids/>