INSTITUTE FOR EMPLOYMENT RESEARCH
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IAB-DISCUSSION PAPER

Articles on labour market issues

33|2020 Competing for jobs: How COVID-19 changes search behaviour in the labour market

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ISSN 2195-2663

Competing for jobs: How COVID-19 changes search behaviour in the labour market

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Abstract

Little is known so far about how the corona crisis has changed search processes in the labour market. We provide insights on labour market competition, reallocation of applications and potential sullying effects by analysing data from the LinkedIn professional network for Germany. We find that competition among workers for jobs strongly increased. The data allow us to trace that back to additional job seekers rather than higher search intensity. Furthermore, the LinkedIn data show that people from industries particularly affected by the crisis apply much more frequently and there has been a substantial shift in the target industries for applications. Finally, we find that during the crisis applications are made significantly more often below and significantly less often above a person's level of seniority.

Zusammenfassung

Bislang ist wenig darüber bekannt, wie die Coronakrise die Suchprozesse auf dem Arbeitsmarkt verändert hat. Durch eine Analyse von Daten aus dem beruflichen Netzwerk LinkedIn für Deutschland erhalten wir Erkenntnisse zu einer Veränderung der Konkurrenz am Arbeitsmarkt, einer Umverteilung von Bewerbungen und einer möglichen Verschiebung in Richtung niedrigerer Karrierestufen. Wir stellen fest, dass der Wettbewerb unter den Arbeitnehmern um Arbeitsplätze stark zugenommen hat. Die Daten lassen den Rückschluss zu, dass dies eher auf zusätzliche Arbeitssuchende als auf eine höhere Suchintensität zurückgeht. Darüber hinaus zeigen die LinkedIn-Daten, dass sich Personen aus von der Krise besonders betroffenen Branchen sehr viel häufiger bewerben und dass sich die Zielbranchen für Bewerbungen erheblich verschoben haben. Schließlich stellen wir fest, dass sich Personen während der Krise deutlich häufiger unterhalb und deutlich seltener oberhalb der eigenen Karrierestufe beworben haben.

JEL classification

J6, E24

Keywords

application behaviour, COVID-19, reallocation, vacancies

Acknowledgements

We thank Sein O Muineachain and Michael Stops for valuable comments and suggestions.

1 Introduction

Economies around the world are suffering from the effects of measures to contain the corona virus. Particularly, the labour markets were hit hard. Unemployment is rising, and the stock of vacancies is declining. To understand the impact of the corona crisis on the labour market as a whole, it is not only important to look at unemployment and the stock of open vacancies, but also at the search behaviour of employees and employers. How do people on job search react to shifts in the labor market? To what extent does the Corona crisis intensify competition for vacancies? Are those who have lost or are threatened to lose their jobs now looking for employment in less affected industries? Do they apply below their competence level?

Studies analyse the labour market effects of Covid-19 from various perspectives. Coibion et al. (2020) use a U.S. household survey to document several facts on unemployment and participation. Campello et al. (2020) rather focus on the firms' perspective and explore changes in vacancy posting behaviour in the U.S. Bauer and Weber (2020) assess the impact of Covid-19 on labour market flows between employment and unemployment for Germany.

However, little is known so far about how the corona crisis has changed search processes in the labour market. To provide insights to the questions above, we analyse data from the LinkedIn professional network for Germany. The data provides an up-to-date picture of which people are searching, what they are looking for and what they find.

It allows to analyse how the competition among workers for jobs changed during the crisis by looking at the overall application behaviour. In that respect it gives a more comprehensive view on the state of the labour market as overcomes certain issues classical measure, such as tightness, face (see Abraham and Haltiwanger, 2019). In detail we ask whether the trend in applications per job posting changes and whether this is due to the fact that more people search for jobs or because search intensity rising.

We also assess whether the Covid-19-crisis might change the allocation of matches by having a look at the changes across industry sectors in applications. Such sectoral imbalances can cause rising aggregate unemployment (Lucas and Prescott, 1974, Lilien, 1982). In this respect, the data can give indication whether we might expect the natural rate of unemployment to rise in the aftermath of the crisis.

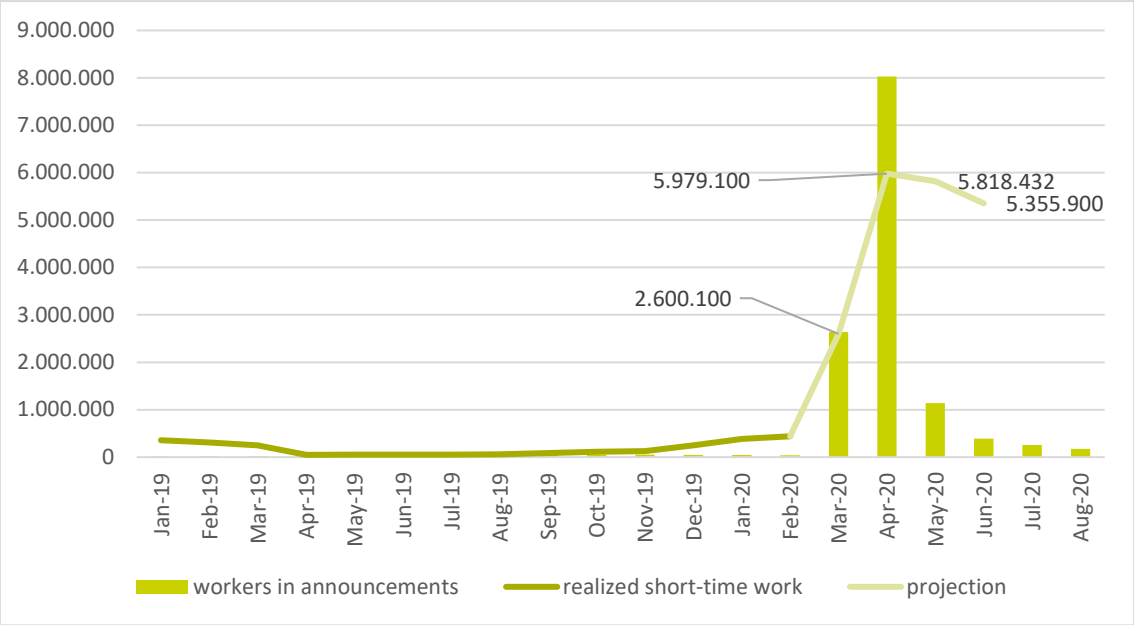
Further we are able to observe whether workers apply for jobs at the same seniority level as before or whether the workers are willing to make concessions which might hamper their career progress and. That can be linked to the questions whether match quality rises or declines in recessions, i.e. if the recent recession is cleansing or sullying (see, for instance, Foster et al. (2016))

The paper is structured as follows. We elaborate on the situation in Germany during the Covid-19 crisis. In section 3 we present the data used. Section 4 documents the development of labour market competition and sheds light on the driving forces. Section 5 highlights sectoral imbalances in application behaviour, and Section 6 takes a deeper look on intended reallocation processes. Section 7 illustrates possible changes in career progress. Section 8 concludes.

2 The crisis in Germany

All in all, the corona crisis is leaving a clear mark on the labour market. Politicians in Germany reacted quickly by facilitating access to short-time work in order to keep as many people as possible in employment. In spring 2020, far more short-time work notices were received than during the Great Recession of 2009. Preliminary projections based on the announcement of firms on how many workers they are willing to send to short-time work shows that almost 6million people might have been on short-time work in May. Figure 1 shows the number of workers in announcements (grey bars) and the projections of realized short time work (dashed line) as well as the latest available numbers for realized short-time work (solid line).

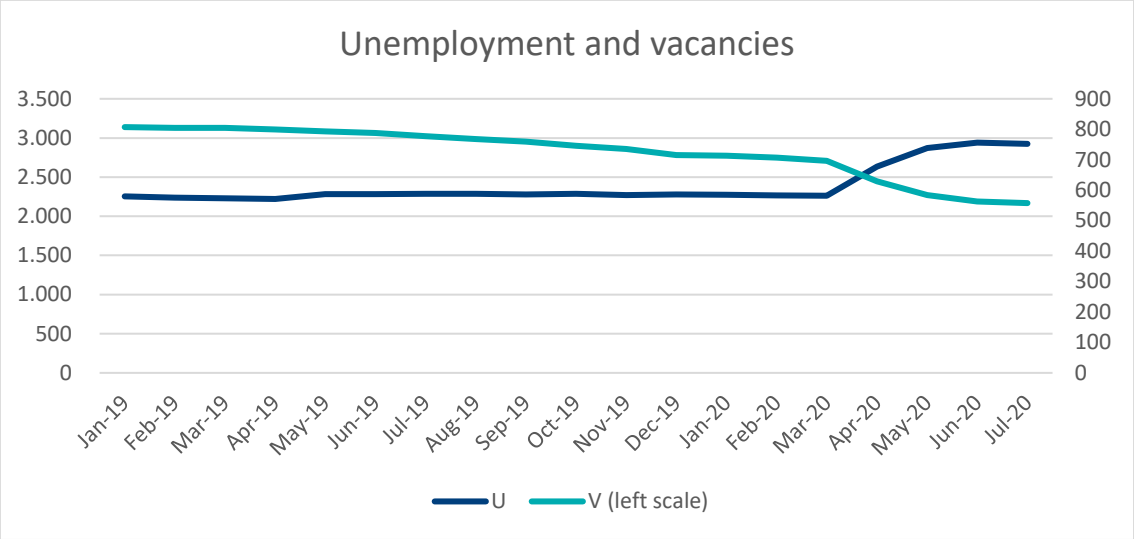
Figure 1: Short-time work over time.



Source: Federal Employment Agency.

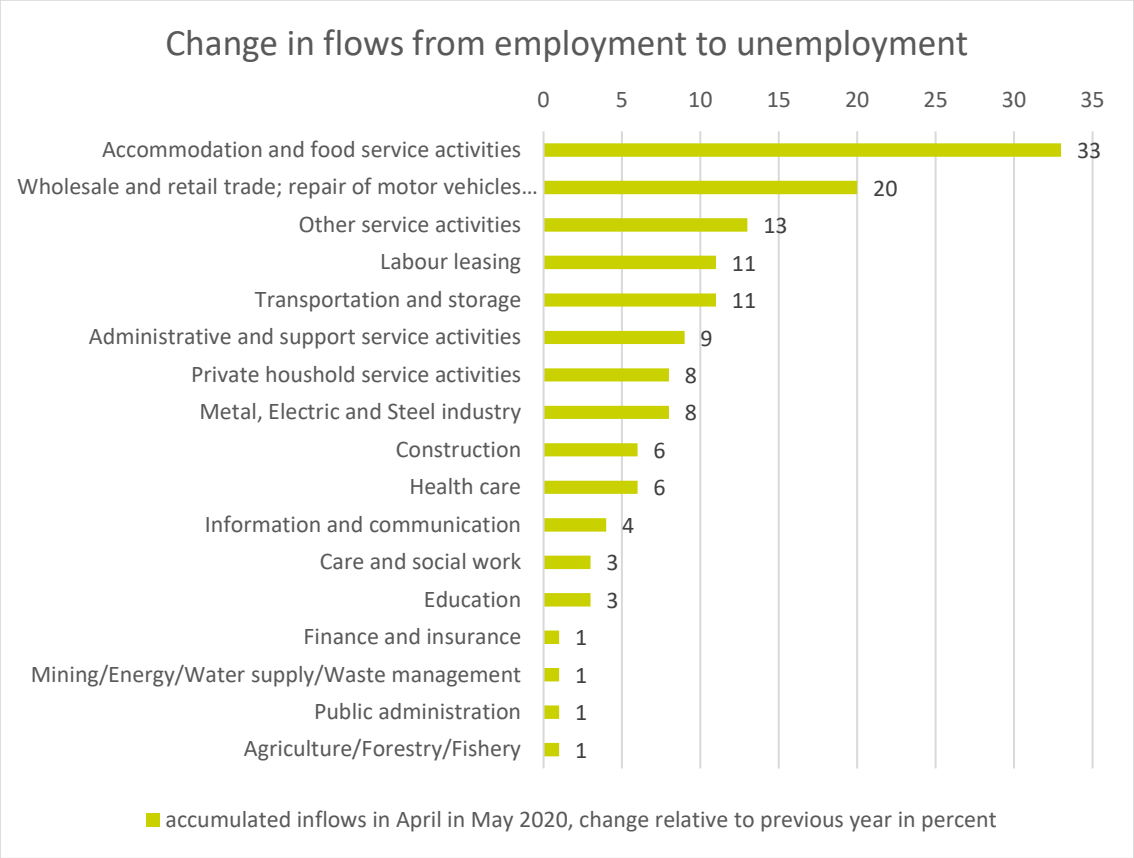
Nonetheless, the number of unemployed rose sharply between March and June, but far less than the number of short-time workers. In addition, the number of registered vacancies fell by a good 20 percent. The overall stock even dropped by more than 35 percent in the second quarter of 2020 compared to 2019 (see Kubis, 2020).The number of new vacancies fell as well- even if these have been recovering somewhat since May. Figure 2 displays the development of both measures over time.

Figure 2: Unemployment and vacancies – stock



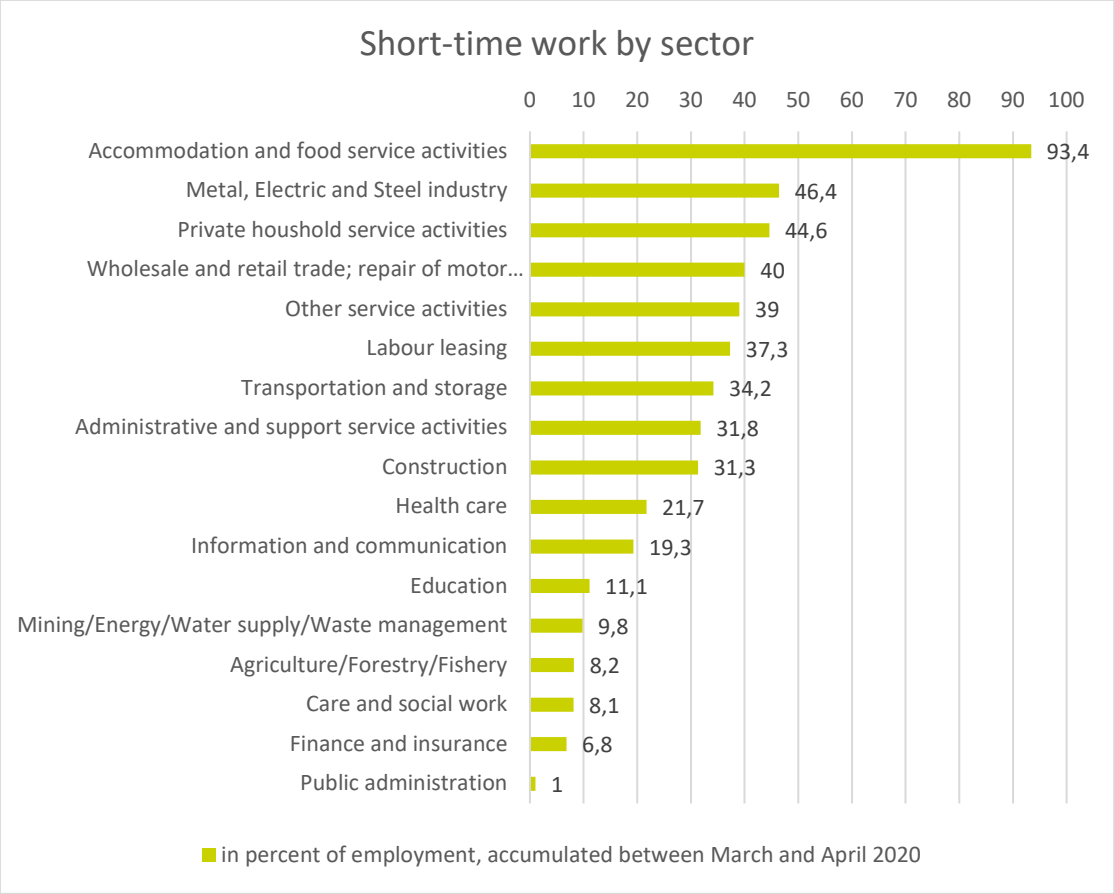
Source: Federal Employment Agency.

Figure 3: EU flows by sector in April and May 2020 (accumulated).



Source: Federal Employment Agency.

Figure 4: Short-time work by sector in March and April 2020.



Source: Federal Employment Agency.

Figures 3 and 4 show that some sectors are more affected in terms of the labour market reaction than others. Especially Accommodation and food service activities, Wholesale and Service activities (e.g. tourism and recreation) were hit hard. Health care also shows a reaction in terms of unemployment inflows and short-time work, but is less affected than the other sectors. Given that, we will analyse the behaviour of applications in particular in those sectors that were most affected, positively or negatively.

3 Data

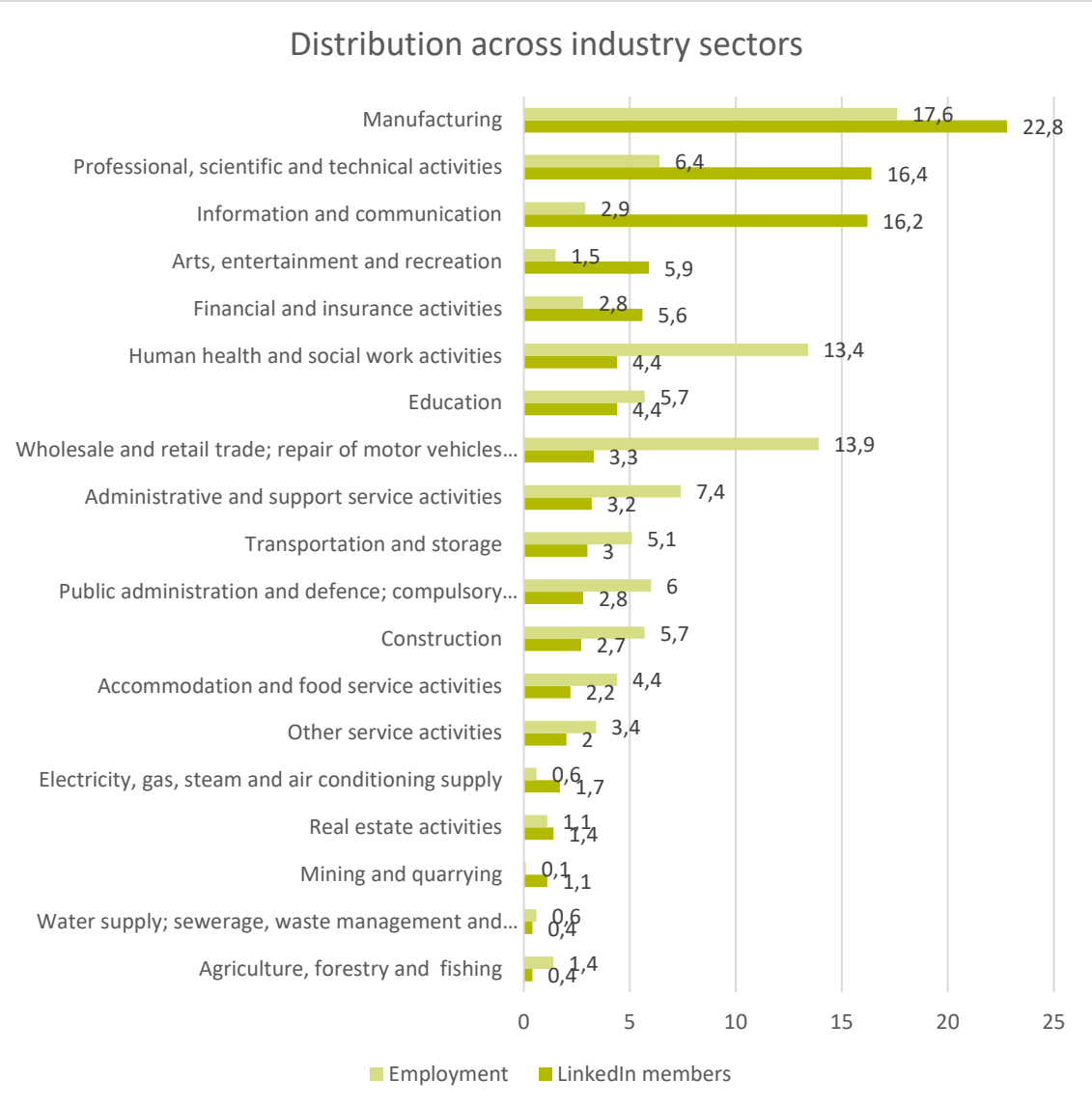
We build our analysis on comprehensive data of the career network LinkedIn, a platform that is used for professional networking by workers and firms. While firms are posting jobs, workers seeking for jobs might send applications. After registering on LinkedIn, members create a profile, which is similar to a resume and add information about work experience, competencies and education.

The number of LinkedIn members in the central European region (Germany, Austria, Switzerland) amounts to 15 million. In order to get an impression of the data, we address the industry composition of LinkedIn members. Figure 5 (taken from Czernich et al., 2019) illustrates the distinction

across sectors between the LinkedIn members and the real distribution. In comparison to the German work force (light grey bars), Manufacturing, Professional, scientific and technical activities and Information and communication ore overrepresented on LinkedIn (dark grey bars), which reflects the increasing digitalization and the importance of networks in these sectors. However, LinkedIn members employed in Manufacturing are the largest group just as in the German economy. In contrast, especially employees in the Health and social services sector as well as in Wholesale and retail trade; repair of motor vehicles and motorcycles sector are underrepresented on LinkedIn.

Nevertheless, the illustration shows that the important industries are sufficiently represented in the LinkedIn data. Overall, they provide an adequate basis for the analyses in the following sections, and in particular, allow for reasonable industry comparisons.

Figure 5: Distribution of workers across industry sectors.



Source: Czernich et al. (2019).

We examine premium job postings, which are postings that are paid for by the firm. This rules out duplicates and ensures up-to-dateness. Furthermore, we use applications from members within Germany, i.e. from members who state Germany as their base location and apply for jobs in Germany.

The first section considers both, the universe of members and premium jobs postings. However, for the main analysis we make use of the longitudinal dimension of the data. This way we exclude possible distortions by new members flowing in over time.

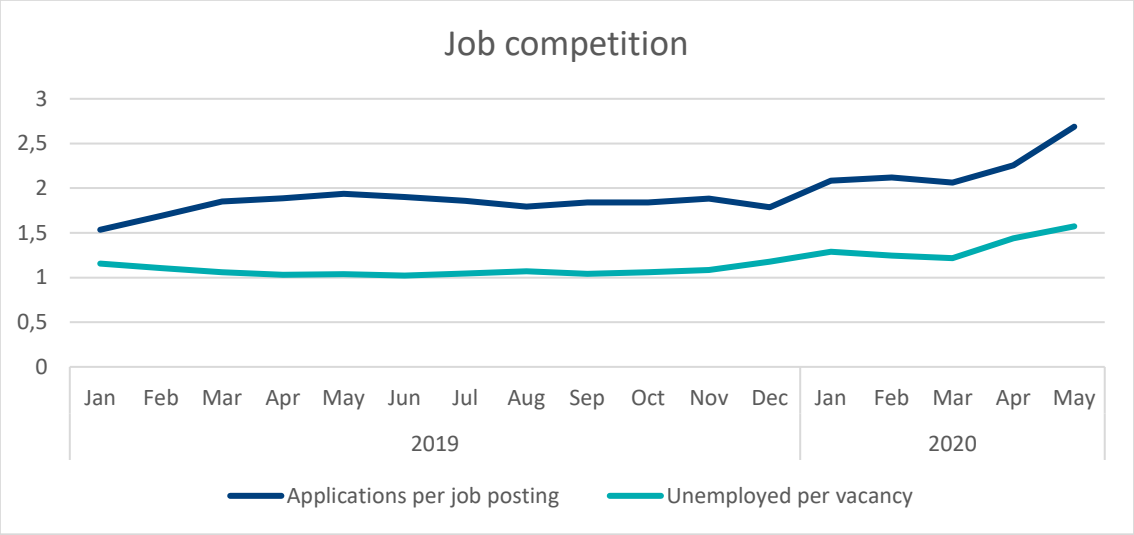
We draw a random sample of 3 million members on the 31st of May, 2020. Out of this sample we select persons who were already members in January 2019 to rule out attrition. This leaves us with 2.43 million members.

The behaviour of these members is investigated between January 1, 2019 and May 31, 2020. Because the data is available on a daily basis, it allows to precisely determining the periods of interest. The "crisis period" refers to the period between the 23rd of March 2020 and the 31st of May 2020. We chose the 23rd of March as this is the date when the lockdown came into force nationwide and comprehensively in Germany. The "pre-crisis period" refers to the same period in 2019.

4 Labour market competition in the crisis

To understand the overall trends during the Covid-19 crises, we first compare two measures of labour market competition. The first uses the universe of applications and job posting of the LinkedIn professional network, while the second uses registered unemployed over vacancies of the official statistics of the Federal Employment Agency. The latter is an inverted key statistic in modern macroeconomics called labour market tightness. Originally, it is defined as the ratio between vacancies and unemployed and is the central element in search and matching models (Pissarides, 2009) as it reflects the state of the economy. In recessions, labour market tightness relaxes, indicating a slack labour market. In booms, more vacancies are created, and unemployment decreases, which tightens the labour market from a firm's perspective. As we are interested in the state of the labour market from the workers perspective, we inverted this statistic.

Figure 6: Competition in the labour market over time.



Source: LinkedIn, own calculation.

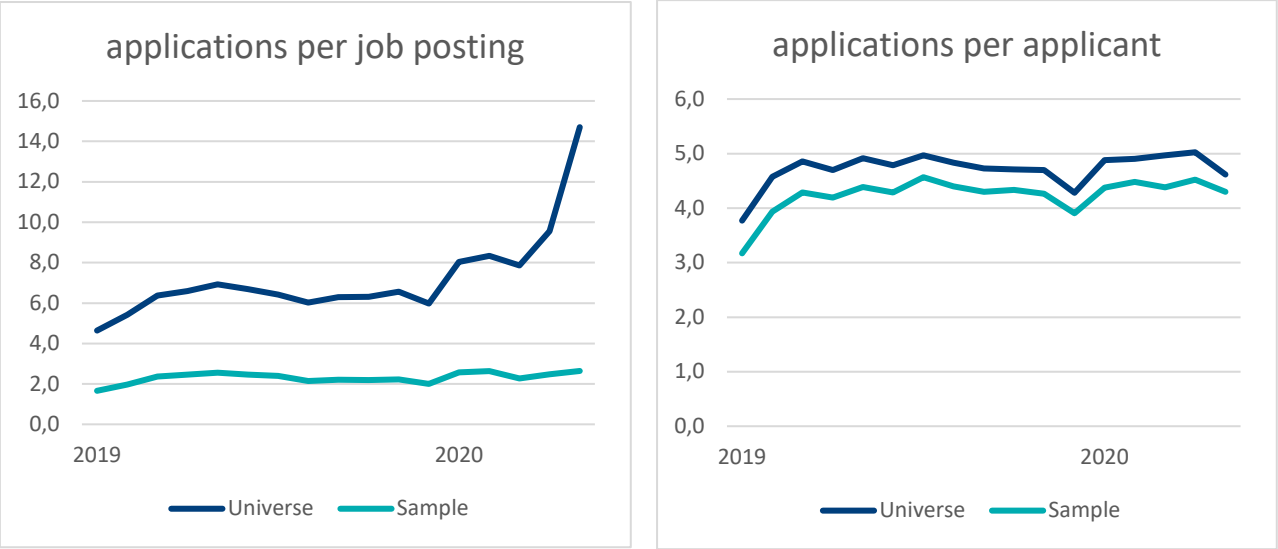
Three issues stand out (see Figure 6). First, competition started to increase in both measures when Covid-19 hit. Second, the applications per job posting show a stronger increase than the unemployment per vacancy during the crisis. Apart from that, the trends are similar and the data is highly correlated (0.8). Third, the level is different. The ratio between unemployed and vacancies is relatively low compared to the applications per job posting.

Labour market tightness (and so the inverted measure too) lacks to give a complete picture for several reasons as Abraham and Haltiwanger (2019) point out. The competition measure of LinkedIn overcomes several issues mentioned therein and hence allows for a more complete view on changes in labour market competition. On the one hand, it provides data for all people who search, independently of whether they are unemployed or not. A large part of the labour market reaction in Germany is mitigated by short-time work schemes as pointed out in section 2. In that sense, the unemployed to vacancy measure is incomplete and reflects only partial effects as most of the people searching for jobs might be still employed but for instance in short-time work schemes. On the other hand, unemployed workers usually send more than just one application. Hence, counting applications instead of unemployed gives a more complete picture as well.

Relatedly, two possibilities might explain the rise in competition: more people searched for a job but less jobs are available, or workers intensified their search by sending more applications. However, a comparison of the universe of LinkedIn members to a sample of 3 million people, that were already members in the beginning of 2019, shows that people so far do not search more intensively. The left panel of Figure 7 shows that applications per job posting for sample members did not rise as much as for the universe of members. The right panel shows that members who joined just recently do not search differently. Though they send slightly more applications in general, which might be due to few persons that apply very frequently, the time trend does not differ.

Briefly, Figure 7 indicates that competition for jobs is higher when we consider all job seekers and not just the unemployed, and count applications instead of unemployed. This even amplified during the crisis. But job seekers do not search more intensively but more members joined for seeking for jobs.

Figure 7: Number of applications per job posting (left panel) and per applicant (right panel) over time



Note: black line refers to all members, grey line to a random sample of members that remains constant over time.
Source: LinkedIn, own calculation.

5 Sectoral imbalances

Economic crises can lead to labour market reallocation depending on the distribution of recessionary effects. The theoretical and empirical literature, starting with seminal papers of Lucas and Prescott (1974) and Lilien (1982), show that sectoral shifts may lead to long lasting effects on aggregate unemployment.

To highlight the differences across sectors, we examine industries that are particularly affected by Covid-19, whether positively or negatively. We want to know, whether the sectoral imbalances induced by the Covid-crisis might lead to pressure to change the industry. We interpret an observed application as intention to change. Such changes are often accompanied by a loss in occupation and industry specific human capital (see Neal (1995) and Kambourov and Manovskii (2009)), which causes wage losses. For our analyses we observe the change in the share of applications coming from and going to ten selected industries during the crisis and the same period last year.

Table 1: Origin and destination of applications by sector, change in percent between crisis and pre-crisis period

Industry	Change in %	
	Origin of the application	Objective of the application
Recreation & Tourism	+74.8%	-60.0%
Corporate Services	+29.3%	-25.3%
Manufacturing	+20.3%	-14.0%
Construction	+17.7%	-8.5%
Real Estate	+15.5%	-58.0%
Software & IT services	+9.0%	-8.3%
Consumer goods	+8.1%	-21.1%
Health Care	+5.6%	+22.5%
Finance	+0.5%	-6.3%
Hardware & Networking	-4.3%	+2.2%ss

Source: LinkedIn, own calculation.

Table 1 displays that sectors that are particularly affected exhibit strong changes in the share of applications coming from and going to these industries. Persons from the recreation & tourism sector applied 74.8 percent more frequently, but that this sector received about 60 percent fewer applications. Recreation and tourism is one of the sectors that suffered most which explains the fact that employees in these sectors apply more frequently. In light of the figures, pressure has also arisen in the corporate services sector, in manufacturing and in the real estate industry. A certain tension is also apparent in construction, although so far this sector has only been slightly affected by the corona crisis.

The situation is different in the healthcare sector, for example. This sector experienced increased demand due to the pandemic. Members from this sector are not only applying more frequently, this sector also receives more applications. The reason for this could be that people in unfavourable positions (temporary employment, commuting, poor pay, etc.) are looking for an improvement, but also people who work or have worked in severely impaired sectors see good chances for employment here. However, another reason is the distribution of jobs across sectors. While there are more vacancies in the health care sector due to the increased demand, there are hardly any vacancies left in the recreation & tourism sector.

In order to disentangle these effects, we proceed with a logistic regression. As dependent variable, we use a dummy that equals 1 when a member applies to a job in the same industry as of current employment. The propensity to apply to the same industry is regressed onto a dummy that equals 1 if the application was sent during the crisis period (Covid), a variable that holds the job distribution on the day the application was sent (i.e. the share of job postings of the industry of the members latest employment), and controls for current industry group of employment. Furthermore, we add an interaction effect of the Covid dummy and the current industry group. This interaction term holds the treatment effect of Covid-19 on the propensity of applying within the same industry. As we control for changes in the job distribution, this treatment effect reflects changes in application behaviour.

$$App_i = \beta_0 + \beta_1 Covid + \beta_2 \, Job\ distribution + \sum_i \beta \, Covid \cdot Sector_i + \sum_i \delta \, Sector_i + \varepsilon_i$$

Table 2: Regression results

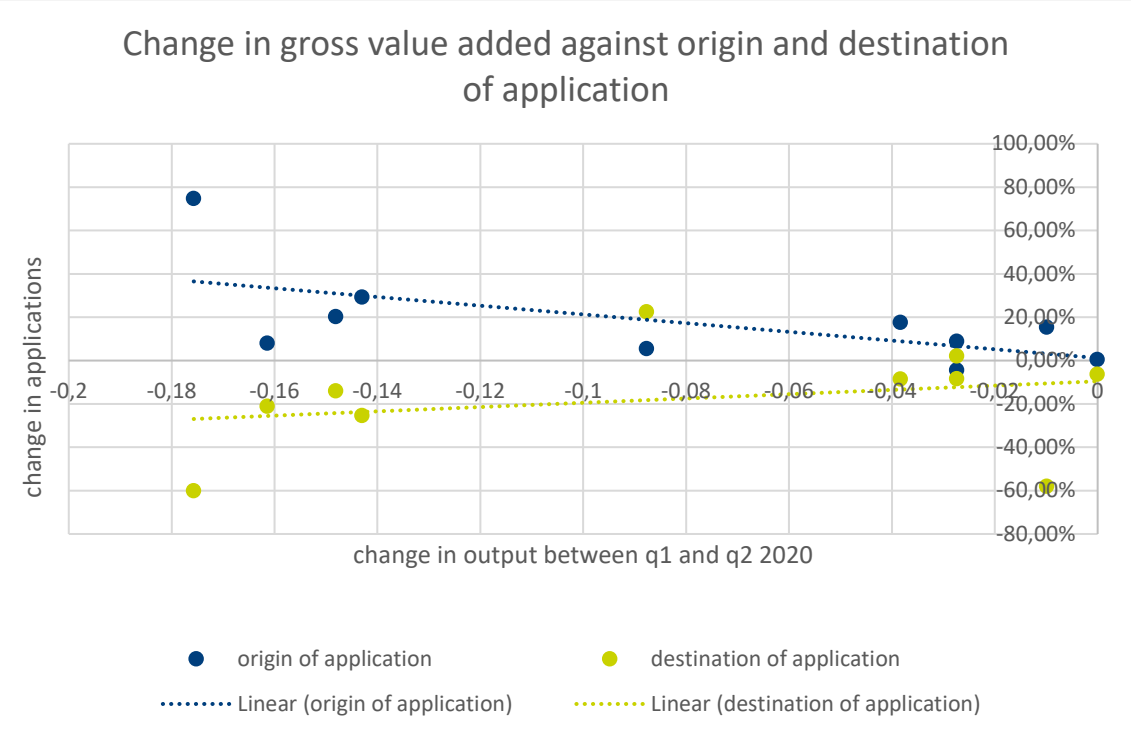
	Odds Ratio	
(Intercept)	0,106	***
Covid	0,955	.
Job distribution	1,076	*
Covid x …		
Agriculture	0,317	***
Arts	0,770	
Construction	1,122	
Consumer Goods	0,921	*
Design	1,026	
Education	0,967	
Energy & Mining	0,737	***
Entertainment	1,038	
Finance	1,086	**
Hardware & Networking	1,100	*
Health Care	1,442	***
Legal	1,112	
Manufacturing	0,877	***
Media & Communications	1,041	
Nonprofit	0,862	.
Public Administration	0,910	
Public Safety	0,51	
Real Estate	0,751	***
Recreation & Travel	0,388	***
Retail	1,383	***
Software & IT Services	1,122	***
Transportation & Logistics	0,921	
Wellness & Fitness	0,949	
Further controls		

Note: Confidence levels: . = 10%, *=5%, **= 1%, ***=0,10%
Source: LinkedIn, own calculation.

The regression in Table 2 shows that, overall, the likelihood to apply within the same industry declined slightly during the crisis as the Covid dummy shows a strength below 1. The health sector and recreation & travel sector show the strongest reactions. We see that for workers in the health sector the propensity to apply within health care increases by more than 44 percent, while it decreases more than 60 percent in recreation & travel. Hence, not just the disproportionate decline

in jobs is responsible for the result in Table 1, but there is a true change in the application behaviour of the workers.

Figure 8: Gross value added and application behaviour



Source: Destatis, LinkedIn, own calculation.

Furthermore, we checked whether the sectoral trends in application is correlated with the depth of the crises in the different sectors. Figure 8 shows a scatter plot of the change in gross value added between first and second quarter of 2020 against the change in the applications by origin and objective. There is a strong correlation between the origin of the application and the change in output. The correlation between the change in destination and the change in output is less pronounced.

6 Reallocation across sectors

In the last section we have learned that people who work, or have worked, in sectors that are strongly negatively influenced are less likely to apply within their sectors. The question that naturally arises is to which other sector they are applying to.

For this purpose, we analyse the changes in the industries by means of a heat map. Table 3 shows in which sector the persons are or were last employed, and in which sectors they applied more often as a result of the corona crisis. In order to filter the corona effect out of these transitions, the proportions of applications across the sectors were measured at two different points in time, once

before and once during the lockdown, and put in relation to the change in the previous year's period. The heat map therefore shows the change in the shares in the course of corona. The strength of the change is represented by the intensity of the colour. The darker the area, the stronger the increase. Only the five strongest increases in an industry were considered. The changes range between 0.1 and 3.0 percentage points.

A look at the heat map shows that people in negatively impacted industries are more likely to apply in industries where demand has picked up during the corona crisis, such as health, retail, and software and IT service providers. Although the majority of the retail sector was closed during the lockdown, the additional demand in food or online retailing could be behind this development. Persons from the recreation & tourism sector not only applied more frequently in the health sector and retail trade, but also in the IT sectors (hardware & networks, software & IT services) as well as media & communication, the financial sector and the entertainment sector. Overall, however, it is also clear that members also frequently apply in sectors with certain overlaps with their current sector. For example, people from the consumer goods sector often apply in retail or manufacturing, or people from the business services sector apply to software and IT service providers.

Table 3: Heat map on the changes in cross-sectoral applications before and after the crisis.

Note: Top 5 positive changes; Changes of same magnitude have the same colour.

Source: LinkedIn, own calculation.

7 Job ladder in the crisis

Recessions are often thought to have a cleansing effect, destroying relatively unproductive matches. However, match quality could also be impaired via sullying effects.

For instance, Bowlus and Neuman (2006) pointed out that job changes are usually associated with wage increases, i.e. with a certain upward dynamic, and are mainly used to climb up the job ladder. In recession, this career progress is hampered and the pace of reallocation slows down. Furthermore empirical evidence shows that the quality of matches might decline because matches that are created during recessions are rather low-paying and temporary (Barlevy, 2002). This implies that match quality would decrease during recession. However, countervailing effects that increase match quality through cleansing exist (see Shleifer (1986), Caballero and Hammour, 1994). In that case, match quality would increase leading to more productivity. Which effect dominates is an open question. A recent study of Foster et al. (2016) finds that the Great Recession differed from earlier recessions and was not cleansing. Though we cannot measure match quality directly, we can give some indication on the career progress and thus job ladder effects of Covid-19 from the application data.

Adjustment processes not only take place via sectors, but possibly also via qualification or experience levels. In order to shed light on this type of adjustment, we will analyse whether people apply for jobs with a corresponding level of seniority or whether they make cutbacks compared to their current level. We measure what proportion of applications are above, at or below the current experience level. This proportion is measured once during the Corona crisis and once during the same period of the previous year.

It turns out that during the crisis as a whole, members applied significantly less often (by 3.3 percentage points or 12 percent) above their own seniority level, but more often (by 11 percent) below their own seniority level (see Table 4). In other words, people on LinkedIn try less likely to improve their own position or climb up the career ladder, but are more likely to make concessions in terms of seniority. The concessions are potentially made to avoid unemployment. Indeed, empirical evidence (Bauer, 2016) shows that employees who change careers with an interim period of unemployment suffer a permanent loss of pay. This again illustrates the tension on the labour market due to the Corona crisis.

Table 4: Changes in applications with differences in the level of seniority before and after the crisis

	Crisis period	Pre-crisis period	Change
Above level	23,8%	27,1%	-3.30 percentage points
Below level	32,5%	29,2%	3.30 percentage points

Source: LinkedIn, own calculation.

We further break down the job ladder effects by sector. Table 5 shows a general decline in applications above the own level. Here it is certainly also noticeable that many people are applying across industries. For the increase in the willingness to apply below one's own level of seniority, a more

unequal distribution can be seen. People from the health and IT sector (software & IT services sector, hardware & networks) apply less frequently below their own level, as employment in these sectors is less affected by the crisis or even lifted. By the same token, employees from industries that were closed by the containment measures (education, retail, recreation & tourism, entertainment, wellness & fitness) do not apply more frequently below their level. This seems surprising at first. It is possible that workers anticipated that the lockdown is limited in time and waited accordingly. In industries that were not immediately closed (consumer goods industry, non-profit sector, manufacturing industry, transport & logistics, business services), but are clearly feeling the consequences of the corona crisis due to the overall economic situation, the proportion of applications below the current seniority level has increased. For example, manufacturing, business ¬services ¬or transport could be affected for a longer period and subject to strong structural change, which apparently increases the risk of job losses.

Table 5: Changes in applications with differences in the level of seniority

	Change in percentage points	
Industry sector	**Below seniority level**	**Above seniority level**
Construction	+0,4%	-0,6%
Consumer Goods	+3,4%	-5,7%
Corporate Services	+1,1%	-6,7%
Education	-0,3%	-2,3%
Energy & Mining	0,0%	-3,1%
Entertainment	-0,4%	-5,1%
Finance	+0,3%	-2,6%
Hardware & Networking	+0,2%	-4,5%
Health Care	-0,9%	-2,0%
Manufacturing	+3,7%	-5,9%
Media & Communications	+0,5%	-8,1%
Nonprofit	+3,3%	-4,2%
Real Estate	-1,3%	-7,0%
Recreation & Travel	-0,5%	-1,8%
Retail	-0,6%	-3,7%
Software & IT Services	-0,1%	-3,0%
Transportation & Logistics	+0,5%	-5,0%
Wellness & Fitness	-0,4%	+3,0%

Source: LinkedIn, own calculation.

8 Conclusion

During the Corona crisis, the number of jobs on offer has fallen significantly. Using data from LinkedIn, we show that the number of applications per job has risen as a result, which means that competition has intensified. However, job search has not been intensified, as the number of applications per applicant has actually fallen slightly. Hartl et al. (2020) also come to the conclusion in an analysis of data from the job exchange of the German Federal Employment Agency that the search intensity has decreased on the employee side, but above all on the employer side.

Furthermore, the LinkedIn data show that people from industries particularly affected by the crisis apply much more frequently and there has been a significant shift in the target ¬industries for applications. This makes reallocation processes in the crisis evident. Finally, we find that applications are made significantly more often below and significantly less often above a person's level of seniority than in the previous year. This shift from higher to lower quality applications shows that the crisis is affecting the functioning of the labour market and disables the potential of employees to develop. Besides unemployment hysteresis (Blanchard and Summer, 1986) and scarring effects (e.g. Heckman and Borjas, 1980), for this reason, too, the hiring dynamic must be revived as quickly as possible (compare Merkl and Weber, 2020).

References

Abraham, K. G.; Haltiwanger, J. C. (2019): How Tight is the Labor Market? Federal Reserve Bank of Chicago working paper.

Barlevy, G. (2002): The Sullying Effect of Recessions. In: The Review of Economic Studies, Vol. 69(1), p. 65–96.

Bauer, A. (2016): Reallocation patterns across occupations in Germany. In: Economics Letters, Vol. 148, November, p. 111–114.

Bauer, A.; Weber, E. (2020): COVID-19: How much unemployment was caused by the shutdown in Germany? Applied Economics Letters, online first.

Blanchard, O.; Summers, L. (1986): Hysteresis and the European unemployment problem. In: NBER Macroeconomics Annual 1986, p. 15–90.

Bowlus, A. J.; Neuman, G. R. (2006): Chapter 10 The Job Ladder, Editor(s): Henning Bunzel, Bent J. Christensen, George R. Neumann, Jean-Marc Robin, Contributions to Economic Analysis. In: Elsevier, Vol. 275, 2006, p. 217–235.

Caballero, R.; Hammour, M. (1994). The Cleansing Effect of Recessions. In: American Economic Review, 84(5), p. 1350–68.

Campello, M.; Kankanhalli, G.; Muthukrishnan, P. (2020): Corporate Hiring under COVID-19: Labor Market Concentration, Downskilling, and Income Inequality, NBER Working Paper No. 272.

Czernich, N.; Fackler, T.; Falck, O.; Schüller, S.; Wichert, S.; Keveloh, K.; Vijayakuma, R. M. (2019): Digitale Kompetenzen – Ist die deutsche Industrie bereit für die Zukunft? In: Ifo-Institut, p. 1–23.

Coibion, O.; Gorodnichenko, Y.; Weber, M. (2020): Labor markets during the Covid-19 crisis: A preliminary view, Covid Economics Issue 21, 22 May 2020.

Foster, L.; Grim, C.; Haltiwanger, J. (2016). Reallocation in the great recession: cleansing or not? In: Journal of Labor Economics, 34(S1), p. 293–S331.

Hartl, T.; Hutter, C.; Weber, E. (2020): New hires in the crisis. Makronom, June 18, 2020.https://makronom.de/corona-arbeitsmarkt-auswirkungen-neueinstellungen-in-der-krise-36315

Heckman, J.; Borjas, G.(1980): Does Unemployment Cause Future Unemployment? Definitions, Questions and Answers from a Continuous Time Model of Heterogeneity and State Dependence. In: Economica, 47, p.247–283.

Kambourov, G.; Manovskii, I. (2009). Occupational specificity of human capital. In: International Economic Review, 50(1), p. 63–115.

Kubis, A. (2020): IAB-Stellenerhebung 2/2020: Fast 500.000 weniger offene Stellen als ein Jahr zuvor. In: IAB-Forum, 04.08.2020, o. Sz.

Lilien, D. M. (1982): Sectoral shifts and cyclical unemployment. In: Journal of political economy, 90(4), p. 777–793.

Lucas, R. E. Jr.; Prescott, E. C. (1974): Equilibrium Search and Unemployment. In: Journal of Economic Theory, 7(2), p. 103–124.

Merkl, C.; Weber, E. (2020): Rescuing the labour market in times of COVID-19: Don't forget new hires. VovEU.org, April 07, 2020.

Neal, D. (1995): Industry-specific human capital: Evidence from displaced workers. In: Journal of labor Economics, 13(4), p. 653–677.

Pissarides, C. A. (2000): Equilibrium unemployment theory. MIT press.

Shleifer, A. (1986): Implementation cycles. In: Journal of Political Economy, 94(6), p. 1163–1190.

Imprint

IAB-Discussion Paper 33|2020

Date of publication
26 October 2020

Publisher
Institute for Employment Research
of the Federal Employment Agency
Regensburger Str. 104
90478 Nürnberg Germany

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ISSN
2195-2663

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