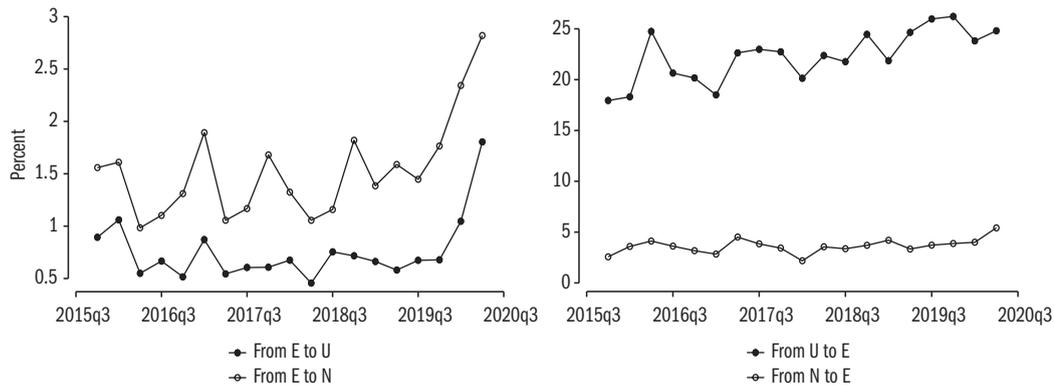


## 9.2 EMPLOYMENT DURING THE FIRST WAVE OF COVID-19

JÁNOS KÖLLŐ

In the spring of 2020, the Covid-19 epidemic reached Hungary and there had already before then been disruptions in international trade at the end of winter. Even though restrictions were only introduced in the second half of March, labour market data for the whole of the first quarter were alarming: the share of workers becoming unemployed or economically inactive rose substantially as seen in the left panel of *Figure 9.2.1*.

Figure 9.2.1: Flows between employment, unemployment, and inactivity, Q4 2015 – Q2 2020  
(estimates of flows as a percentage of the base period stock)



E=employment, U=Unemployment, N=Inactivity.

Note: The initial value of the upper curve of the left-hand side figure shows that about 1.5 per cent of persons reported to be in employment in Q3 2015 were reported to be inactive in Q4 2015. The rest of the data should be interpreted similarly.

The estimates of flows, harmonised with changes in stocks, were prepared by Zsombor Cseres-Gergely, using the method of raking, for which I sincerely thank him.

For the detailed description of the method and its adoption for the Labour Force Survey of the Central Statistical Office, see *Cseres-Gergely (2011)*.

Source: Labour Force Survey of the *Central Statistical Office*. Version maintained by the CERS Databank.

Outflows from employment continued to increase in the second quarter (April–June): the share of those who became inactive was nearly double the level recorded in the previous years, while the share of those who became unemployed more than doubled. These flows were not offset by inflows into employment, which remained in the range of fluctuation seen in the previous period (right-hand side of the figure).<sup>1</sup> Although the figure in itself provides a worrying picture, the more thorough analysis of data calls attention to changes even more pronounced than the one presented here.

<sup>1</sup> I greatly appreciate that the Central Statistical Office, continuing a nearly 30-year-long practice, provided access to the relatively recent data of the Labour Force Survey. I also wish to thank Mónika Bálint for making the databases suitable for analysis and Zsombor Cseres-Gergely and György Molnár for their helpful advice. I assume full responsibility for the content.

## Methodology

Before describing the consequences of the epidemic, some technical issues must be discussed. According to the Labour Force Survey (LFS) of the Central Statistical Office (CSO) *employees* are persons who, during the week prior to the survey, a) undertook at least one hour of gainful work or b) did not undertake an hour of work but were only temporarily away from their job. The latter has no importance in Hungary in “peacetime” but during the pandemic there may have been numerous people who were unable to work even though their employment relationship was maintained.<sup>2</sup> Therefore we also pay attention to the number of persons regarded as employees by the LFS who did not work at all during the week prior to the survey.

Persons without a job, who actively looked for a job during the month prior to the survey and would be able to enter a job in two weeks are regarded as *unemployed* by the LFS. This internationally accepted definition (in line with ILO and OECD guidance) also seems too strict during an epidemic, when many lose their jobs temporarily and, hoping to return, do not start searching for another job. Data on the *registered unemployed* included in the LFS also underestimate the severity of the problem because many of the unemployed hoping to return to their job and not entitled to benefits probably do not register themselves at the job centre. Thus, we also rely on broader definitions of unemployment.

The LFS also measures the number of hours worked during the reference week as well as usual weekly hours. The fact that a lot of people have to work less than usual during the pandemic cannot be ignored: this is taken into account by estimating full-time equivalent employment (FTE).<sup>3</sup> When evaluating changes, we also take into consideration that the number of public holidays per working days is different in some months of the first and second quarter and consequently it is appropriate to adjust the number of hours worked for calendar effect.

The LFS is a *rotating panel* with each selected household participating in the survey for six consecutive quarters and then replaced by a randomly selected new cohort. We make use of this characteristic of the data (as we did in *Figure 9.2.1*), provided that the major labour market indicators are similar to data from the cross-sectional survey in each period of the panel (see *Annex 9.2*).

The survey covers 40–50 thousand persons quarterly. Representativity is ensured by weighting. The weights may even change in the case of a given person (household) depending on the composition of the incoming and outgoing cohorts, on how the population aged 15–74 or 15–64 years (included in the estimation of economic activity) is changing, and on panel attrition – see *Mihályffy (1995), Molnár (2005) and Cseres-Gergely (2011)*.<sup>4</sup>

Consideration should also be given to the *periods* compared. As seen in *Figure 9.2.1* about flows, the labour market situation already deteriorated in the

2 The proportion of employees based on definition b) is considerably higher in Western-Europe than in Eastern- or Southern-Europe. See *Bajnai et al. (2008)*.

3 If in a micro-economy two out of four people work, one of them 40 hours a week and the other 20 hours a week, the employment rate is 50 per cent but FTE equals only to  $1.5/4 = 37.5$  per cent.

4 For example, weights used in the two quarters were identical only for four per cent of respondents interviewed both in the first and second quarter of 2020, which is probably because of the worsening difficulties of interviewing during the pandemic.

first quarter, probably strongly affected by the figures of the last two weeks of the quarter (the lockdown period). Therefore, in the following, the periods of *January–February*, *March* and *April–June* will be compared. March cannot be merged with the second quarter because using differing weights would cause major complications.

For the number of observations in the three periods, see *Table A9.2.1* of *Annex 9.2*. The figures suggest that the sample suitable for analysing labour market developments (working-age persons except full-time students) is not large, especially not in March, thus this month is excluded from tables presenting group breakdowns.

One may wonder, since the LFS only becomes representative when the entire quarterly sample is queried, whether the timing of interviews could affect results when comparing the periods January–February, March and April–June. If, for example, the inhabitants of an extraordinarily underperforming county or small villages were always included in the third month of a quarter (which is not the case), their absence in the first and presence in the second period would distort comparison over time and would paint a bleaker picture of employment than it actually is. Therefore, the comparison of entire quarters is also provided in footnotes.

Finally, when evaluating the figures, it must be taken into account that because of the limited size of the LFS the sampling error is rather large and values at the level of small groups are uncertain. We will only attach importance to substantial changes.

## Employment

Employment based on the ILO–OECD definition decreased by 2.8 percentage points in April–June, compared to January–February (*Table 9.2.1*). The share of those who undertook at least an hour of actual work during the reference week fell even more sharply, by 5.7 percentage points (7.6 per cent). These figures reveal an even greater shock than the one in 2008–2010.<sup>5</sup>

Average working hours also fell by 3.5 hours a week. This was substantial even if the varying number of public holidays per weekdays is accounted for (by that measure weekly working time fell by 2.1 hours). After March, the proportion of employees who worked less than usual increased dramatically, from below ten per cent to over thirty per cent.

*Full-time equivalent employment* plummeted by 9.3 percentage points if calculated using raw data and by 6.6 percentage points (9 per cent!) if estimated using data adjusted for calendar effects.<sup>6</sup>

*Table 9.2.1* ignores the effect of seasonality. This, we believe, is appropriate because since 1992 (the launch of the LFS) employment in the second quarter has always been higher than in the first quarter. If accounting for seasonality, the decrease in employment would appear to be even greater.

<sup>5</sup> In the first four months of that crisis (between October 2008 and February 2009) the employment rate decreased by 2.2 percentage points, and the share of those who worked at least one hour fell by 2.6 percentage points (author's calculation based on the LFS).

<sup>6</sup> The FTE adjusted for calendar effect fell by 5.5 percentage points (7.7 per cent) if entire quarters are compared. This is, however, distorted because the labour market situation had already deteriorated in March due to the lockdown introduced, therefore the whole of the first quarter cannot be regarded as a pre-pandemic period.

**Table 9.2.1: Employment – Selected indicators  
Population aged 15–64, not in education**

	January–February	March	April–June
<b>Employment</b>			
Employed (percentage)	77.6	76.1	74.8
Worked at least one hour (percentage)	75.0	70.1	69.3
<b>Hours worked</b>			
Raw	37.6	36.5	34.1
Adjusted for calendar effect <sup>a</sup>	37.6	35.7	35.5
Worked less than usual (percentage) <sup>b</sup>	9.0	10.1	31.2
<b>Full-time equivalent employment (FTE)</b>			
Using raw work hours data	73.0	68.5	63.7
Using adjusted work hours data	73.0	67.9	66.4

<sup>a</sup> Considering that the monthly working time was 21.5 days on average in January–February, 22 days in March, and 20.67 days in April–June.

<sup>b</sup> Among employees as per the LFS definition, excluding the 3–4 per cent of employees with “highly variable” work hours.

Note: Observations were weighted by the appropriate quarterly weights.

Source: LFS. Version maintained by the *CERS* Databank.

### Unemployment

Table 9.2.2 presents the proportion of the unemployed within the population included in the survey. It must be noted that it is not the standard unemployment rate but the unemployed to population ratio.<sup>7</sup> The unemployment rate as defined by ILO–OECD was 0.6 percentage point higher in the second quarter than in January–February, and although this is equal to a 20 percent rise, concerning the total population it is not a dramatic increase.

**Table 9.2.2: The share of the unemployed by various indicators  
Population aged 15–64, not in education = 100**

	January–February	March	April–June
Actively looks for a job and would be able to start	3.1	2.9	3.7
Is not looking for a job but would like to work	3.8	4.8	5.1
Unemployed based on self-assessment	5.1	6.1	6.7
At least one of the above criteria applies	8.1	9.0	10.0
Registered unemployed	3.3	3.8	4.3
Registered unemployed or public works participant	5.2	5.5	5.7
Did not work for an hour or more during the week prior to the interview	25.0	29.9	30.7

Note: Observations were weighted by the appropriate quarterly weights.

Source: Version of the Labour Force Survey of the *Central Statistical Office* maintained by the *CERS* Databank.

<sup>7</sup> If  $P$  is the population,  $U$  is the number of the unemployed and  $E$  is the number of employees, the ratio used for the present analysis is  $U/P$ , while the unemployment rate is  $U/(E + U)$ . The indicator has been selected for an easier comparison of indicators based on varying definitions.

When other unemployment definitions are applied, the increases in the ratios are larger: 1.3 percentage points for the passive unemployed (who are not looking for a job but wish to gain employment) and 1.6 percentage points for the self-identified unemployed. If including those unemployed according to

at least one of the first three criteria, there is an increase of 1.9 percentage points and by using this permissive definition the proportion reaches 10 per cent in the second quarter. LFS data show that there was only a slight change in the number of the registered unemployed and public works participants.

If, in the broadest sense, people who did not work at least one hour during the reference week are regarded as unemployed (either because they did not have a job or they had one but were unable to carry out work) a significant, 5-percentage-point (22.8 percent) increase is seen.<sup>8</sup>

### Home office

The negative impact of the lockdown was mitigated by the possibility of working from home via the Internet. The LFS has been assessing the prevalence of telework on the basis of the following definition: a teleworker is someone who regularly or occasionally carries out his/her work at a location other than his/her workplace, using ICT tools (CSO, 2018). Trends in the share of workers performing telework in the four weeks preceding the survey are presented in *Table 9.2.3*. Whereas in January–February 2.5 per cent of employees worked remotely, their proportion rose to 16.5 per cent by the second quarter.

**Table 9.2.3: The share of those working remotely during the four weeks preceding the survey (aged 15–64, not in education, working at least an hour during the reference week = 100)**

	January–February	March	April–June
Regularly	1.0	1.5	6.9
Occasionally	1.5	4.1	9.6
Total	2.5	5.6	16.5

Note: Observations were weighted by the appropriate quarterly weights.

Source: Version of the LFS of the *Central Statistical Office* maintained by the CERS Databank.

### Differences by groups

*Table 9.2.4* summarises changes in employment based on the “one-hour work” criterion in major groups of society within the population aged 15–64 years and not in full-time education. Data from January–February and April–June is compared. Please note that paid leave had been fully used up by the middle of the second quarter at the latest and therefore it did not significantly affect the number of employees working zero hours.

The employment rate of women declined slightly more than that of men. Job loss monotonically decreased with age. Among teenage youth not in full-time education there was a 20 percent decrease in employment.<sup>9</sup> There are two educational attainment groups that stand out: among those with a general upper-secondary qualification but not in full time higher education there is a decrease considerably greater than the average, while among university graduates the

<sup>8</sup> This figure is the complement of the employment rate included in the second line of figures in *Table 9.2.1* and only provides new information for readers unversed in subtraction. Here it is only included because of its relationship with various employment rates.

<sup>9</sup> The second quarter figure, although low, is based on a sufficient number of observations (722).

decrease is much smaller than the average. Interestingly, there is no considerable difference between men (–10.1 percentage points) and women (–13.5 percentage points) with a Matura from general upper-secondary education.

**Table 9.2.4: Changes in the employment rate by groups<sup>a</sup>**  
**Population aged 15–64, not in education = 100**

	January–February (per cent)	April–June	Extent of change (percentage point)
Male	83.0	77.7	–5.3
Female	67.1	60.8	–6.3
15–19-year old	33.5	13.6	–19.9
20–29-year old	75.2	66.0	–9.2
30–39-year old	78.3	72.8	–5.5
40–49-year old	84.9	80.6	–4.3
50–59-year old	78.5	74.4	–4.1
60–64-year old	41.1	39.9	–1.2
Grade 0–7	29.7	24.4	–5.3
Completed 8 grades	54.3	46.7	–7.6
Vocational school <sup>b</sup>	76.4	71.2	–5.2
Gymnasium (upper-secondary)	76.6	64.7	–11.9
Vocational upper-secondary <sup>c</sup>	79.5	73.5	–6.0
College	82.0	77.6	–4.4
University	85.9	84.0	–1.9
School leavers <sup>d</sup>	57.7	25.3	–32.4
Roma <sup>e</sup>	45.6	43.8	–1.8
Roma, excluding public works	39.2	38.7	–0.5
Budapest	81.8	73.8	–8.0
Countryside	73.6	68.3	–5.3
Female with children aged 0–6	39.1	37.1	–2.0
Female without children aged 0–6	73.8	66.3	–7.5
Female with children aged 7–18	72.7	65.7	–7.0
Female without children aged 7–18	65.0	58.9	–6.1
Total sample	75.0	69.3	–5.7

<sup>a</sup> Employed: worked at least an hour during the week preceding the survey.

<sup>b</sup> Vocational education not ending in a Matura (secondary school leaving examination).

<sup>c</sup> Vocational education ending in a Matura (secondary school leaving examination).

<sup>d</sup> Were in full time education one year prior to the survey.

<sup>e</sup> Respondent identifying themselves as Roma primarily or secondly.

Note: Observations were weighted by the appropriate quarterly weights.

Source: LFS, Version maintained by the *CERS* Databank.

The bottom half of *Table 9.2.4* presents data for groups in a critical situation or generally assumed to be in a critical situation. As for school leavers (who were in full-time education one year prior to the survey but not anymore at the time of the survey), a dramatic decline of 32.4 percentage points is reported.<sup>10</sup>

The two periods of the LFS analysed herein includes 674 and 656 cases of persons identifying primarily or secondly as Roma. Their overall employ-

10 There is a relatively large number of observations also in this case (976).

ment barely decreased, and their market-based employment (excluding public works) remained essentially stable, probably due to the relative lack of exposure of the civil engineering sector.

Budapest was more affected by the crisis than the rest of the country, even though the occupational and educational preconditions for introducing teleworking are more favourable here. These seem to have been counteracted by the prevalence of some strongly affected sectors, such as tourism, catering, non-food retail as well as personal and cultural services.

Table 9.2.4 also presents changes in the situation of women with young children: surprisingly, the employment of women with children younger than six years dropped only by two percentage points. It must be noted, however, that only 40 per cent of them are in employment, probably those who were able to secure childcare before and during the pandemic. The employment of women with school-age children or without children declined by around 7 percentage points.

### Job loss by employer and occupational characteristics

The extent of job loss and the reduction of actual working time to zero, broken down by employer and occupational characteristics, can only be analysed in a panel settings. Our sample includes persons who were in employment in the base period and were also included in the survey in the following quarter. Due to panel attrition and changes in the number of respondents belonging to the relevant age range, data from these panels is not necessarily consistent with the cross-sectional findings. Weighting is also crucial, since the weights pertaining to individual participants of the panel are usually different in the reference and current period. For more details see Table A9.2.2 of Annex 9.2. and the accompanying text.

A further dilemma is that the probability of job loss is also different in ‘peacetime’ across occupations, sectors, and company size: it is always higher for unskilled workers or project-based activities such as construction. For convenience, in this report data from 2020 are compared with corresponding data from 2019.

The aim is to see *how likely it was for those in employment in January–February and working at least one hour to drop from this category* in the second quarter. This is, in essence, estimating the odds of job loss within three months because those queried in January were included next in April and those queried February were included next in May in both years. Again, January and February 2020 are regarded as the last months of “peacetime” and job loss is determined on the basis of April–May observations.<sup>11</sup>

Based on the last but one line of the third column of figures in Table 9.2.5, the job loss rate, as defined above, was *five times as high* in 2020 than in 2019.

11 There are limitations to using LFS for reconstructing developments taking place over the period between two waves. Even if someone was in employment during waves  $t$  and  $t + 1$ , they may have been unemployed between the two interviews and if they became unemployed or changed jobs more than once, it is impossible to determine the length of unemployment. If only once, then it is possible to estimate based on the starting date of their employment ongoing in quarter  $t + 1$ . However, the number of status changes is not known.

**Table 9.2.5: Odds of losing employment  
between January-February and April-May in 2019 and 2020<sup>a</sup>**

Status in January-February	Probability of job loss <sup>b</sup> (percentage)		2020/2019 ratio
	2019	2020	
<b>Occupation</b>			
Management, small business owner	0.5	6.1	12.2
Graduate occupation	1.4	8.1	5.8
Technician, assistant	2.5	12.3	4.9
Office or administrative staff	2.4	11.1	4.6
Trade or service occupation	3.7	21.2	5.7
Skilled agricultural	2.5	8.4	3.4
Skilled worker	2.8	13.8	4.9
Operator, assembler	2.3	16.8	7.3
Elementary manual occupation	6.3	19.4	3.1
<b>Sector</b>			
Agriculture	2.5	6.8	2.7
Vehicle manufacturing	2.2	27.1	12.3
Other industry, energy	3.1	12.7	4.1
Municipal services	2.3	8.0	3.4
Construction	3.3	13.1	4.0
Trade	2.9	13.8	4.8
Transportation	2.4	11.4	4.8
Services	2.5	19.8	7.9
Public administration	4.1	10.0	2.4
Education	1.9	8.9	4.7
Healthcare	2.1	12.8	6.1
<b>Company size</b>			
1-10 employees or does not know but below 10	3.2	16.3	5.1
11-19 employees	3.4	17.1	5.0
20-49 employees	1.8	13.0	7.2
50-299 employees	2.1	10.2	4.9
300-499 employees	3.0	12.9	4.3
500-999 employees	2.1	10.9	4.8
1000 employees or more	2.4	13.3	5.5
Does not know but over 10 employees	4.6	16.3	3.5
<b>Ownership</b>			
Public	2.5	9.8	3.9
Municipal	3.9	14.9	3.8
Private	2.7	15.1	5.6
Other (co-operative, mixed, does not know)	4.3	16.3	3.8
Total sample	2.8	14.0	5.0
Number of persons observed	11,168	11,328	-

<sup>a</sup> Sample: was in employment at the time of the January-February survey and worked at least one hour.

<sup>b</sup> Job loss: was out of employment or did not work an hour at the time of the April-May survey.

Note: Observations were weighted by the weights of the reference period.

Source: LFS. Version maintained by the CERS Databank.

An even more dramatic deterioration was seen among workers in senior management positions (most of whom are self-employed and small business owners), motor industry, services, and machine operators, while a less significant deterioration was reported in agricultural occupations and in agriculture in general as well as among unskilled workers, municipal services and public administration. The deterioration was smaller in the public than in the private sector. In other sectors the increase ranged from four to six-fold, with no significant differences within the range.<sup>12</sup>

### Differences in home office

Job loss due to the lockdown would probably have been more prevalent (and the spread of the pandemic much faster) if in certain occupations and sectors workers had not been able to transition to remote work (home office in most cases). Its share increased by 13.9 percentage points between January–February and April–June (*Table 9.2.6, see next page*).

Blue collars experienced a less than one percentage-point rise on average. However, 9–10 per cent of employees with a secondary school leaving certificate (Matura), 37.4 per cent of college graduates and half (52.9 per cent) of university graduates worked from home. There is a similar pattern according to occupations: more than half of workers in graduate jobs and one-fifth of managers, assistants, technicians and office staff worked from home, while only 1.7 per cent of manual workers were able to make use of that facility. Youth below twenty years of age but not in education as well as construction and manufacturing workers did not tend to work from home either. Transition to home office was of above average for women, residents of Budapest and those working in the public sector. Workers in services, especially in education, switched to remote work in far greater than average numbers, while in “material sectors” and healthcare they did so in numbers far below the average. These differences came as no surprise.

The level of remote work in the second quarter was estimated using multivariate regression, controlling for gender, age, educational attainment, sector, ownership and a binary variable for the size of the business site.<sup>13</sup> At one point, this produced a result which diverges from the picture provided by raw averages: private and mixed ownership firms were significantly more likely to provide for remote work for their employees (*ceteris paribus*, by 5 per cent and 6 per cent respectively) than state-owned and municipal institutions.

### Summary and conclusion

The lockdown measures introduced during the first wave of the Covid-19 pandemic as well as supply and demand side disturbances affected the labour market even more seriously than the 2008–2010 crisis. As a result of dismissals and reduction in working hours, in the second quarter the number of employees

<sup>12</sup> Please note that the odds of losing employment was one of the highest for unskilled workers among all occupations in 2020 but it was the same in 2019 (and probably in every year). Their labour market situation did not *deteriorate* as much as that of other occupations. Similarly, a higher-than-average ratio of jobs disappeared at small firms and in trade and catering during the first wave of the pandemic but the rate did not increase more than the average.

<sup>13</sup> The results are available upon request.

**Table 9.2.6: Fraction working at home occasionally or regularly<sup>a</sup>**  
**Employed persons = 100**

	January-February (percentage)	April-June (percentage)	Change (percentage points)
<b>Gender</b>			
Male	2.7	13.6	10.9
Female	2.5	20.2	17.7
<b>Age</b>			
15-19 years	0.0	3.4	3.4
20-29 years	1.5	15.1	13.6
30-39 years	3.7	19.9	16.2
40-49 years	2.5	17.2	14.7
50-59 years	2.7	14.0	11.3
60-64 years	1.9	13.4	11.5
<b>Educational attainment</b>			
Grade 0-7	0.0	0.0	0.0
Completed 8 grades	0.0	1.0	1.0
Vocational school <sup>b</sup>	0.1	1.2	1.1
Gymnasium (upper-secondary)	2.3	10.4	8.1
Vocational upper-secondary <sup>c</sup>	2.2	9.3	7.1
College	5.8	37.4	31.6
University	7.5	49.6	42.1
<b>Occupation</b>			
Manager	4.5	22.3	17.8
Graduate job	8.2	52.9	44.7
Technician, assistant	4.0	19.7	15.7
Office or administrative	3.0	21.0	18.0
Manual worker	0.4	1.7	1.3
<b>Ownership</b>			
Public	2.0	23.3	21.3
Municipal	0.2	13.8	13.6
Private	3.0	13.9	10.9
Other (co-operative, mixed, does not know)	3.1	21.0	17.9
<b>Size of business site</b>			
1-10 employees	3.2	14.0	10.8
Larger	2.4	17.3	14.9
<b>Sector</b>			
Agriculture	0.8	3.1	2.3
Motor industry	1.1	7.6	6.5
Other industry, energy	1.7	7.8	6.1
Municipal services	0.0	15.9	15.9
Construction	0.9	5.5	4.6
Trade	2.0	9.6	7.6
Transportation	1.6	8.4	6.8
Services	7.0	31.5	24.5
Public administration	1.1	14.6	13.5
Education	1.3	50.3	49.0
Healthcare	1.0	6.8	5.8
<b>Settlement type</b>			
Budapest	6.8	36.3	29.5
Countryside	1.6	11.9	10.3
Total sample	2.6	16.5	13.9

<sup>a</sup> Employee: worked at least one hour during the week preceding the survey.

<sup>b</sup> Vocational education not ending in a Matura (secondary school leaving examination).

<sup>c</sup> Vocational education ending in a Matura (secondary school leaving examination).

Note: Observations were weighted by the appropriate quarterly weights.

Source: LFS. Version maintained by the CERS Databank.

working at least one hour dropped by 7.6 per cent and full-time equivalent employment decreased by 9 per cent compared with January–February.

The usual labour market indicators (employment and unemployment rates) regularly published in the media underestimate the extent of the shock because of disregarding the nearly 6 percent decline in working time and because many dismissed workers may have hoped the lockdown would end, which reduced their willingness to look for a job or register as unemployed. The government failed to relax the ungenerous unemployment benefit regulations nearly unparalleled in the developed world (with a maximum duration of three months but much shorter on average), which may have contributed to an underestimation of joblessness. In addition, in some of the most affected sectors, for example in catering, culture and trade, workers are often employed informally and thus they are not entitled to benefits.

The crisis affected school leavers and working teenagers the most seriously. A far greater than average decrease was seen in the population with general upper-secondary (Gymnasium) qualification but not attending full-time higher education, while a much smaller than average decrease was reported for university graduates. The employment rate of the Roma hardly declined and their employment in the open labour market essentially remained the same. The crises had a stronger effect on Budapest than the rest of the country. Despite the closure of kindergartens and schools, the employment levels of women with and without school-age children were similar and that of women with children aged below six years dropped by a mere two percentage points.

The job loss rate was *five times as high* in 2020 than in 2019. A particularly sharp decline was reported for small business owners as well as in vehicle industry, services and among machine operators and a slighter drop was seen in agriculture, among unskilled workers, in municipal services and public administration.

The job loss rate was mitigated by the spread of telework: in January–February only 2.6 per cent of employees worked remotely but their share increased to 16.5 by the second quarter. It was primarily higher education graduates who were able to take advantage of this opportunity: in the second quarter, half of university graduates and those in professional jobs, more than one-third of graduates from colleges worked from home, while only one-tenth of employees with an upper-secondary qualification and less than two per cent of manual workers did so. The opportunity of switching to remote work protected highly qualified white-collar workers both from job loss and from becoming infected, which (although resilience of the “elite” is desirable in itself), further aggravated social disparities.

Estimates presented in the Subchapter had to be made in a very brief time, since the data became available only a few days before the volume had to be submitted. It is impossible to exploit the extremely rich wealth of LFS data

or build and estimate a refined model within a few days. The Subchapter is to be regarded more as a “statistical flash report”. There are several problems that cannot be investigated using the available data, for example it is not possible to determine what impact the tax benefits and reliefs granted by the government had on employment. To be able to do that, enterprise level or ideally linked employer-employee data would be needed, which we were unable to obtain in time. Additionally, dividing samples and analysing smaller groups were restricted by the limited size of the survey.

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## Annex 9.2

Table A9.2.1: Observations in the LFS, 2020 (number of persons)

	January–February	March	April–June
Total	34,065	14,157	42,813
14–74 years	24,639	10,698	32,481
15–64 years	20,500	8,552	25,981
15–64 years, not in education <sup>a</sup>	18,353	7,755	23,870

<sup>a</sup> Not in full-time education.

Source: Version of the Labour Force Survey of the *Central Statistical Office* maintained by the CERS Databank.

*Table A9.2.2* presents the employment rate of the population aged 15–64 years in samples from the first and second quarters of 2019 and 2020 as well as in the panels developed from them. In order to be able to compare the findings obtained from the samples available with data published by the Central Statistical Office, students are not excluded this time, the quarters are not split

and working time is not taken into account. It is evident that, except for one case, data estimated using the quarterly wave are not fully consistent with CSO published data. We are not aware of the source of the differences: they might be due to subsequent adjustment. (We also downloaded retrospective data in mid-October 2020.) The employment rates of panel participants are in each case lower than rates calculated from cross-sectional data, by one percentage point in 2019 and by a 0.3 percentage point in 2020. Nevertheless, changes between the first and second quarters are identical based on both cross-sectional data and panels. Finally, employment levels in the current period, estimated using current and base period weights, are identical or differ only to a very small extent. Allowing for these minor distortions, the panels are deemed suitable for use. The analysis relies on base period weights.

**Table A9.2.2: The employment rate of the population aged 15–64 years in various samples<sup>a</sup>**

	Quarterly waves	Panels		CSO-Statat
		Base period weights	Reference period weights	
<b>2019</b>				
January–March	70.9	69.9	69.9	69.9
April–June	71.0	70.0	70.0	70.0
<b>2020</b>				
January–March	69.7	69.4	69.4	70.3
April–June	68.7	68.4	68.0	68.7

<sup>a</sup> For comparison with published data, samples now also include students.  
Source: LFS. Version maintained by the *CERS* Databank and *HCSO*.