The Impact of Covid-19 on Employment in Belgium*

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Summary

This report examines the impact of the Covid-19 pandemic on the Belgian economy in 2020 and explores how firms recovered from the release of lockdown restrictions in 2021. We make use of the data collected by the National Social Security Office (NSSO, RSZ in Dutch) to obtain information on the employment per firm and per quarter.

The main conclusions of this study are the following:

1. The Belgian economy experienced a 6.1% decline in employment, measured in full-time equivalents (FTE), in 2020 compared to 2019. As the impact of COVID-19 lessened in 2021, FTE employment rose by 5.4% relative to 2020. However, when comparing the average employment level of 2021 to the pre-pandemic year of 2019, FTE remained slightly below its pre-crisis level.

2. On a quarterly basis, the largest decline occurred in the second quarter of 2020, with full-time equivalent (FTE) employment dropping by 14.7% compared to the same period in 2019, while overall employment saw only a slight decline of 0.5%. This indicates that many companies relied heavily on temporary unemployment measures. Beginning in the second quarter of 2021, after the Belgian government lifted most lockdown restrictions, FTE levels rebounded rapidly. By the end of 2021, FTE levels had surpassed pre-pandemic figures.

3. The decline in employment shows significant variation across sectors. In the second quarter of 2020, the accommodation and food service activities sector suffered the most substantial negative decrease in FTE (-71.8%), which is expected due to the complete closure of this sector. Overall, the accommodation and food service activities sector experienced a -41.7% FTE decrease in 2020. Other sectors also faced significant losses; for instance, the administrative and support service activities sector had a -13.0% decrease, the wholesale and retail trade experienced a -9.0% decrease and the construction sector a -7.1% decrease in FTE in 2020. Nevertheless, with the availability of new data for the year 2021, it is evident that these heavily impacted sectors have recovered rapidly. The same sectors compose the top four increases in FTE in 2021. However, the rebound observed in 2021 does not fully offset the negative growth these sectors faced in 2020. In comparison with the pre-pandemic year 2019, they remain the most affected sectors regarding FTE levels.

*We gratefully acknowledge support from the BELSPO grant B2/233/P3/HAIOPOLICY. This report builds on earlier work on Flanders by Konings & Magerman (2021). It broadens the scope from Flanders to Belgium and extends the analysis from 2020 to 2021. Additionally, we include a growth decomposition of FTE and employment in Section 6 and event study analysis in Section 7. We would like to thank Astrid Volckaert, Glenn Magerman and Jo Reynaerts for their valuable comments, and Astrid Volckaert and Glenn Magerman for sharing replication codes.

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4. Young and small companies were more adversely affected than their older and more established counterparts in 2020. However, these companies saw higher recovery growth in 2021 compared to older and larger firms.

5. Regionally, Wallonia saw the largest decline in FTE employment, followed by Flanders and then Brussels. In the public sector, The shock was felt least in Brussels, which even experienced a slight increase of 0.5%. However, in the private sector, FTE employment fell more sharply in Brussels than in Flanders, with Wallonia experiencing the greatest decrease. Trends across the various private sectors were generally quite similar across all three regions.

6. The growth decomposition analysis reveals that the four sectors with the largest contributions to Belgium's decline in FTE were administrative and support service activities, wholesale and retail trade, accommodation and food service activities, and manufacturing. Collectively, these sectors accounted for 77.08% of the total FTE loss in 2020. In 2021, these sectors ranked 1st, 3rd, 8th, 4th in terms of FTE growth (recovery) and contributed to 54.89% of the total FTE growth for that year. Notably, the accommodation and food service activities sector contributed only 4.93% to this growth.

7. The event study analysis mostly supports the findings from the descriptive statistics. The growth of firms returned to fully normal levels in 2022. Firms that are younger and smaller experienced greater losses during the Covid-19 pandemic. However, after the pandemic, younger firms outperformed older firms and the disparity among the size groups decreased by the fourth quarter of 2021. On average, firms located in Brussels lagged behind in FTE compared to their counterparts in Flanders and Wallonia until the end of the fourth quarter of 2022, but results should be carefully interpreted because of large fluctuations in growth differences already before the pandemic.

1 Introduction

In addition to a global health crisis, the Covid-19 pandemic was responsible for the most significant negative economic growth worldwide in the post-world war II era. The growth rate of real Gross Domestic Product (GDP) stands at -6.1% for the EU27 in 2020 (Eurostat, 2021a). For Belgium, the preliminary consensus indicates a -6.3% contraction (National Bank of Belgium, 2021a), reaching a peak of -14% year-on-year in the second quarter. By way of comparison, during the peak of the financial crisis in 2009, Belgian GDP experienced a decline of approximately 2%. Consequently, the economic impact of the Covid-19 pandemic is estimated to be three times higher.

Several key economic indicators corroborate this trend. Notably, employment growth experienced an unprecedentedly negative downturn, with a decline of 1.6% in the EU27 and a peak of -3% year-on-year in the second quarter of 2020 (Eurostat, 2021b). In Belgium, the aggregate impact on the labour market seems somewhat muted, with a decrease of 0.6% in the number of employed persons from 2019 to 2020 (Statbel, 2021), but the full-time equivalents (FTE) decreased dramatically in 2020 (-6.10%).

Furthermore, substantial variations exist among countries and regions (OECD, 2021), as well as within different economic sectors and employee subgroups in Belgium (Statbel, 2021). Notably, there has been a noteworthy 'rebound' in the manufacturing sectors since the second half of 2020, while other sectors, such as tourism and culture, remain largely closed as of the first half of 2021.

Various government support measures effectively mitigated severe economic impacts. The largest initiative was the temporary unemployment scheme, enabling employees to work reduced hours or temporarily stop working while retaining their employment status and receiving 70% of their wages for the non-working period. Additionally, regional governments established subsidy programs to support businesses, helping them stay afloat and supporting operations (Konings et al., 2023). These primary support schemes were complemented by additional measures, including loan programs and bankruptcy moratoria.

Uncertainties persisted about whether these economic shocks would (i) be temporary or permanent following the removal of various measures, (ii) how they would interact with an already prolonged period of reduced GDP, labour, and productivity growth (Campos et al., 2018), and (iii) the less optimistic medium-term forecasts for the Eurozone (OECD, 2021). In this report, with the new evidence from 2021, we can provide more definitive answers to these questions.

This report analyses the impact of Covid-19 on Belgian business outcomes, assessed with employment measures. Based on recent data on employment at the level of the firm up to the third quarter of 2023 from the National Social Security Office (NSSO), we analyse the impact on employment in terms of full-time equivalents (FTE) and number of employees overall, per quarter of 2020 and 2021. Further information on the data and methodology are given in the next section. We look in more detail into the differences between sectors, regions, type of company and the relationship between employment growth and a vulnerability index of sectors that has been developed.

Section 3 of this report presents the aggregate impact of Covid-19 on employment for each quarter of 2020 and 2021. It also presents the long-term evolution of employment. The impact on employment has been extremely negative in terms of FTE, reaching its peak in the second quarter of 2020 (-14.7% year-on-year) whereas the impact is less pronounced in terms of the number of employees (-0.5%). This discrepancy is the direct consequence of the widespread use of temporary unemployment measures.

Section 4 presents an analysis of heterogeneous effects in the Belgian economy. In section 4.1,

we examine the annual impact by sector (using the NACE classification), revealing significant differences between industries. The sectors most heavily impacted in terms of FTE reductions in 2020 were accommodation and food services, administrative and support service activities, wholesale and retail trade and the construction sector. While these sectors were initially hardest hit, they also saw the strongest recovery following the lifting of lockdown restrictions at the beginning of the second quarter of 2021. However, the rebound in 2021 was not enough to offset the losses of 2020, and these sectors remain the most affected compared to their 2019 FTE levels. When we categorize firms in section 4.2 according to their age and size in the pre-pandemic year 2019, we observe that young and small firms experienced a more significant decline in FTE and employment in 2020, but they had higher recovery rates in 2021.

In section 5, we explore the differences between the different regions Flanders, Wallonia and Brussels. We find that Wallonia saw the largest decrease in FTE, Flanders the second largest and Wallonia the smallest decrease. However, the results for Brussels are driven by an increase in public sector FTE, such that if we exclude the public sector, the smallest decrease in FTE is found for Flanders. The sectors that experienced the biggest impact of the Covid shock are quite similar across regions.

In section 6, we decompose the 6.10% decrease in full-time equivalents (FTE) and the 0.44% decline in the number of employees in 2020, as well as the 5.39% increase in FTE and the 1.69% rise in employment in 2021, into sector-level contributions. Our analysis reveals that the four sectors most adversely affected—administrative and support service activities, wholesale and retail trade, accommodation and food service activities, and manufacturing—accounted for 77.08% of the total FTE loss in 2020.

Finally, building on the descriptive analysis from the preceding sections, we employ the event study methodology to conduct a more formal statistical analysis in section 7, particularly focusing on the relative performance of firms across different age groups, size categories, and regions. Our regression results are overall consistent with the findings from the descriptive analysis.

The report concludes in section 8. We discuss the most striking evolutions in employment from the report and return to the policy mechanism of temporary unemployment, discussing its importance and further usage.

2 Data Sources and Construction of Datasets for Analysis

The primary dataset for this report is the confidential NSSO dataset on employment and wages for Belgian companies. This dataset provides quarterly information on employment and wages at the firm level. We link the VAT numbers of these firms to the Bel-first database to obtain additional data on the location of the registered office and the age of the companies. Our analysis uses the average number of FTEs and number of employees, aggregated by NACE broad sectors or 2-digit NACE industries. The FTE count excludes temporary unemployed workers and adjusts for part-time and flexible work arrangements. We calculate employment changes by measuring year-on-year growth in FTEs and employee numbers across various levels and groups for each quarter in 2020 and 2021.

Employment growth (for example the growth rate of FTE) is calculated as

$$\Delta FTE_{it} = \frac{FTE_{it} - FTE_{it-k}}{FTE_{it-k}}$$

where t is the current period (e.g. the second quarter of 2020), and k the number of periods on which we calculate growth (e.g. k = 4 for year-on-year growth with quarterly data).

3 The Aggregate Impact of Covid-19 on Employment

Using firm-level data from the NSSO, we analyze the impact of COVID-19 on employment and examine the recovery of firms by incorporating data from 2021. This analysis distinguishes between changes in full-time equivalents (FTEs) and the total number of employed workers (employment). Since temporary unemployment programs tend to reduce FTE counts without significantly affecting employment levels, a decrease in FTEs can be anticipated. This trend is confirmed by the data: in 2020, the number of FTEs dropped by 6.1% year-on-year, while total employment decreased by only 0.5%. In 2021, FTEs rebounded by 5.4%, and employment rose by 1.7% relative to 2020. The return of both FTE and employment figures to pre-COVID levels suggests that the pandemic's impact on employment resembles a temporary, one-time shock. However, as the next section shows, while overall FTE levels have recovered, sectors that experienced the sharpest declines are still lagging behind in terms of FTE recovery.

Figure 1 gives an overview of the year-on-year evolution of the FTE for Belgium per quarter. The figure shows that the number of FTE decreased by 14.7% in the second quarter of 2020 compared to the same quarter in 2019. Even in the first quarter, there is a noticeable decrease of 2.5%. Notably, the number of employees only experienced a 0.5% decline in the second quarter of 2020. This disparity can be attributed to the utilization of the system of temporary unemployment. This system enables companies to absorb the shock of the lockdown, allowing them to remain operational. In the third and fourth quarters, the level of FTE began to recover but remained significantly negative, at -2.7% and -4.4% year-on-year, respectively. The loss in FTE was less severe than during the first lockdown, this suggests that companies are better able to manage restrictions, but they remain cautious about returning to full capacity.

At the beginning of 2021, when the lockdown policy was relaxed but not completely lifted, there was a 1.1% decrease in FTE in the first quarter compared to the first quarter of 2020. However, the number of employment had already turned positive in the first quarter of 2021. As the lockdown policy was fully lifted by the end of the second quarter of 2021, a remarkable increase (14.8%) occurred in the number of FTE, with relatively high growth rates continuing in the subsequent quarters (3.4% in the third quarter and 5.6% in the fourth quarter). The year-on-year growth rates of employment remained positive in all quarters of 2021.

To contextualize employment trends, Figure 2 shows the trajectory of both FTEs and employee numbers from 2015 onward, presented as an index with the first quarter of 2015 as the base period. Just before the pandemic, FTEs in Belgium had risen by 10% compared to 2015 levels. It is clear that the pandemic has had a significant effect on business capacity. Although employment began to recover following the initial lockdown, it had not fully returned to pre-pandemic levels by the end of 2020. In 2021, however, FTEs increased steadily throughout each quarter. By the close of 2021, FTE levels had returned to pre-pandemic figures, indicating a rapid recovery in employment from the COVID-19 shock in Belgium.

4 Heterogeneity Analysis - Sector, Age and Size

4.1 Sectoral Heterogeneity

Figures 3a and 3b examine the changes in employment across sectors in 2020 and 2021 compared to previous years. The sectors, categorized at the NACE 'letter level' (broad sectors), were affected differently by the lockdowns. The accommodation and food services sector was impacted the most. In this sector, there was a 41.7% drop in full-time equivalents (FTEs) and a 10.4% reduction in the number of employees in 2020 relative to 2019. Additionally, the administrative and support service activities sector (-13.0% FTE and -4.1% employment), wholesale and retail trade sector (-9.0% FTE and -0.6% employment) and the construction sector (-7.1% FTE and

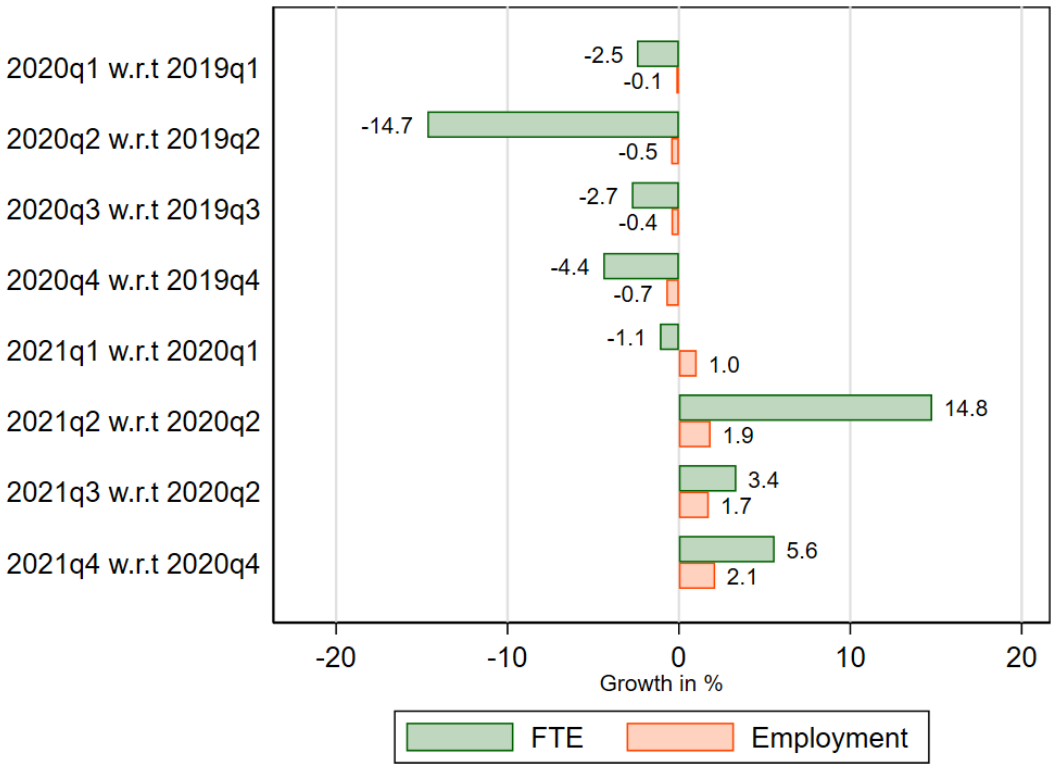

Figure 1: the year-on-year growth rates in quarterly full-time equivalent (FTE) and the number of workers (employment).
Source: NSSO, own calculations.

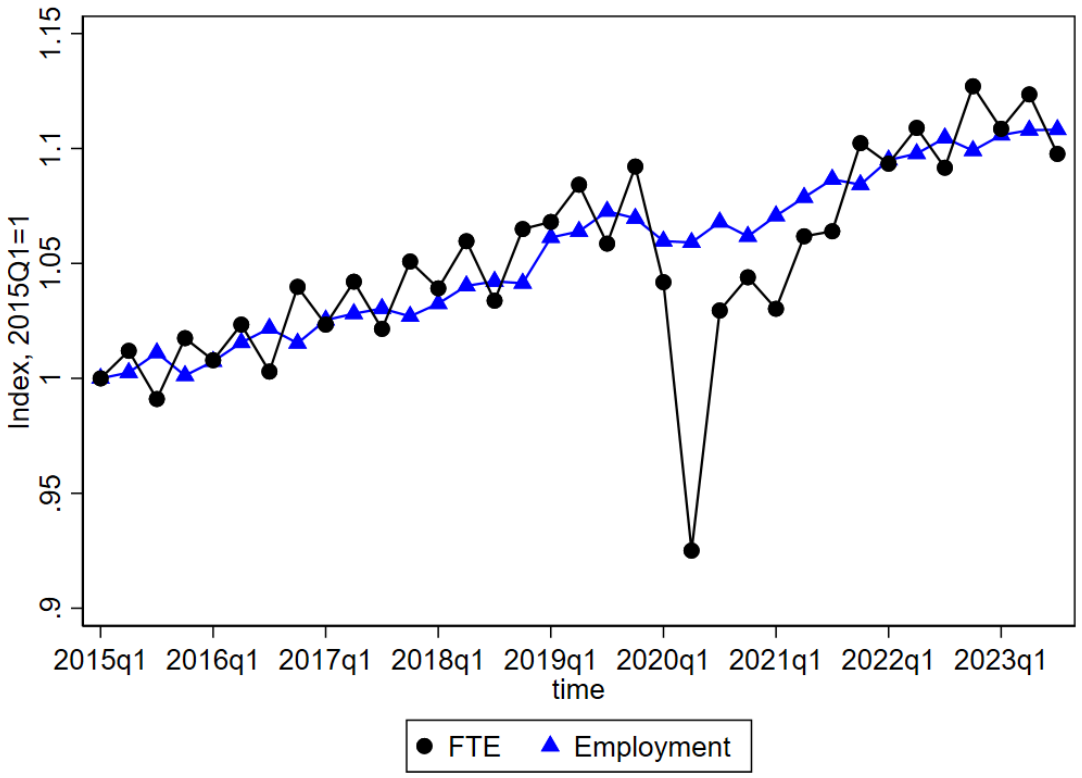

Figure 2: the evolution of full-time equivalents (FTE, in black) and the number of workers (employment, in blue) since 2015; index=1 in the first quarter of 2015.
Source: NSSO, own calculations.

0.2% employment) were affected thoroughly.

These sectors also recovered most quickly in 2021. For instance, the accommodation and food services saw the highest recovery in FTEs in 2021, with a 14.7% increase. However, employee numbers in this sector still showed negative growth in 2021, indicating that although COVID-19 restrictions had eased, travel activities had not returned to pre-pandemic levels. Generally, the rebound in 2021 for these sectors was not sufficient to compensate for the impact in 2020 yet. A quarterly analysis in appendix A1.1 and A1.2 shows that the decline in FTEs was most severe in the second quarter of 2020, with the accommodation and food services sector experiencing a drop of over 70% in FTEs during this period. Detailed data on quarterly FTE figures (by NACE 2-digit sector) is provided in Appendix B.

Figure 3a: the annual growth rates of FTE and employment by sectors in 2020 w.r.t 2019; sectors are sorted by the growth rate of FTE in 2020 in descending order.
Source: NSSO, own calculations.

Figure 4 zooms out for a longer time evolution on the four hardest hit sectors together with the public sector and the manufacturing sector because of their size. The drops in FTE in 2020 are visible in every sector. In the public sector it is somewhat less apparent because of permanent seasonality. The accomodation and food service activities sector is the only sector with a double dip, experiencing a large decline again in the first quarter of 2021. Generally, the number of FTE stayed below pre-pandemic levels for the hardest hit sectors. The growth in employment shows different evolutions. In the public sector there is no discernible effect of the Covid-19 pandemic, the growth trend continues as before. In the manufacturing and construction sector, there is a slight dip in number of employees but it gets back to the growth trend afterwards. The drop is also visible for the administrative and support service activities and the wholesale and retail trend after which the number of employees stabilizes quickly at the pre-pandemic level. The exception is again the accomodation and food service activities sector where it took a long time to get back to pre-pandemic employment.

Figure 3b: the annual growth rates of FTE and employment by sectors in 2021 w.r.t 2020; sectors are sorted by the growth rate of FTE in 2021 in descending order.
Source: NSSO, own calculations.

4.2 Age and Size Heterogeneity

Figure 5 compares employment trends between young and established companies, classified by their age as of the pre-pandemic year 2019. Young companies are defined as those founded in 2014 or later. The analysis explores growth rates in both average FTEs and average employee numbers across these two groups.[1] The figure highlights a distinct disparity in FTE declines between young and established firms during both halves of 2020. Young companies faced a significant reduction in FTEs, with a 12.5% drop in the first half and 5.9% in the second. In contrast, established firms experienced a much smaller impact, especially in the second half of 2020, where the FTE decline was just 0.6%. For employee numbers, the impact was minimal, and even showed positive growth in the first half of the year for both young and established firms. This indicates that while overall employment declined, the average employment per firm remained relatively stable for businesses that continued operating during the pandemic. The differences between this figure and figure 1, which shows an employment decline in early 2020, likely stem from the entry and exit of firms during the pandemic, affecting overall employment dynamics.

Figure 6 shows differences across various firm size groups, categorized by their FTEs in the first quarter of 2019. The average growth rate in FTE and employment is depicted for each group. The figure reveals that micro and small firms experienced a substantially sharper decline in FTEs compared to medium and large firms in 2020. In the first half of 2020, FTE decreases ranged

[1]It is important to note that the comparison is generally conducted at the aggregate level of FTE and employment. In this subsection, average numbers are used. Average FTE refers to the average FTE per firm, while aggregate FTE represents the total FTE of the entire economy. The growth rates of average FTE and aggregate FTE may differ due to entry and exit, a common occurrence during the Covid-19 pandemic.

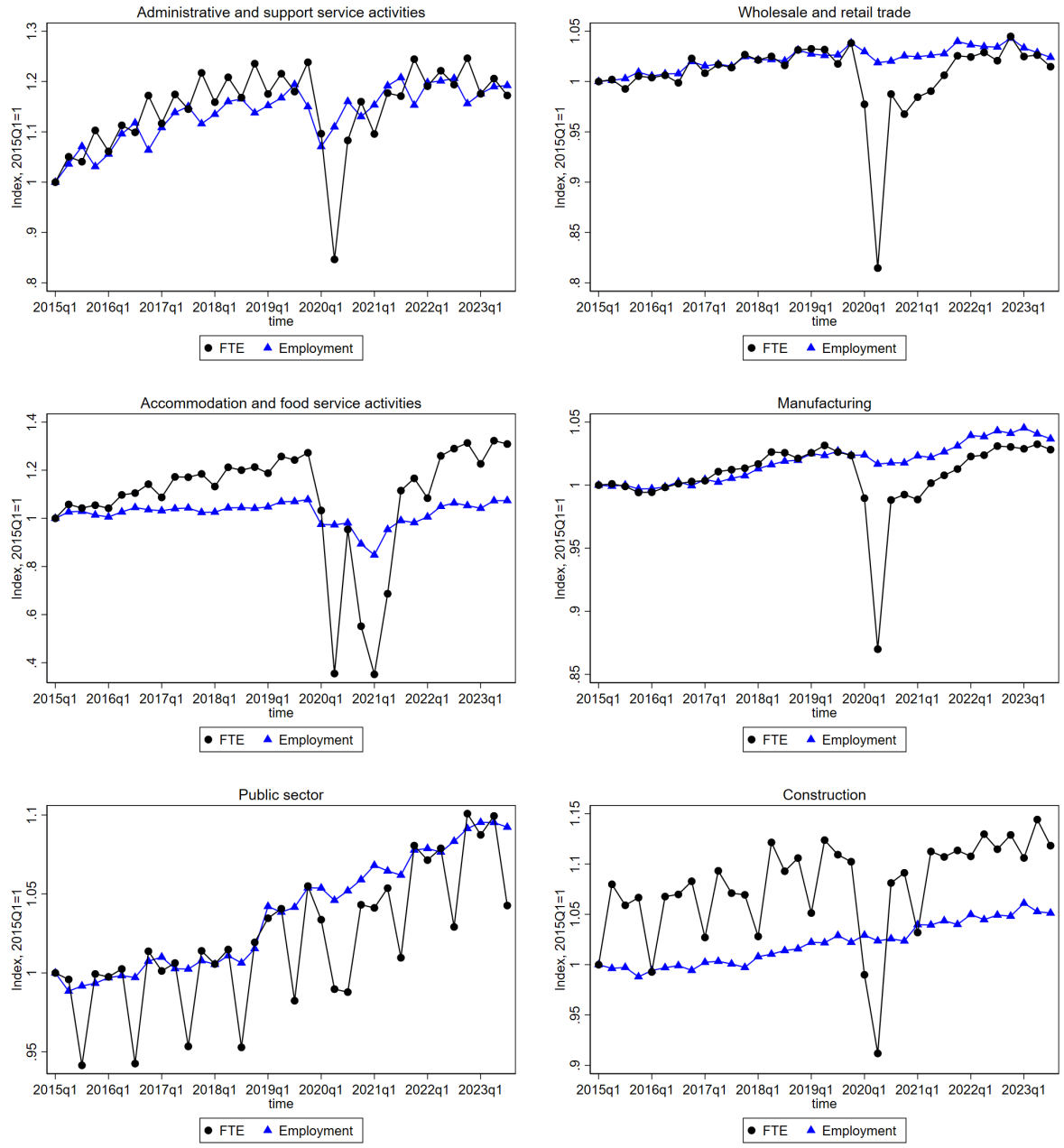

Figure 4: the year-on-year growth rates by quarter of full-time equivalents (FTE, in black) and the number of workers (employment, in blue) in different sectors since 2015; index=1 in the first quarter of 2015.
Source: NSSO, own calculations.

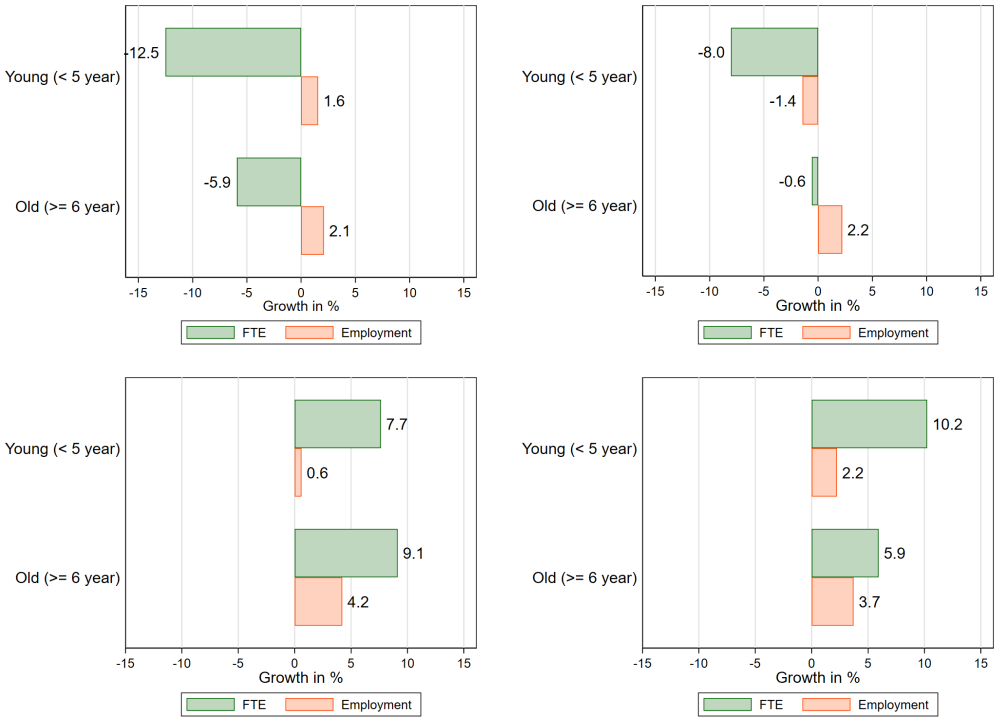

Figure 5: the year-on-year growth rates of half-year FTE and employment by age groups in the first half of 2020 w.r.t the first half of 2019 (upper left), the second half of 2020 w.r.t the second half of 2019 (upper right), the first half of 2021 w.r.t the first half of 2020 (lower left) and the second half of 2021 w.r.t the second half of 2020 (lower right).
Source: NSSO and age information from Bel-first, own calculations.

from 14.2% for micro firms to 4.2% for large firms, while in the second half of the year, declines ranged from 6.1% for micro firms to 1.4% for large firms. In the year 2021, all firms showed positive year-on-year growth in FTE, with more noticeable increases among young and micro firms. Additional detailed quarterly breakdowns, categorized by age and size, can be found in appendix A2.1, A2.2, A3.1 and A3.2.

5 Regional Analysis - Flanders, Brussels and Wallonia

The previous analysis examined the aggregate data for all Belgian firms. In this chapter, we focus on a regional analysis, highlighting and comparing key results for Flanders, Brussels, and Wallonia.

Figure 7a shows the impact of COVID-19 on FTE and employment growth across Wallonia, Flanders, and Brussels from 2019 to 2021. In 2020, all regions saw significant declines in FTE, with Wallonia experiencing the steepest drop (-7.8%), while Brussels had the smallest decline (-3.7%). By 2021, all regions showed signs of recovery, with the most rapid rebounds occurring in those hardest hit in 2020, such as Wallonia and Flanders.

Figure 7b presents the same results as Figure 7a but excludes the public sector (defined as industries with NACE 2-digit codes of 82 or higher), which is Belgium's largest broad sector. According to Figure A4.1 in the appendix, Flanders and Wallonia saw decreases of 3.0% and 3.1% in public sector FTE, respectively, while Brussels experienced a slight increase of 0.5%. By excluding the public sector, Figure 7b focuses solely on private sector performance. In 2020, Flanders had the smallest decline in FTE (-7.5%), while Brussels experienced a larger drop (-8.6%). FTE recovery in 2021 was also uneven, with Brussels showing a lower rebound of 4.7%

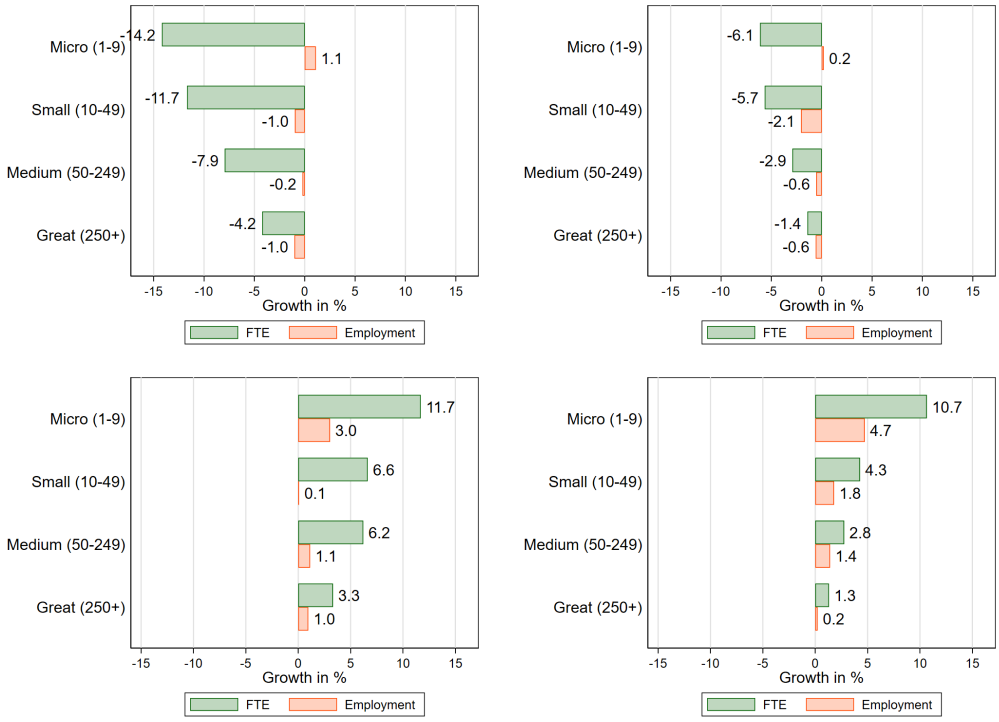

Figure 6: the year-on-year growth rates of half-year FTE and Employment by size in the first half of 2020 w.r.t the first half of 2019 (upper left), the second half of 2020 w.r.t the second half of 2019 (upper right), the first half of 2021 w.r.t the first half of 2020 (lower left) and the second half of 2021 w.r.t the second half of 2020 (lower right).
Source: NSSO, own calculations.

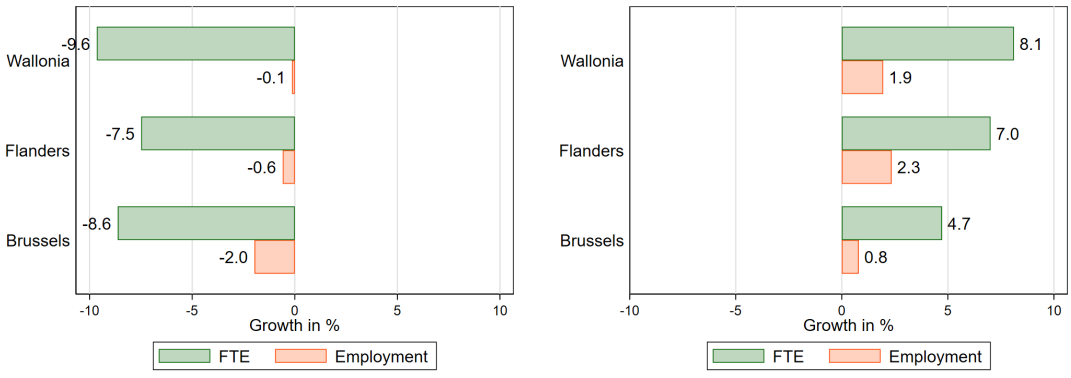

Figure 7a: the annual growth rate of FTE and employment by regions in 2020 w.r.t 2019 (left) and 2021 w.r.t 2020 (right).
Source: NSSO and location information from Bel-first, own calculations.

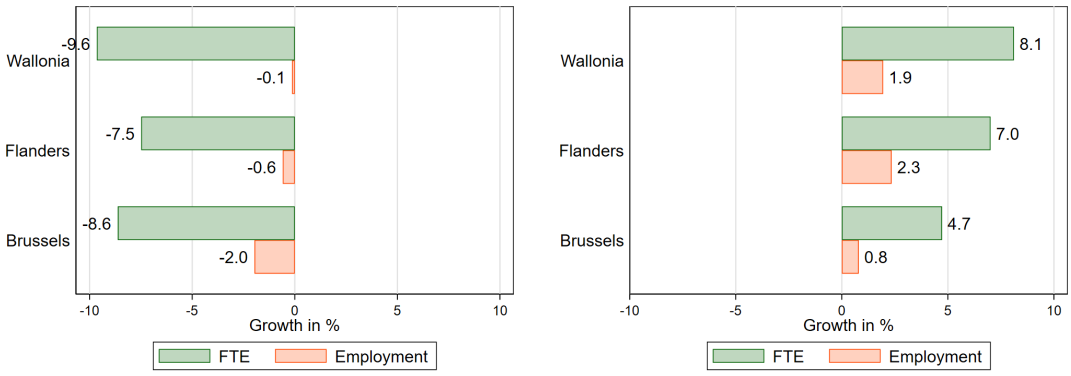

Figure 7b: the annual growth rate of FTE and employment by regions in 2020 w.r.t 2019 (left) and 2021 w.r.t 2020 (right); excluding public sector.
Source: NSSO and location information from Bel-first, own calculations.

compared to 7.0% in Flanders and 8.1% in Wallonia.

Figures 8a and 8b show the annual growth rates of FTE by sector in each region.[2] This sector-level analysis reveals that the accommodation and food service sector was the hardest hit in 2020 across all regions. FTEs in this sector declined by 41.0% in Flanders, 43.2% in Brussels, and 39.4% in Wallonia. In Flanders and Brussels, the next most affected sectors were administration and support services, with declines of 12.8% and 13.9%, respectively, and the wholesale and retail sector, which fell by 7.6% in Flanders and 10.5% in Brussels. In Wallonia, the wholesale and retail sector saw an 11.2% decrease, followed by the construction sector at 11.0% and administration and support services at 10.0%.

In terms of recovery, the accommodation and food service sector rebounded in Flanders and Wallonia, with increases of 17.4% and 18.2%, respectively. However, in Brussels, where this sector experienced the most significant decline in 2020, the rebound in 2021 was more modest, with a 4.8% increase in FTEs. This was accompanied by an 8.2% decrease in the number of employees, in contrast to the growth observed in Flanders and Wallonia.

The above figures show sector-level variations among the three regions, particularly in the largest sector, the public sector, as well as the most affected sectors such as accommodation and food service activities and administration and support service activities. While FTE growth rates in the public sector were negative in Flanders (-3.0%) and Wallonia (-3.1%), Brussels experienced positive growth (0.5%). When including the public sector, Brussels had the smallest decline in aggregate FTE in 2020 compared to Flanders and Wallonia. However, when the public sector is excluded, Brussels no longer performed best. The region was relatively more affected in the hardest-hit sectors, and its recovery in these sectors in 2021 was slower than in Flanders and Wallonia.

6 Sectoral Growth Decomposition

From the descriptive statistics, we observe that full-time equivalent (FTE) employment in Belgium declined by 6.10%, and the total number of employees decreased by 0.44% in 2020 compared to 2019. However, as the effects of COVID-19 began to subside from the second quarter of 2021, FTE employment rose by 5.39%, and overall employment increased by 1.69% in 2021 compared

[2]Sectors are ordered by FTE growth rate in Flanders in 2020 in Figures 8a and 8b. Figures A4.1 and A4.2 in the appendix arrange sectors by total FTE count. Additional annual growth rates of employment by sector for each region are available in appendix A4.3 and A4.4.

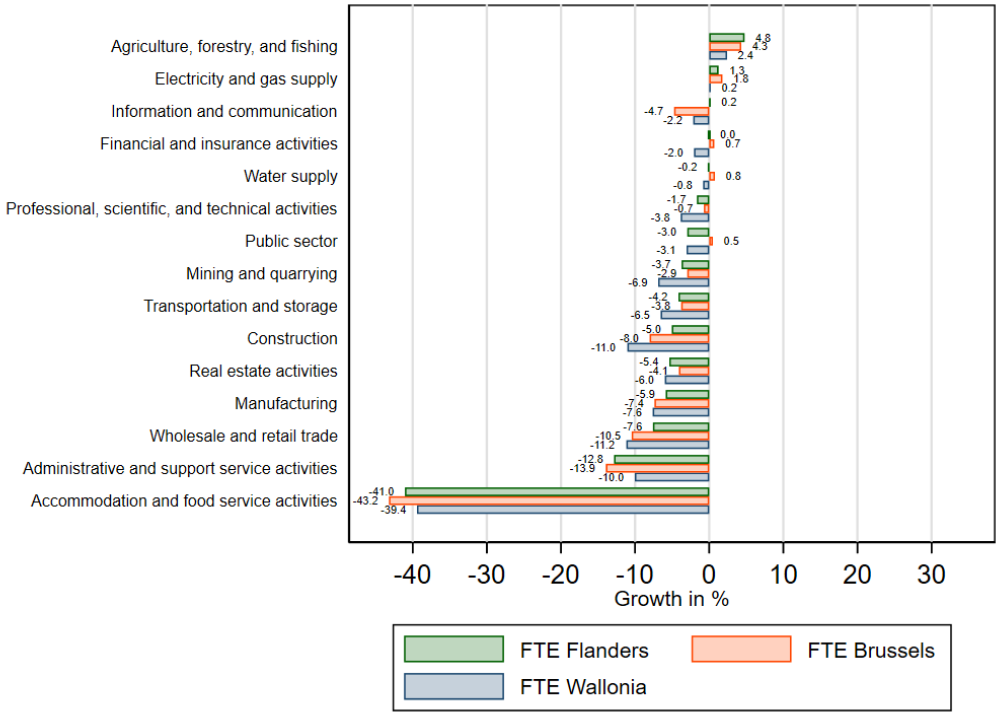

Figure 8a: the annual growth rates of FTE in Flanders, Brussels and Wallonia by sectors in 2020 w.r.t 2019; sectors are sorted by the growth rate of FTE in Flanders in 2020 in descending order.
Source: NSSO and location information from Bel-first, own calculations.

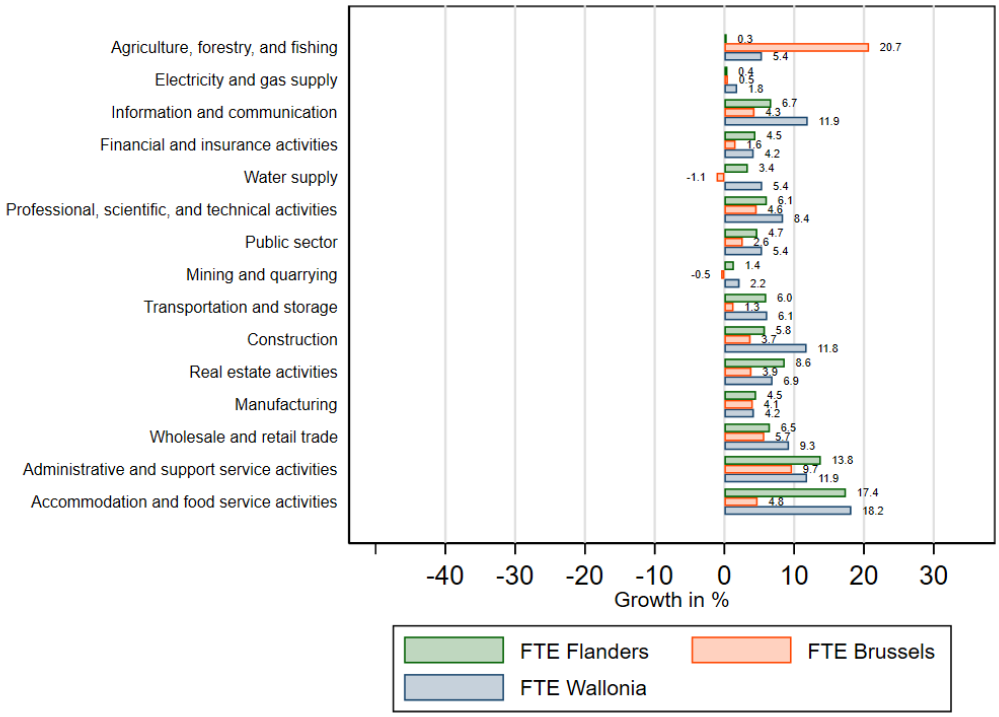

Figure 8b: the annual growth rates of FTE in Flanders, Brussels and Wallonia by sectors in 2021 w.r.t 2020; sectors are sorted by the growth rate of FTE in Flanders in 2020 in descending order.
Source: NSSO and location information from Bel-first, own calculations.

to 2020. In this section, we analyze the growth in aggregate FTE and employment figures across different sectors.

Let FTE_t^s represent the sector-level FTE in year t. The relationship between aggregate and sector-level FTE is given by:

$$FTE_t = \sum_{s=1}^{S} FTE_t^s$$

Using this equation, we can express the change in FTE from 2019 to 2020 as follows:

$$\begin{aligned} FTE_{2020} - FTE_{2019} &= \sum_{s=1}^{S} FTE_{2020}^s - \sum_{s=1}^{S} FTE_{2019}^s \\ &= \sum_{s=1}^{S} (FTE_{2020}^s - FTE_{2019}^s) \\ &= \sum_{s=1}^{S} \frac{FTE_{2019}^s}{FTE_{2019}^s} (FTE_{2020}^s - FTE_{2019}^s) \\ &= \sum_{s=1}^{S} FTE_{2019}^s \Delta FTE_{2020-2019}^s \end{aligned}$$

where $\Delta FTE_{2020-2019}^s = \frac{FTE_{2020}^s - FTE_{2019}^s}{FTE_{2019}^s}$, which is the growth rate of FTE at sector s for the year 2020 with respect to 2019.

Dividing both sides by FTE_{2019}, we have

$$\Delta FTE_{2020-2019} = \sum_{s=1}^{S} \frac{FTE_{2019}^s}{FTE_{2019}} \Delta FTE_{2020-2019}^s$$

where $\Delta FTE_{2020-2019}$ represents the growth rate of the aggregate FTE from 2019 to 2020. The aggregate growth rate of FTE is the linear combination of sector-level FTE growth, with the weight of each sector being the share of sector-level FTE relative to the aggregate FTE in 2019.

We define $\frac{FTE_{2019}^s}{FTE_{2019}} \Delta FTE_{2020-2019}^s$ as the absolute contribution of sector s to the aggregate change in FTE from year 2019 to 2020. The relative contribution of sector s to the aggregate change is given by $\frac{\frac{FTE_{2019}^s}{FTE_{2019}} \Delta FTE_{2020-2019}^s}{\Delta FTE_{2020-2019}}$. The growth decomposition of FTE in 2021 relative to 2020 uses the same methodology, which can similarly be applied to employment.

Tables 1 and 2 present the results calculated based on the above definitions for 2020 and 2021. In 2020, most sectors experienced negative growth in FTE, though fewer sectors showed declines in overall employment. Compared to 2019, Belgium's FTE levels dropped by 6.10% in 2020. The four sectors contributing most significantly to this decline—administrative and support service activities, wholesale and retail trade, accommodation and food service activities, and manufacturing—collectively accounted for 77.08% of the total FTE loss. In contrast, employment decreased by only 0.44%, largely mitigated by the temporary unemployment system. While the top four sectors also experienced employment losses, some, such as the public sector and professional, scientific, and technical activities, contributed positively to employment growth during the year.

With the arrival of 2021, we observe that all sectors experienced positive growth in FTE, and most sectors also had positive employment growth, except for the accommodation and food service activities, financial and insurance activities, and mining and quarrying sectors. The public sector emerged as the second-highest contributor to growth in both FTE and employment

Table 1: FTE/Employment Growth Decomposition (2020 w.r.t 2019)

NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
Administrative and support service activities	−1.34	21.96	−0.46	104.52
Wholesale and retail trade	−1.26	20.64	−0.08	17.96
Accommodation and food service activities	−1.21	19.81	−0.33	75.16
Manufacturing	−0.90	14.67	−0.07	16.73
Public sector	−0.45	7.30	0.27	−61.30
Construction	−0.41	6.64	0.01	−2.16
Transportation and storage	−0.30	4.93	0.04	−8.72
Professional, scientific, and technical activities	−0.10	1.66	0.13	−28.29
Financial and insurance activities	−0.08	1.31	−0.03	6.45
Information and communication	−0.07	1.09	0.03	−6.48
Real estate activities	−0.03	0.52	0.01	−2.35
Mining and quarrying	0.00	0.07	0.00	0.31
Water supply	0.00	0.02	0.02	−3.60
Electricity and gas supply	0.01	−0.12	0.01	−1.67
Agriculture, forestry, and fishing	0.03	−0.50	0.03	−6.57
Sum	−6.10	100.00	−0.44	100.00

Note: "abs. FTE" refers to the absolute contribution to the aggregate change in FTE, while "rel. FTE" indicates the relative contribution to the aggregate FTE change; analogue for employment.
Source: NSSO, own calculations

during the year. The top four sectors that were hardest hit in 2020—administrative and support service activities, wholesale and retail trade, accommodation and food service activities, and manufacturing—contributed 54.89% of the total FTE growth. Among them, accommodation and food service activities contributed only 4.93%. The sectors most affected in 2020 are still lagging behind in terms of FTE compared to pre-pandemic levels, particularly the accommodation and food service activities sector.

In appendix tables A4 and A5, we performed the same decomposition at a more granular NACE 2-digit level. We found that the food and beverage service activities, employment activities, retail trade (excluding motor vehicles and motorcycles), services to buildings and landscape activities, and wholesale trade (excluding motor vehicles and motorcycles) — the top 5 NACE 2-digit industries — accounted for more than 50% of the aggregate FTE losses in 2020. These industries are precisely those that belong to the top 4 hardest-hit sectors.

7 Event Study Analysis

7.1 General analysis

In the preceding sections, we provided a descriptive analysis of the impact of COVID-19 on Belgian firms. In this section, we turn to a formal statistical analysis using event study methods.

First, we run an event study without heterogeneity analysis. This regression allows us to examine how the overall growth of FTE changes over time once we control for firm-level fixed effects. The regression is set as:

Table 2: FTE/Employment Growth Decomposition (2021 w.r.t 2020)

NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
Administrative and support service activities	1.15	21.33	0.57	33.66
Public sector	1.06	19.74	0.49	28.76
Wholesale and retail trade	0.93	17.32	0.08	4.74
Manufacturing	0.61	11.31	0.09	5.12
Construction	0.40	7.44	0.08	4.98
Professional, scientific, and technical activities	0.32	5.97	0.14	8.08
Transportation and storage	0.30	5.55	0.11	6.35
Accommodation and food service activities	0.27	4.93	−0.04	−2.13
Information and communication	0.24	4.44	0.14	8.59
Real estate activities	0.04	0.76	0.01	0.58
Water supply	0.03	0.52	0.01	0.72
Financial and insurance activities	0.02	0.39	−0.02	−1.34
Agriculture, forestry, and fishing	0.01	0.17	0.03	1.79
Electricity and gas supply	0.01	0.09	0.00	0.13
Mining and quarrying	0.00	0.02	0.00	−0.03
Sum	5.39	100.00	1.69	100.00

Note: "abs. FTE" refers to the absolute contribution to the aggregate change in FTE, while "rel. FTE" indicates the relative contribution to the aggregate FTE change; analogue for employment.
Source: NSSO, own calculations

$$lnFTE_{it} = \alpha_i + \sum_{q=2019q1 \& q \neq 2019q4}^{2021q4} \beta_q 1\{t = q\} + \epsilon_{it} \quad (1)$$

where $lnFTE_{it}$ is the logarithm of FTE for firm i at time t, α_i represents firm-level fixed effects, $1\{t = q\}$ is an indicator variable that equals 1 if the time is in quarter q and ϵ_{it} is the error term. The reference period for the regression is the fourth quarter of 2019 (the last pre-pandemic quarter), so all coefficients of interest, β_q , are compared to the fourth quarter of 2019. β_q can be interpreted as the $\beta_q 100\%$ growth in FTE at time q compared to the FTE level in the fourth quarter of 2019.

Notice the differences between our regression and the previous descriptive analysis. First, we use the logarithm of FTE, which means we exclude all observations with zero FTE. In our previous descriptive analysis, where FTE was aggregated at different levels (such as Nace-1, Nace-2, age groups, size groups, and regions), zero FTE for some firms did not pose a problem for calculating aggregate growth rates.

Second, we control for firm-level fixed effects. This adjustment removes firm-level constant characteristics, such as stable growth at the firm level. By doing so, our analysis focuses more specifically on the impact of Covid-19 and the associated policies. However, it is important to note that we cannot disentangle certain compounding effects that may arise from other factors, such as seasonal adjustments.

Figure 9 illustrates the regression results for each β_q from regression (1), with coefficients precisely estimated. The fourth quarter of 2019 serves as the reference period. Before the onset of COVID-19, after accounting for firm-level fixed effects, FTE growth rates were approximately 0. However,

by the end of the first quarter of 2020, as COVID-19 began impacting Belgium, FTE had already declined. The pandemic's severe impact, combined with strict policy restrictions, led to an unprecedented FTE decrease of approximately -50% in the second quarter of 2020 compared to pre-pandemic levels.The easing of restrictions in the summer of 2020 brought a partial recovery in the third quarter, but subsequent lockdowns caused another decline. FTE began to recover gradually from the second quarter of 2021 as restrictions were lifted. Despite this recovery, the growth rate of FTE, when adjusted for firm-level fixed effects, remained negative from the fourth quarter of 2019 to the fourth quarter of 2021. This finding contrasts with the descriptive results in Figure 2, where FTE appears to have returned to pre-pandemic levels by the fourth quarter of 2021. The discrepancy arises because the firm-level fixed effects in the regression control for secular growth trends specific to individual firms.

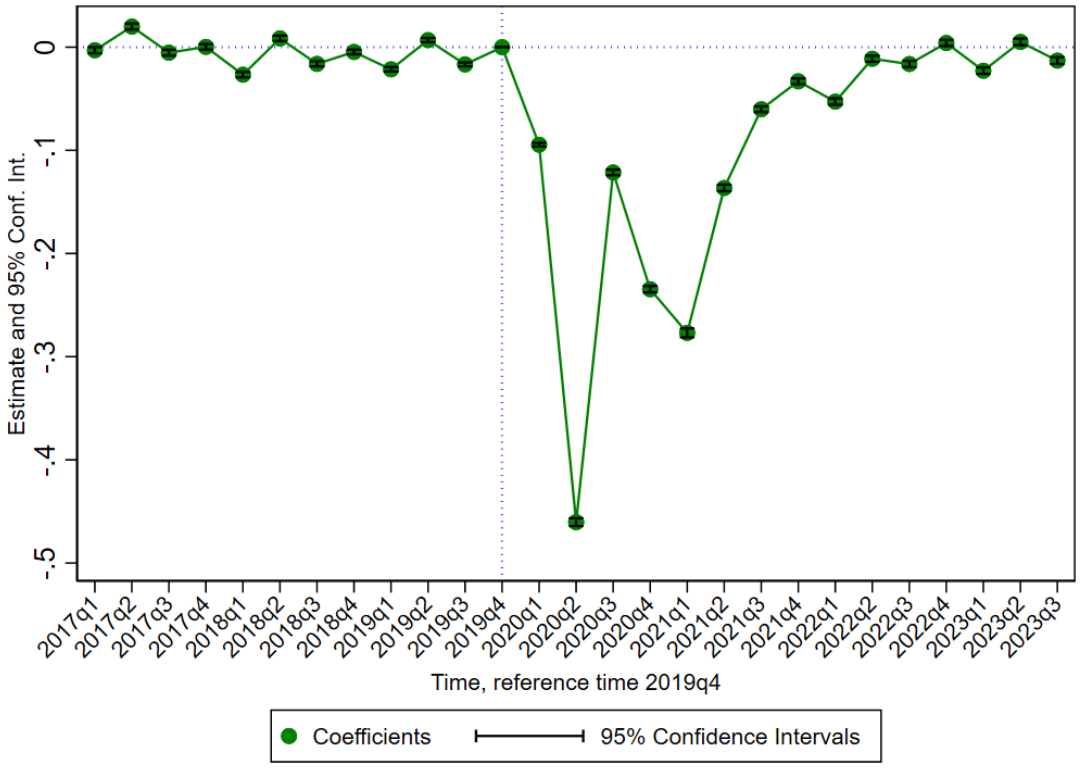

Figure 9: the point estimation results from regression (1); green points indicate the coefficients of β_q for each quarter; number of observations = 5,135,409; standard errors are clustered at the firm level.
Source: NSSO, own calculations.

7.2 Heterogeneity analysis

Furthermore, to analyze the heterogeneous performance of different groups during Covid-19, we conducted a heterogeneity analysis using

$$lnFTE_{it} = \alpha_i + \gamma_t + \sum_{c \in C \& c \neq c_b} \sum_{q=2019q1 \& q \neq 2019q4}^{2021q4} \beta_{cq} 1\{t = q \ \& \ c_i \in c\} + \epsilon_{it} \tag{2}$$

where γ_t represents time (quarter) fixed effects, and $1\{t = q \ \& \ c_i \in c\}$ is an indicator variable that equals 1 if the time is in quarter q and firm i belongs to group c based on its characteristics c_i. c_b indicates the baseline category within the set C of categories. For example, when considering

size groups, the baseline category c_b is Micro (1-9), and C is the set of all size groups: C = {Micro (1-9), Small (10-49), Medium (50-249), Large (250+)}. The age groups are based on the age of firms in 2019, and the size groups are classified by their size in the first quarter of 2019. The reference group for the regression is baseline category c_b and the reference time is in the four quarter of year 2019. Therefore, all coefficients of interest, β_{cq}, capture both the time and category differences. β_{cq} compare the growth differences of firms in group c from the fourth quarter of 2019 to time q to firms in the baseline group c_b from the fourth quarter of 2019 to time q.

Mathematically, we also have

$$\beta_{cq} = E_{it}lnFTE_{c,q} - E_{it}lnFTE_{c,2019q4} - (E_{it}lnFTE_{cb,q} - E_{it}lnFTE_{cb,2019q4})$$

where $E_{it}lnFTE_{c,q}$ represents the mean of $lnFTE$ across firms in category c and time q. C represents the sets of size groups, age groups, and regions, respectively, in our subsequent analysis.

Similar to the above regression, regression (2) excludes observations with zero values and includes firm-level fixed effects. Additionally, since our focus is on comparing the performance of different groups across various quarters, we include quarter fixed effects. This allows us to account for factors that might affect all groups equally, as these factors will be absorbed by the quarter fixed effects.

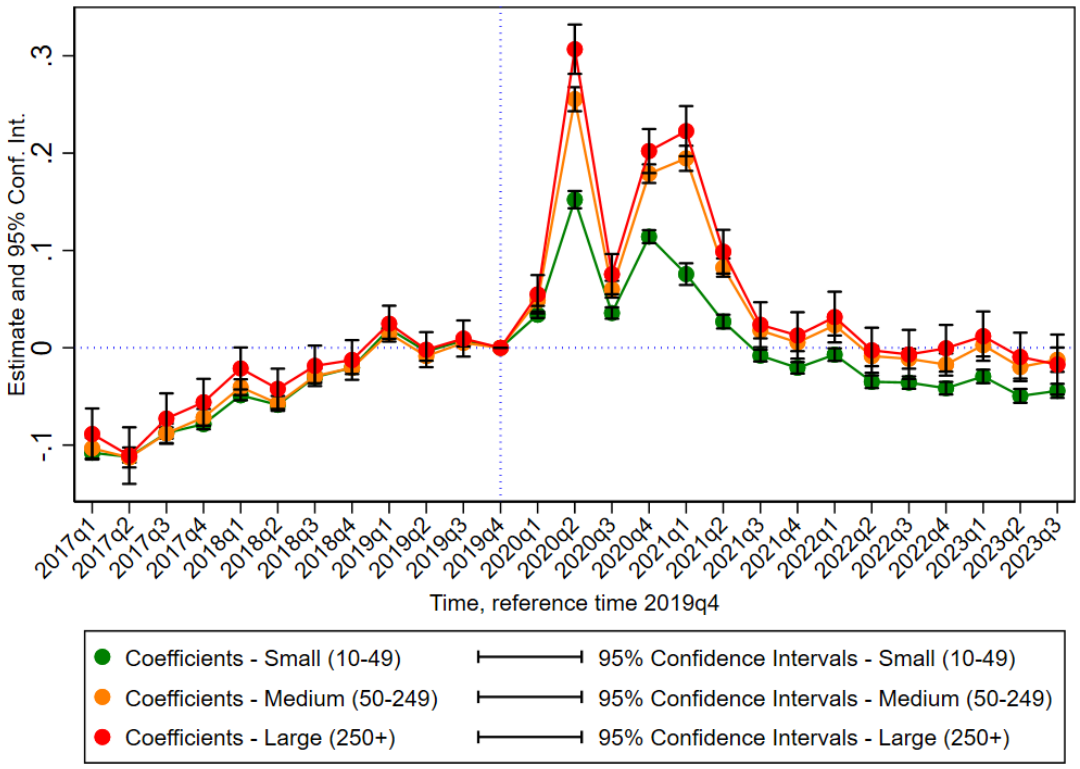

Figure 10: the point estimation results from regression (2), where C represents size groups; the reference size group is Micro (1-9) and the reference time is the fourth quarter of 2019; green points indicate the coefficients of β_{cq} for each combinations of quarter and size group Small (10-49); orange points indicate the coefficients of β_{cq} for each combinations of quarter and size group Medium (50-249); red points indicate the coefficients of β_{cq} for each combinations of quarter and size group Great (250+); number of observations = 2,099,678; standard errors are clustered at the firm level.
Source: NSSO, own calculations.

Figure 10 shows the results for coefficients of different size groups. The point estimates of β_{qc} can be understood as the growth rate (from the fourth quarter of 2019 to time q) difference

between the corresponding size group c (medium size, large size, or great size) and the baseline size group, micro size. Taking the coefficient of the large size group in the second quarter of 2020 as an example, mathematically, it is equivalent to

$$\begin{aligned}
&\beta_{Large,2020q2} \\
&= E_{it}lnFTE_{Large,2020q2} - E_{it}lnFTE_{Large,2019q4} - (E_{it}lnFTE_{Micro,2020q2} - E_{it}lnFTE_{Micro,2019q4}) \\
&\approx \Delta FTE_{Large,2020q2-2019q4} - \Delta FTE_{Micro,2020q2-2019q4}
\end{aligned}$$

where $\Delta FTE_{Large,2020q2-2019q4}$ is the growth rate of average FTE for firms of large size from the last quarter of 2019 to the second quarter of 2020, and $\Delta FTE_{Micro,2020q2-2019q4}$ is the growth rate of average FTE for firms in the baseline category (with micro size) from the last quarter of 2019 to the second quarter of 2020.

In line with our earlier descriptive findings, we observe that COVID-19 and the associated policies impacted firms unevenly, with micro firms being the hardest hit, while medium and large firms were the least affected. During the peak of the crisis in the second quarter of 2020, the percentage decline in FTE for medium and large firms was 30% smaller compared to firms with 1 to 9 FTE. By the end of 2021, the growth rate of FTE (measured from the fourth quarter of 2019 to the fourth quarter of 2021) was comparable between micro and small firms but remained lower than in medium and large firms. In the years after the pandemic, all firms evolved similarly, except for small firms which reported somewhat smaller growth. Using the pre-pandemic period as a placebo, where all size groups showed FTE growth rates near zero, we conclude with confidence that micro and small firms are more vulnerable to pandemics.

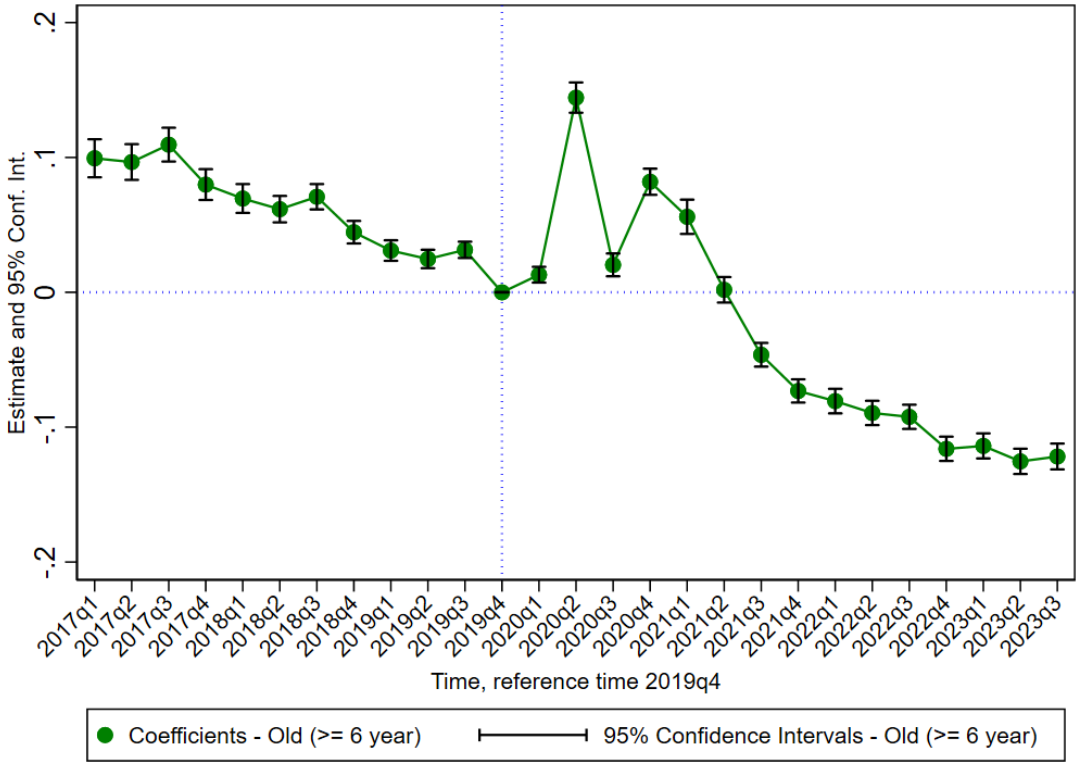

Figure 11: the point estimation results from regression (2), where C represents age groups; the reference age group is Young ($<$ 5 year) and the reference time is the fourth quarter of 2019; green points indicate the coefficients of β_{cq} for each combinations of quarter and age group Old ($>=$ 6 year); number of observations = 5,135,409; standard errors are clustered at the firm level.
Source: NSSO, own calculations.

Figure 11 presents a similar regression, this time categorized by firm age groups. The reference group consists of young firms (<5 years old), with the fourth quarter of 2019 serving as the reference period. The point estimates for older firms (>= 6 years) interacted with each quarter q reflect the differences in average FTE growth between old and young firms from the fourth quarter of 2019 to quarter q. Prior to the lifting of lockdown restrictions at the end of the second quarter of 2021, older firms showed stronger FTE performance compared to younger firms. However, after policy restrictions eased, younger firms exhibited higher FTE growth than older firms relative to the pre-pandemic baseline.

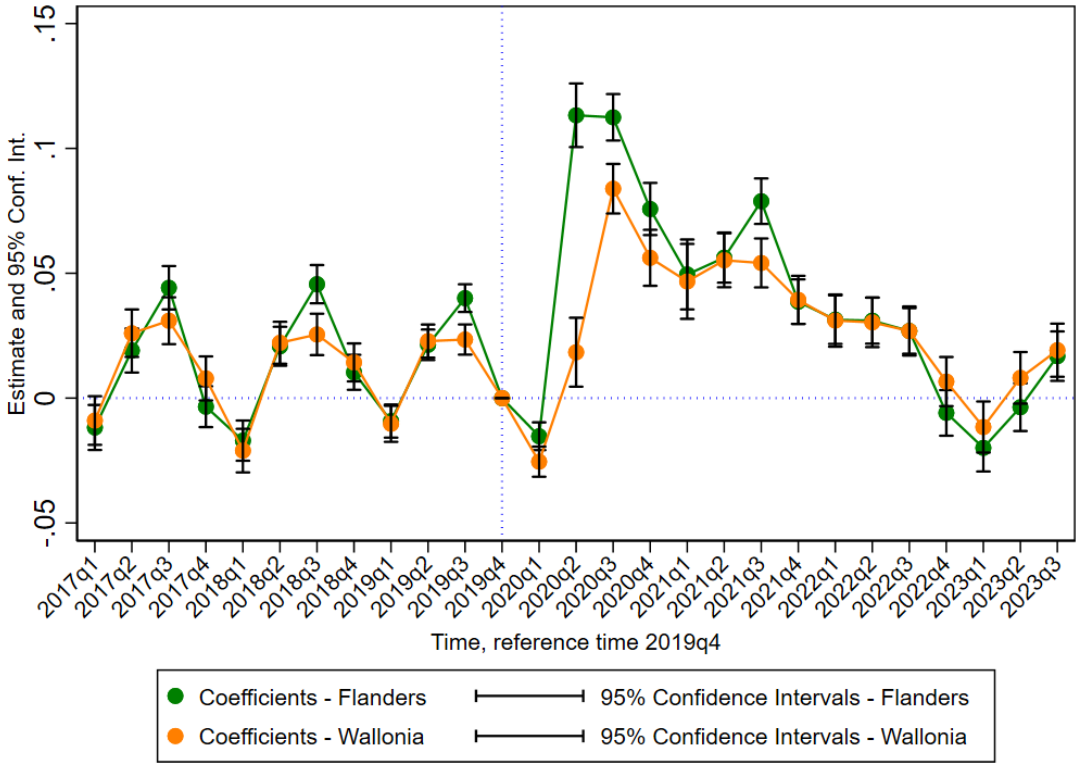

Figure 12: the point estimation results from regression (2), where C represents region; the reference region is Brussels and the reference time is the fourth quarter of 2019; green points indicate the coefficients of β_{cq} for each combinations of quarter and region Flanders; orange points indicate the coefficients of β_{cq} for each combinations of quarter and region Wallonia; number of observations = 1,348,976; standard errors are clustered at the firm level.
Source: NSSO, own calculations.

Finally, we compared the performance across different regions in figure 12. The regions already exhibited fluctuating differences in growth before the onset of the pandemic. One thus needs to be careful in attributing the differing evolutions solely to the pandemic. With the onset of COVID-19, Flanders and Wallonia seemed to have outperformed Brussels. While the gap in FTE growth between Flanders and Wallonia was less pronounced than the disparity between these two regions and Brussels, Flanders still had slightly higher FTE growth than Wallonia in 2020.

8 Conclusion

In this report we investigated the impact of Covid-19 on business outcomes, measured in terms of employment in Belgium, utilizing up-to-date data on employment at the level of the firm from the NSSO.

Covid-19 has generated an unprecedented shock to employment, with a decline of 6.10% in FTE comparing 2020 to 2019. The extensive use of the temporary unemployment system has played a crucial role in alleviating the economic challenges, and these measures have proven to be effective in mitigating the adverse effects of the pandemic.

Significant variations exist among sectors and companies. While employment experienced a swift rebound in 2021, reaching pre-pandemic levels by the end of the year for most sectors, certain industries that faced significant declines in 2020, such as accommodation, food and beverage service activities, are still lagging behind in terms of employment. In our growth decomposition, we find that the top four negatively impacted sectors—administrative and support service activities, wholesale and retail trade, accommodation and food service activities and manufacturing accounted for 77.08% of the total FTE loss in 2020. In general, these are relatively labor-intensive sectors. Furthermore, the heterogeneity analysis reveals that small and young companies experienced a relatively larger shock compared to their larger and older counterparts. However, by the end of 2021, younger firms even outperformed older firms in terms of FTE growth compared to pre-pandemic levels, and the performance disparities among size groups diminished.

While the system of temporary unemployment measures effectively absorbed the majority of the employment shock, it remains essential to closely monitor the expiration of these measures. Given the success during the pandemic, it is appealing to keep the system in place to absorb all shocks. However, the normal workings of the economy will also generate shocks to certain sectors through innovation. The temporary unemployment would in this case heighten the risk of labor market mismatches. If and how the temporary unemployment mechanism could be employed in the post-pandemic environment deserves a thorough debate considering all advantages and disadvantages.

References

1. Baert, L., King, J., Lecocq, C., and Reynaerts, J. (2013) *Policy report STORE-B-12-013 VRWI Future Explorations 2025.*
2. Bloom, N., Bunn, P., Mizen, P., Smietanka, P., Thwaites, G. (2021) *The impact of Covid-19 on productivity.* VoxEU.org, 18 January 2021.
3. Campos, N., De Grauwe, P., Ji, Y. (2018) *Structural Reforms, Growth and Inequality.* The Political Economy of Structural Reforms in Europe, Eds. Campos, N. en De Grauwe, P. En Ji, Y., Oxford Scholarship Online.
4. Eurostat (2020) *National accounts data.* Consulted via https://ec.europa.eu/eurostat/web/products-datasets/product?code=nama_10_a64_e.
5. Eurostat (2021a) *Real GDP growth rate.* Geraadpleegd via https://ec.europa.eu/eurostat/web/products-datasets/-/tec00115&lang=en.
6. Eurostat (2021b) *Euroindicators, GDP and employment flash estimates for the first quarter of 2021.* Retrieved from https://ec.europa.eu/eurostat/documents/portlet_file_entry/2995521/216022021-AP-EN.pdf/eb164095-6DE4-A6A1-CD87-60C4A645E5E1.
7. Konings, J., Magerman, G. (2021). *De impact van Covid 19 op tewerkstelling, productiviteit en Bruto Regionaal Product in Vlaanderen Vlaanderen.* STORE-, 1-45.
8. Konings, J., Magerman, G., and Van Esbroeck, D. (2023). *The impact of firm-level Covid rescue policies on productivity growth and reallocation.* European Economic Review, 157, 104508. https://doi.org/10.1016/j.euroecorev.2023.104508
9. National Bank of Belgium (2021a) *Key figures.* Consulted via https://www.nbb.be/nl/statistieken/algemeen/kerncijfers.
10. National Bank of Belgium (2021b) *Annual Report 2020.*
11. OECD (2021) *OECD Economic Outlook, Volume 2021 Issue 1.* Retrieved from https://www.oecdilibrary.org/sites/edfbca02-en/index.html?itemId=/content/publication/edfbca02en&_ga=2.195046700.1622810265.1624601794-2082626312.1624601794.
12. Statbel (2021) *Employment and unemployment.* Consulted via https://statbel.fgov.be/nl/themas/werk-training/labourmarket/employmentandunemployment#news.
13. Statistics Flanders (2020) *Real economic growth.* Consulted via https://www.statistiekvlaanderen.be/nl/reÃńle-economicgrowth.
14. Struyven, L.; Van Waeyenberg, H. and Vandekerckhove, S. (2016) *The use of economic unemployment in Flanders: temporary or permanent protection against dismissal?* Policy Report STORE-B-15-015 F.
15. World Bank (2021) *Global Economic Prospects January 2021.* Geraadpleegd via https://openknowledge.worldbank.org/bitstream/handle/10986/34710/9781464816123-Ch01.pdf.

A Additional Figures

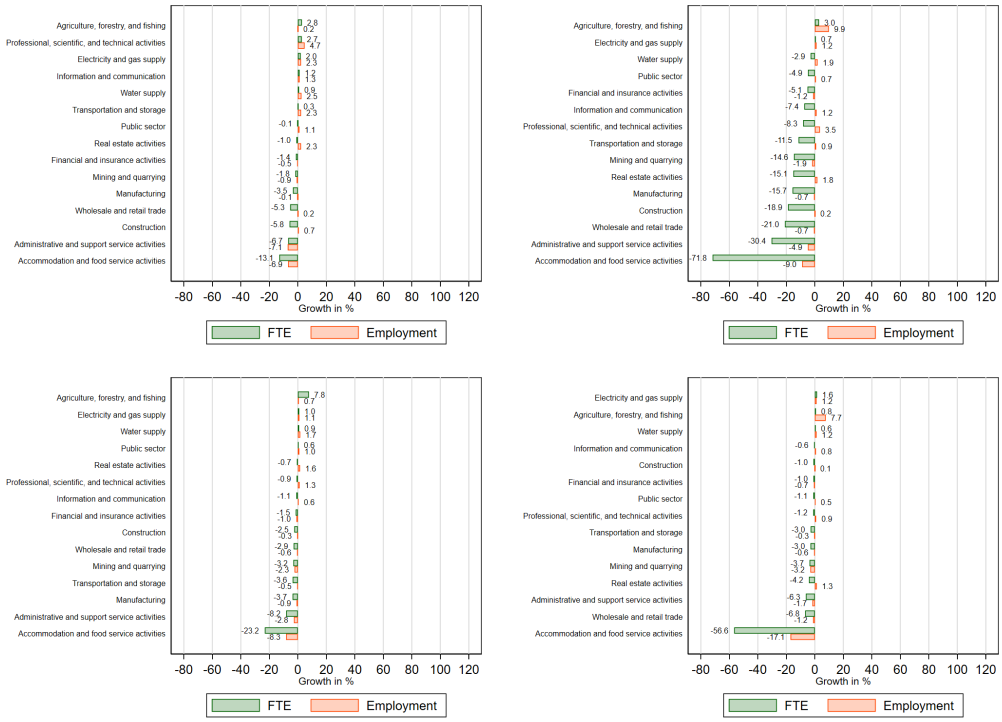

Figure A1.1: the year-on-year growth rates of quarterly FTE and employment in quarter 1 of 2020 w.r.t quarter 1 of 2019 (upper left), quarter 2 of 2020 w.r.t quarter 2 of 2019 (upper right), quarter 3 of 2020 w.r.t quarter 3 of 2019 (lower left) and quarter 4 of 2020 w.r.t quarter 4 of 2019 (lower right).
Source: NSSO, own calculations.

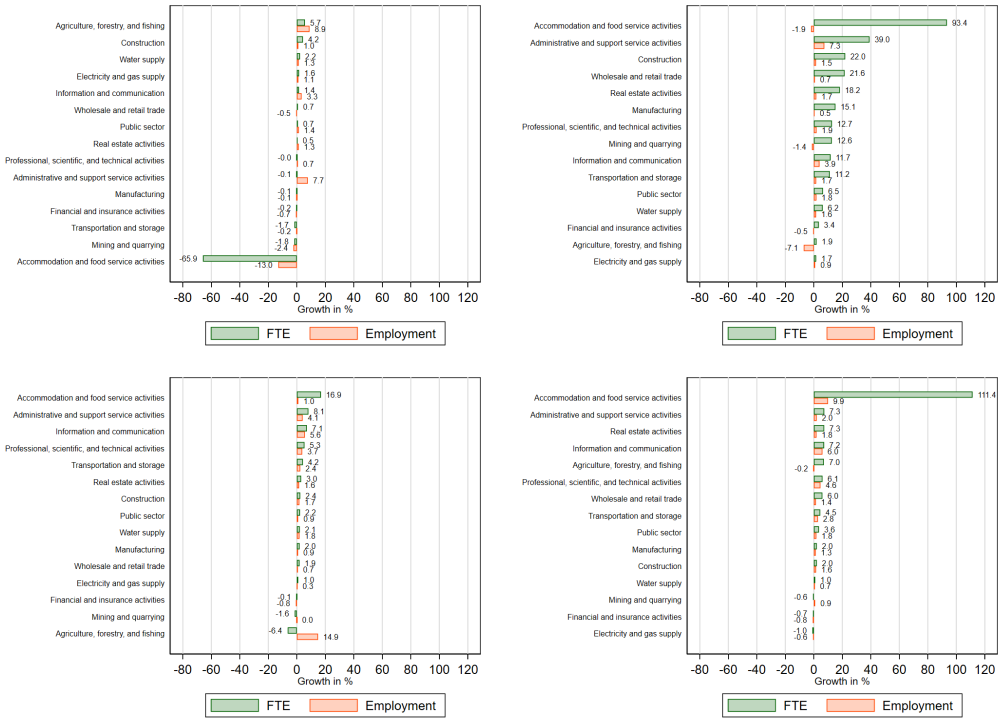

Figure A1.2: the year-on-year growth rates of quarterly FTE and employment in quarter 1 of 2021 w.r.t quarter 1 of 2020 (upper left), quarter 2 of 2021 w.r.t quarter 2 of 2020 (upper right), quarter 3 of 2021 w.r.t quarter 3 of 2020 (lower left) and quarter 4 of 2021 w.r.t quarter 4 of 2020 (lower right).
Source: NSSO, own calculations.

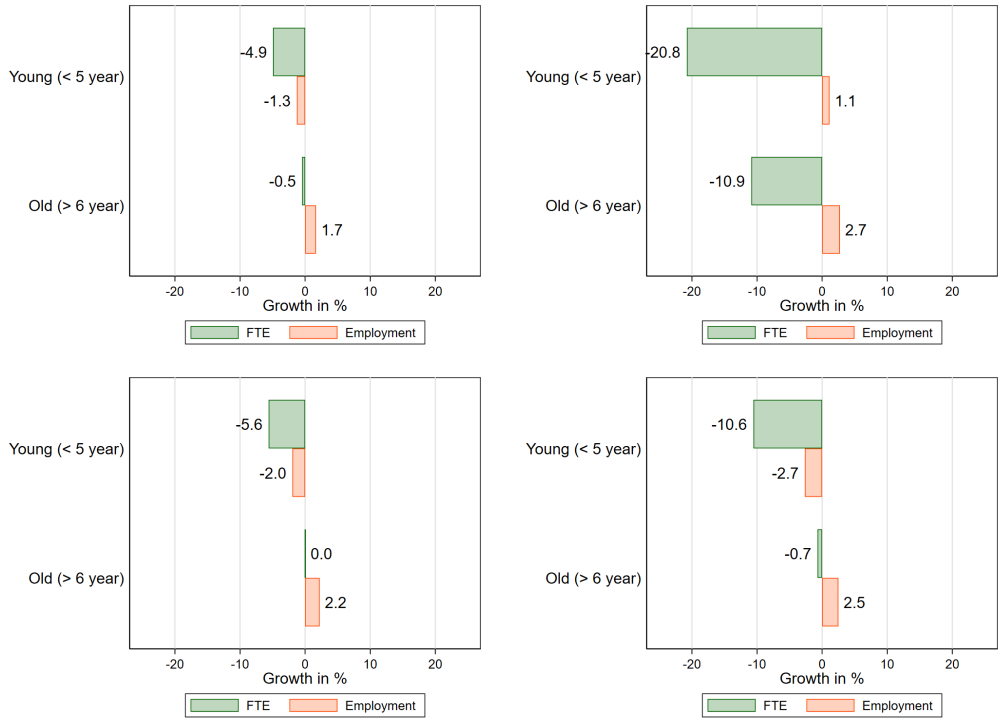

Figure A2.1 : the year-on-year growth rates of quarterly FTE and employment by age groups in quarter 1 of 2020 w.r.t quarter 1 of 2019 (upper left), quarter 2 of 2020 w.r.t quarter 2 of 2019 (upper right), quarter 3 of 2020 w.r.t quarter 3 of 2019 (lower left) and quarter 4 of 2020 w.r.t quarter 4 of 2019 (lower right).
Source: NSSO, own calculations.

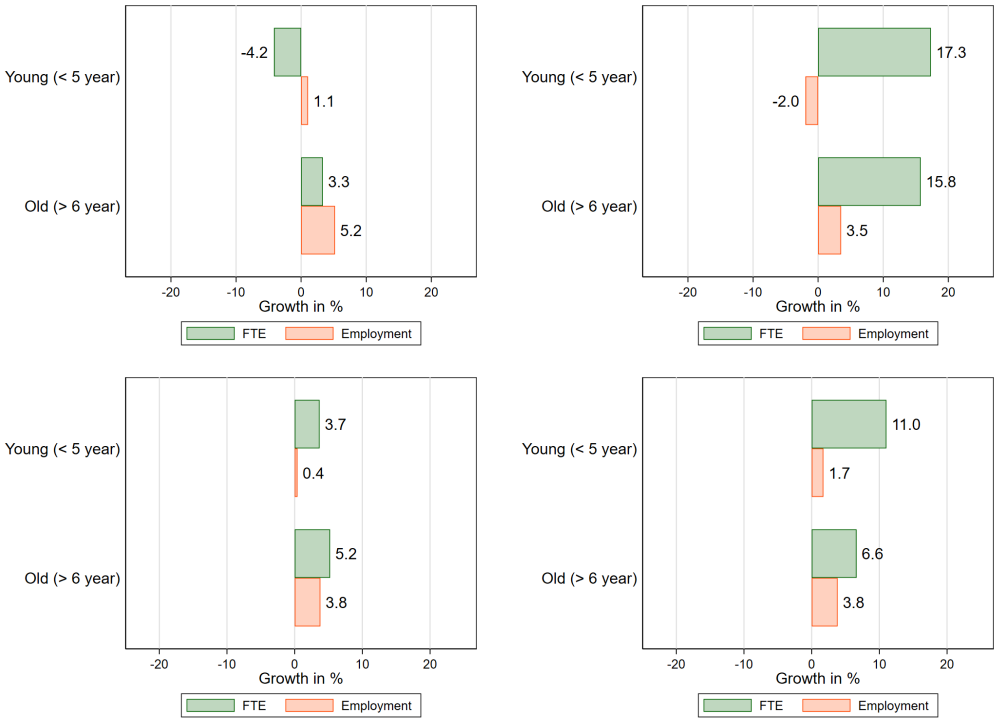

Figure A2.2 : the year-on-year growth rates of quarterly FTE and employment by age groups in quarter 1 of 2021 w.r.t quarter 1 of 2020 (upper left), quarter 2 of 2021 w.r.t quarter 2 of 2020 (upper right), quarter 3 of 2021 w.r.t quarter 3 of 2020 (lower left) and quarter 4 of 2021 w.r.t quarter 4 of 2020 (lower right).
Source: NSSO, own calculations.

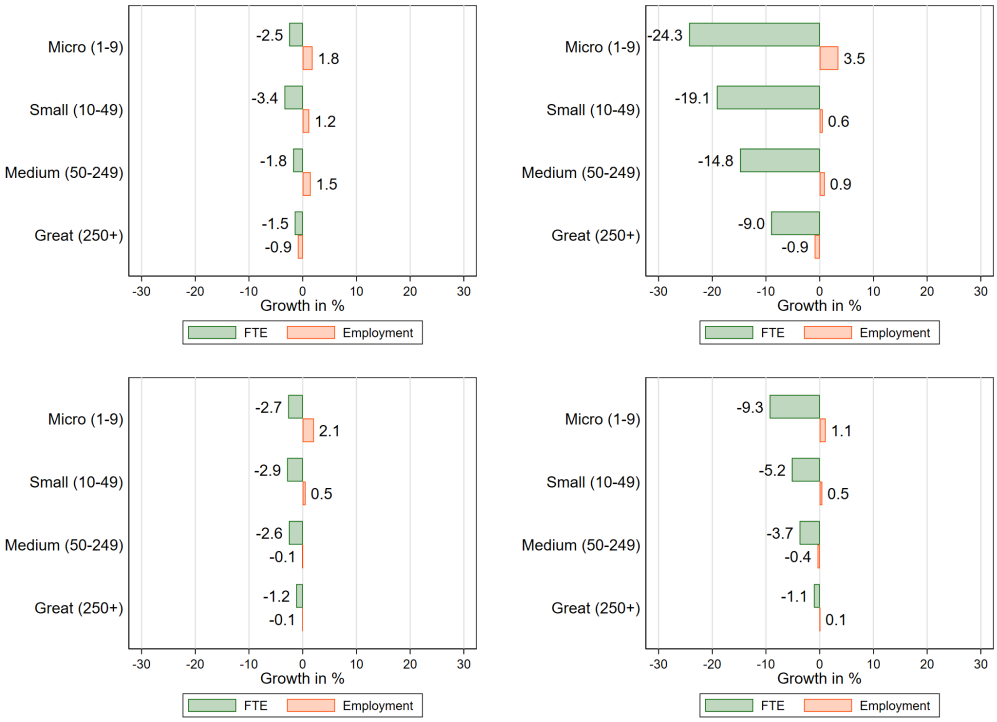

Figure A3.1: the year-on-year growth rates of quarterly FTE and employment by size in quarter 1 of 2020 w.r.t quarter 1 of 2019 (upper left), quarter 2 of 2020 w.r.t quarter 2 of 2019 (upper right), quarter 3 of 2020 w.r.t quarter 3 of 2019 (lower left) and quarter 4 of 2020 w.r.t quarter 4 of 2019 (lower right).
Source: NSSO, own calculations.

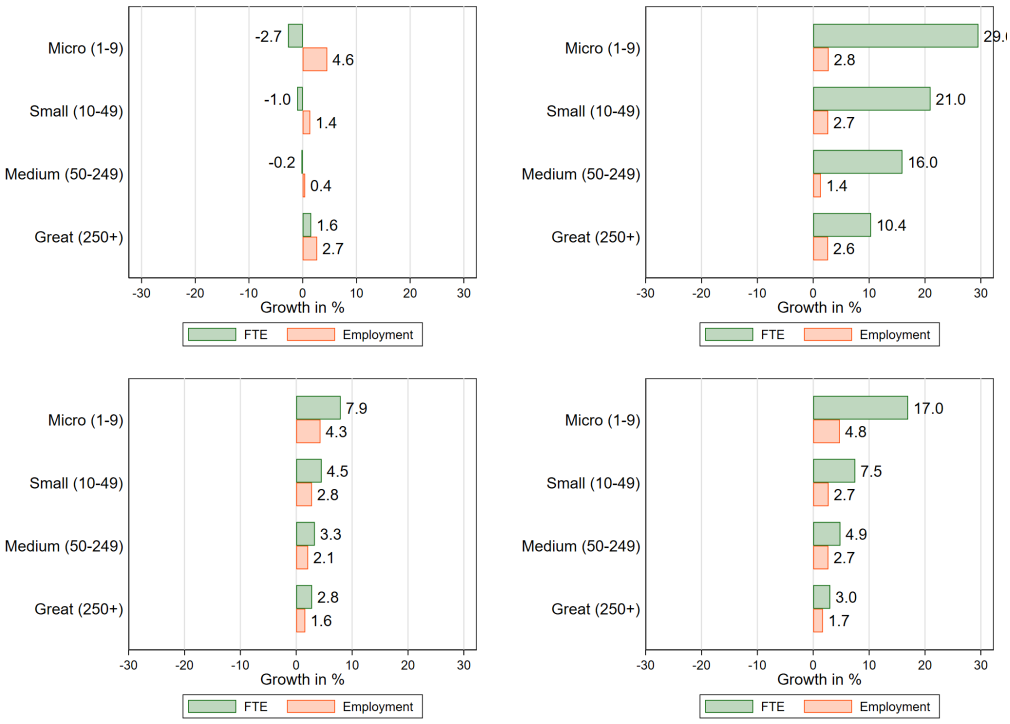

Figure A3.2: the year-on-year growth rates of quarterly FTE and employment by size in quarter 1 of 2021 w.r.t quarter 1 of 2020 (upper left), quarter 2 of 2021 w.r.t quarter 2 of 2020 (upper right), quarter 3 of 2021 w.r.t quarter 3 of 2020 (lower left) and quarter 4 of 2021 w.r.t quarter 4 of 2020 (lower right).
Source: NSSO, own calculations.

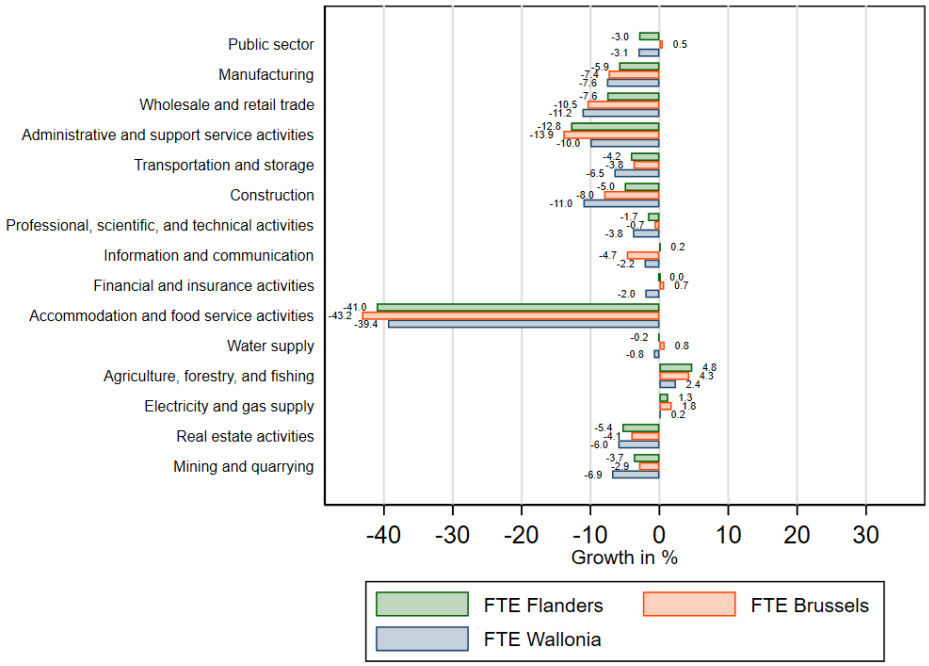

Figure A4.1: the annual growth rates of FTE in Flanders, Brussels and Wallonia by sectors in 2020 w.r.t 2019; sectors are sorted by the total number of FTE in descending order.
Source: NSSO and location information from Bel-first, own calculations.

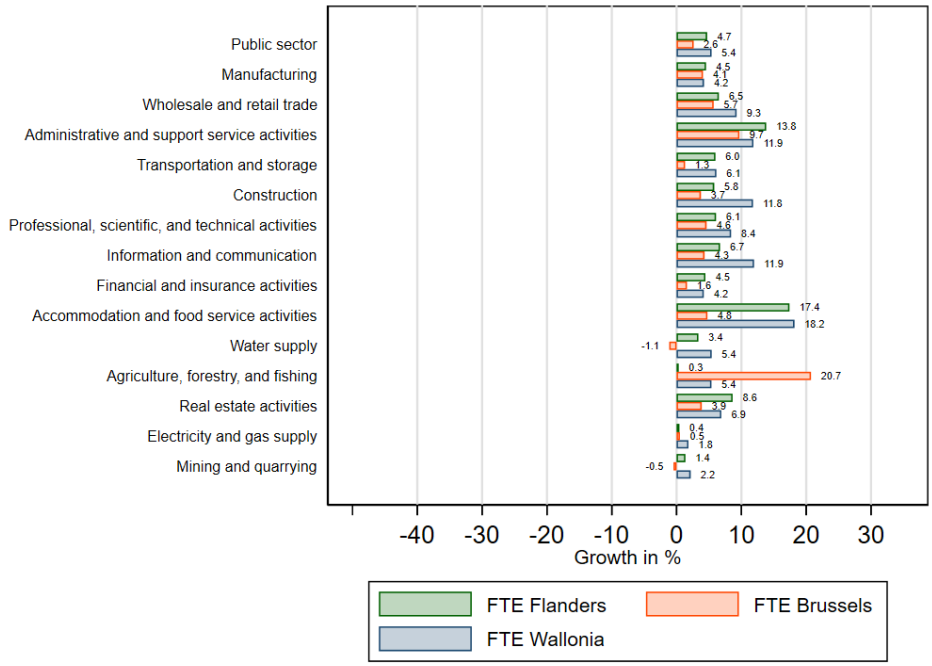

Figure A4.2: the annual growth rates of employment in Flanders, Brussels and Wallonia by sectors in 2021 w.r.t 2020; sectors are sorted by the total number of FTE in descending order.
Source: NSSO and location information from Bel-first, own calculations.

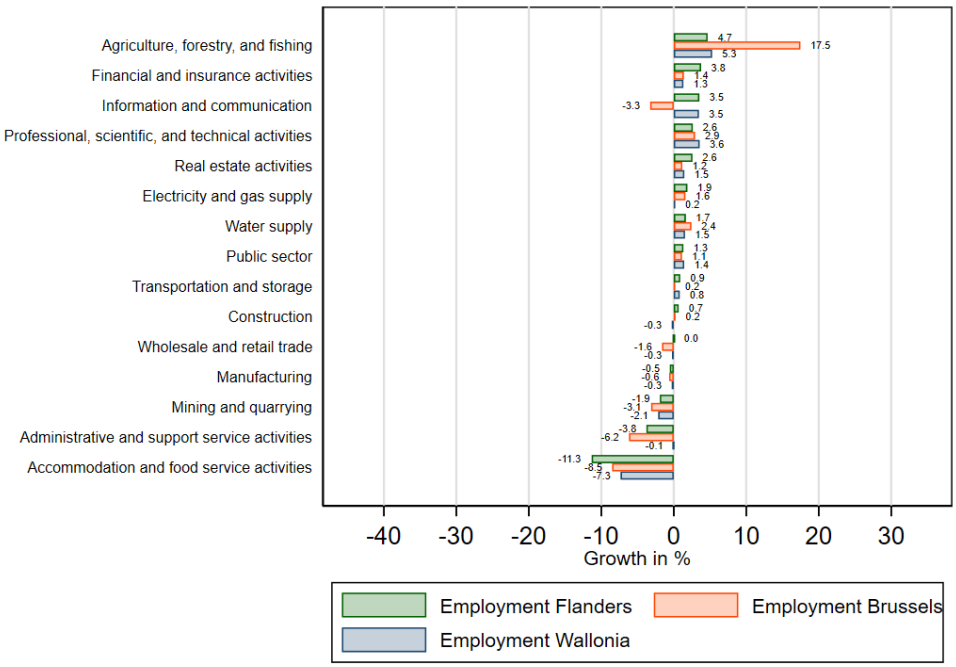

Figure A4.3: the annual growth rates of employment in Flanders, Brussels and Wallonia by sectors in 2020 w.r.t 2019; ; sectors are sorted by the growth rate of employment in Flanders in 2020 in descending order.
Source: NSSO and location information from Bel-first, own calculations.

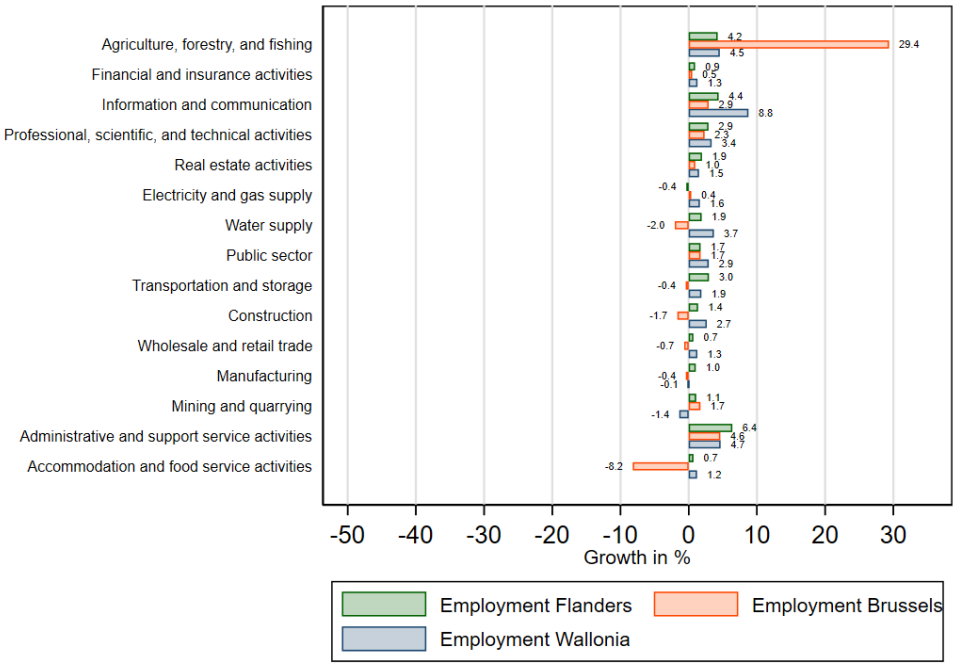

Figure A4.4: the annual growth rates of employment in Flanders, Brussels and Wallonia by sectors in 2021 w.r.t 2020; sectors are sorted by the growth rate of employment in Flanders in 2020 in descending order.
Source: NSSO and location information from Bel-first, own calculations.

B Top 10 Affected Industries on a Quarterly Basis

Table A1 outlines the top 10 industries most affected at the NACE 2-digit level in each quarter of 2020, based on the percentage decline in year-on-year FTE. The absolute FTE figures for the corresponding year and quarter are also included. The FTE for the respective year and quarter are also added in absolute terms. Some patterns are apparent. The impact of the shock on FTE is highly heterogeneous across industries, and these effects evolve throughout the year 2020 in response to events such as the initial lockdown at the beginning of the year, the partial reopening in the third quarter, and the subsequent second lockdown in the fourth quarter.

In the first quarter, the changes in FTE are relatively limited, as the first lockdown only came into effect in March 2020. Nevertheless, some industries severely affected throughout 2020 are already visible here: food and beverage service activities (-13.30 %), accommodation (-12.08 %), travel agency, tour operator and other reservation service and related activities (-11.57 %). The second quarter witnessed the most significant decline, with year-on-year declines exceeding 70%, including accommodation (-74.4%), food and beverage service activities (-71.2%), and a 67.9% decrease for air transports. Other sectors, such as gambling and betting activities, manufacture of leather and related products, sports activities, and amusement and recreation activities, also recorded declines of more than 50%. After the reopening of economic activity in the third quarter, growth rates stabilized slightly but remained unprecedentedly negative. Only the food and beverage establishments dropped from 2nd place to 7th place in the partial reopening of the catering industry. The second lockdown of November 2020 left its mark on economic activity in the fourth quarter, with declines of up to almost 57% year-on-year. The top 10 industries remained largely the same, with a significant addition of other personal services (-40%).

Table A1: Top 10 industries with the largest decline in the number of full-time equivalents (FTE), per quarter 2020.

(a) 2020q1 compared to 2019q1

Nace 2	Industry	% △ FTE	FTE 2020	FTE 2019
9	Mining support service activities	−27.27	32.51	44.70
3	Fishing and aquaculture	−13.93	233.42	271.19
56	Food and beverage service activities	−13.30	58 774.61	67 788.10
55	Accommodation	−12.08	14 229.72	16 184.47
79	Travel agency, tour operator and other reservation service and related activities	−11.57	5541.75	6266.81
96	Other personal service activities	−11.57	15 693.57	17 745.89
14	Manufacture of wearing apparel	−11.35	2075.28	2341.11
29	Manufacture of motor vehicles, trailers and semi-trailers	−10.36	24 355.95	27 170.76
15	Manufacture of leather and related products	−10.10	867.65	965.09
18	Printing and reproduction of recorded media	−9.50	7929.38	8762.21

Note: the column Nace 2 displays the Nace 2-digit codes of each industries; % △ FTE represents the year-on-year percentage change in the growth rate of quarterly FTE; the subtitle '2020q1 compared to 2019q1' indicates that this table compares the FTE in the first quarter of 2020 with FTE in the first quarter of 2019
Source: NSSO, own calculations

(b) 2020q2 compared to 2019q2

Nace 2	Industry	% △ FTE	FTE 2020	FTE 2019
55	Accommodation	−74.41	14 229.72	16 184.47
56	Food and beverage service activities	−71.10	58 774.61	67 788.10
51	Air transport	−67.86	5382.06	5422.14
92	Gambling and betting activities	−62.10	2037.05	2229.24
15	Manufacture of leather and related products	−61.93	867.65	965.09
79	Travel agency, tour operator and other reservation service and related activities	−56.97	5541.75	6266.81
93	Sports activities and amusement and recreation activities	−53.58	11 913.70	12 891.17
96	Other personal service activities	−45.61	15 693.57	17 745.89
59	Motion picture, video and television programme production, sound recording and music publishing activities	−43.21	4359.09	4686.68
90	Creative, arts and entertainment activities	−40.63	11 232.16	11 831.77

Source: NSSO, own calculations

(c) 2020q3 compared to 2019q3

Nace 2	Industry	% △ FTE	FTE 2020	FTE 2019
79	Travel agency, tour operator and other reservation service and related activities	−40.74	5541.75	6266.81
51	Air transport	−39.14	5382.06	5422.14
55	Accommodation	−33.00	14 229.72	16 184.47
15	Manufacture of leather and related products	−31.90	867.65	965.09
9	Mining support service activities	−31.47	32.51	44.70
30	Manufacture of other transport equipment	−26.96	5168.88	5679.27
56	Food and beverage service activities	−20.78	58 774.61	67 788.10
7	Mining of metal ores	−16.94	3.96	3.80
90	Creative, arts and entertainment activities	−16.03	11 232.16	11 831.77
18	Printing and reproduction of recorded media	−15.12	7929.38	8762.21

Source: NSSO, own calculations

(d) 2020q4 compared to 2019q4

Nace 2	Industry	% △ FTE	FTE 2020	FTE 2019
56	Food and beverage service activities	−57.02	58 774.61	67 788.10
55	Accommodation	−55.07	14 229.72	16 184.47
79	Travel agency, tour operator and other reservation service and related activities	−43.75	5541.75	6266.81
51	Air transport	−42.15	5382.06	5422.14
15	Manufacture of leather and related products	−41.26	867.65	965.09
92	Gambling and betting activities	−40.56	2037.05	2229.24
96	Other personal service activities	−40.11	15 693.57	17 745.89
93	Sports activities and amusement and recreation activities	−31.89	11 913.70	12 891.17
9	Mining support service activities	−25.31	32.51	44.70
90	Creative, arts and entertainment activities	−23.31	11 232.16	11 831.77

Source: NSSO, own calculations

Table A2 illustrates the year-on-year decreases in FTE for each quarter of 2021. The food and beverage service activities industry still exhibits the highest decrease in the first quarter of 2021 since the third lockdown. As we move into the second quarter and half year of 2021, the declines in FTE gradually disappear in most industries, except for some industries such as fishing and aquaculture, manufacture of motor vehicles, trailers and semi-trailers, publishing activities, etc.

Table A2: Top 10 industries with the largest decline in the number of full-time equivalents (FTE), per quarter 2021.

(a) 2021q1 compared to 2020q1

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
56	Food and beverage service activities	−66.68	58 774.61	67 788.10
55	Accommodation	−62.81	14 229.72	16 184.47
92	Gambling and betting activities	−58.50	2037.05	2229.24
79	Travel agency, tour operator and other reservation service and related activities	−50.05	5541.75	6266.81
51	Air transport	−47.40	5382.06	5422.14
15	Manufacture of leather and related products	−40.75	867.65	965.09
96	Other personal service activities	−33.04	15 693.57	17 745.89
93	Sports activities and amusement and recreation activities	−32.96	11 913.70	12 891.17
7	Mining of metal ores	−29.29	3.96	3.80
90	Creative, arts and entertainment activities	−20.38	11 232.16	11 831.77

Source: NSSO, own calculations

(b) 2021q2 compared to 2020q2

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
65	Insurance, reinsurance and pension funding, except compulsory social security	−0.65	20 280.03	20 513.28
58	Publishing activities	−0.24	6698.67	7204.67
19	Manufacture of coke and refined petroleum products	0.41	3604.02	3430.78
99	Activities of extraterritorial organisations and bodies	0.82	3016.24	2992.66
1	Crop and animal production, hunting and related service activities	1.58	18 116.01	17 580.95
35	Electricity, gas, steam and air conditioning supply	1.67	17 749.23	17 399.68
64	Financial service activities, except insurance and pension funding	1.71	59 668.51	61 193.26
84	Public administration and defence; compulsory social security	2.03	173 232.61	172 350.65
60	Programming and broadcasting activities	2.04	6366.89	6540.57
36	Water collection, treatment and supply	2.09	6787.88	6725.40

Source: NSSO, own calculations

(c) 2021q3 compared to 2020q3

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
3	Fishing and aquaculture	−8.15	233.42	271.19
29	Manufacture of motor vehicles, trailers and semi-trailers	−7.27	24 355.95	27 170.76
58	Publishing activities	−7.23	6698.67	7204.67
1	Crop and animal production, hunting and related service activities	−6.67	18 116.01	17 580.95
14	Manufacture of wearing apparel	−3.32	2075.28	2341.11
95	Repair of computers and personal and household goods	−2.89	1884.97	1964.81
19	Manufacture of coke and refined petroleum products	−2.84	3604.02	3430.78
12	Manufacture of tobacco products	−2.32	896.63	944.54
8	Other mining and quarrying	−1.73	1957.09	1981.20
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	−1.35	48 042.37	52 389.85

Source: NSSO, own calculations

(d) 2021q4 compared to 2020q4

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
3	Fishing and aquaculture	−8.22	233.42	271.19
86	Human health activities	−5.57	154 037.22	155 679.64
29	Manufacture of motor vehicles, trailers and semi-trailers	−5.14	24 355.95	27 170.76
58	Publishing activities	−3.94	6698.67	7204.67
19	Manufacture of coke and refined petroleum products	−2.59	3604.02	3430.78
24	Manufacture of basic metals	−2.20	21 765.04	22 606.18
12	Manufacture of tobacco products	−1.63	896.63	944.54
64	Financial service activities, except insurance and pension funding	−1.57	59 668.51	61 193.26
65	Insurance, reinsurance and pension funding, except compulsory social security	−1.53	20 280.03	20 513.28
27	Manufacture of electrical equipment	−1.09	10 460.33	11 487.62

Source: NSSO, own calculations

Table A3 presents the top 10 industries with the highest increase in FTE for each quarter in 2021. From the second quarter onwards, there is a notable spike in accommodation, food and beverage service activities, air transport, and gambling and betting activities industries. These are precisely the industries that experienced the largest declines in 2020. However, the recovery of 2021 cannot offset the losses that occurred in 2020. These industries are still the ones that experienced the highest labour decline in comparison with the pre-pandemic period.

Table A3: Top 10 industries with the largest increase in the number of full-time equivalents (FTE), per quarter 2021.

(a) 2021q1 compared to 2020q1

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
32	Other manufacturing	10.36	6149.28	5572.02
63	Information service activities	8.77	8217.47	7554.66
9	Mining support service activities	8.15	35.16	32.51
75	Veterinary activities	6.93	1379.72	1290.29
53	Postal and courier activities	6.33	28 512.57	26 815.83
97	Activities of households as employers of domestic personnel	6.19	3153.66	2969.89
1	Crop and animal production, hunting and related service activities	5.88	19 181.99	18 116.01
43	Specialised construction activities	5.62	100 936.70	95 569.38
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	5.15	29 432.96	27 990.33
72	Scientific research and development	4.97	21 349.26	20 338.61

Source: NSSO, own calculations

(b) 2021q2 compared to 2020q2

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
55	Accommodation	109.31	9323.18	4454.18
56	Food and beverage service activities	89.93	39 231.19	20 655.59
51	Air transport	88.00	3527.25	1876.16
15	Manufacture of leather and related products	65.57	598.25	361.33
93	Sports activities and amusement and recreation activities	56.43	9936.01	6351.57
81	Services to buildings and landscape activities	51.51	104 503.82	68 976.44
59	Motion picture, video and television programme production, sound recording and music publishing activities	51.02	4150.40	2748.31
32	Other manufacturing	50.62	6248.20	4148.35
92	Gambling and betting activities	43.23	1230.33	858.99
90	Creative, arts and entertainment activities	41.33	9900.81	7005.42

Source: NSSO, own calculations

(c) 2021q3 compared to 2020q3

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
51	Air transport	33.31	4861.95	3647.10
55	Accommodation	19.67	13 997.18	11 696.75
56	Food and beverage service activities	16.31	64 863.60	55 766.33
32	Other manufacturing	15.61	6371.03	5510.71
90	Creative, arts and entertainment activities	15.58	10 766.91	9315.18
79	Travel agency, tour operator and other reservation service and related activities	15.01	4235.53	3682.59
7	Mining of metal ores	14.80	3.49	3.04
30	Manufacture of other transport equipment	13.63	4703.61	4139.49
73	Advertising and market research	12.73	10 720.58	9510.02
63	Information service activities	12.55	8524.60	7573.81

Source: NSSO, own calculations

(d) 2021q4 compared to 2020q4

Nace 2	Industry	% △ FTE	FTE 2021	FTE 2020
56	Food and beverage service activities	116.71	67 512.02	31 153.28
55	Accommodation	90.19	14 947.31	7859.12
92	Gambling and betting activities	68.69	2328.53	1380.40
96	Other personal service activities	51.38	16 429.07	10 852.76
93	Sports activities and amusement and recreation activities	45.54	13 479.74	9261.70
51	Air transport	44.60	4902.13	3390.19
79	Travel agency, tour operator and other reservation service and related activities	38.98	4583.59	3298.00
7	Mining of metal ores	28.89	4.06	3.15
90	Creative, arts and entertainment activities	28.39	12 066.80	9398.56
15	Manufacture of leather and related products	22.55	680.17	555.00

Source: NSSO, own calculations

C Granular Growth Decomposition

Table A4 and A5 list the results for the growth decomposition at the NACE 2-digit level.

Table A4: FTE/Employment Growth Decomposition by Nace 2-digit (2020 w.r.t 2019)

NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
56	Food and beverage service activities	−0.96	15.70	−0.27	61.59
78	Employment activities	−0.71	11.58	−0.56	126.15
47	Retail trade, except of motor vehicles and motorcycles	−0.64	10.46	−0.05	10.52
81	Services to buildings and landscape activities	−0.44	7.29	0.09	−20.09
46	Wholesale trade, except of motor vehicles and motorcycles	−0.40	6.52	−0.02	5.53
43	Specialised construction activities	−0.26	4.20	0.02	−4.59
55	Accommodation	−0.25	4.11	−0.06	13.57
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	−0.22	3.66	−0.01	1.91
88	Social work activities without accommodation	−0.21	3.37	0.01	−2.30
49	Land transport and transport via pipelines	−0.17	2.85	0.02	−3.87
96	Other personal service activities	−0.16	2.62	−0.03	6.53
29	Manufacture of motor vehicles, trailers and semi-trailers	−0.13	2.14	−0.02	4.88
25	Manufacture of fabricated metal products, except machinery and equipment	−0.13	2.08	−0.01	1.39
93	Sports activities and amusement and recreation activities	−0.12	1.91	−0.02	4.07
41	Construction of buildings	−0.11	1.73	−0.02	3.63
86	Human health activities	−0.09	1.43	−0.02	4.98
90	Creative, arts and entertainment activities	−0.08	1.36	0.00	0.69
79	Travel agency, tour operator and other reservation service and related activities	−0.08	1.27	−0.01	3.33
51	Air transport	−0.07	1.20	−0.01	2.60
24	Manufacture of basic metals	−0.07	1.16	−0.02	3.63
52	Warehousing and support activities for transportation	−0.07	1.14	0.00	−0.96
10	Manufacture of food products	−0.06	1.06	0.02	−4.30
28	Manufacture of machinery and equipment n.e.c.	−0.06	1.05	−0.01	2.38
13	Manufacture of textiles	−0.06	0.98	−0.01	2.54
64	Financial service activities, except insurance and pension funding	−0.06	0.94	−0.03	7.64
73	Advertising and market research	−0.06	0.90	−0.01	2.62
18	Printing and reproduction of recorded media	−0.05	0.80	−0.02	3.84
82	Office administrative, office support and other business support activities	−0.05	0.75	0.01	−2.45

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NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
30	Manufacture of other transport equipment	−0.05	0.75	0.00	0.89
27	Manufacture of electrical equipment	−0.05	0.74	−0.02	5.46
42	Civil engineering	−0.04	0.71	0.01	−1.20
23	Manufacture of other non-metallic mineral products	−0.04	0.65	0.00	−0.82
70	Activities of head offices; management consultancy activities	−0.04	0.65	0.03	−5.82
61	Telecommunications	−0.04	0.63	−0.04	9.03
77	Rental and leasing activities	−0.04	0.61	0.00	−0.35
33	Repair and installation of machinery and equipment	−0.04	0.58	−0.01	2.30
31	Manufacture of furniture	−0.03	0.54	−0.01	2.12
68	Real estate activities	−0.03	0.52	0.01	−2.35
22	Manufacture of rubber and plastic products	−0.03	0.51	0.00	0.04
59	Motion picture, video and television programme production, sound recording and music publishing activities	−0.03	0.49	0.00	1.02
94	Activities of membership organisations	−0.03	0.49	0.00	0.23
80	Security and investigation activities	−0.03	0.47	0.01	−2.07
58	Publishing activities	−0.02	0.40	−0.01	2.24
26	Manufacture of computer, electronic and optical products	−0.02	0.38	0.00	0.22
92	Gambling and betting activities	−0.02	0.36	0.00	0.22
32	Other manufacturing	−0.02	0.33	0.00	−0.48
11	Manufacture of beverages	−0.02	0.31	0.00	−0.84
91	Libraries, archives, museums and other cultural activities	−0.02	0.30	0.00	0.58
74	Other professional, scientific and technical activities	−0.02	0.28	0.00	−0.52
17	Manufacture of paper and paper products	−0.02	0.27	0.00	0.74
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	−0.02	0.27	0.00	0.19
69	Legal and accounting activities	−0.02	0.25	0.02	−4.74
14	Manufacture of wearing apparel	−0.02	0.25	−0.01	1.27
66	Activities auxiliary to financial services and insurance activities	−0.01	0.24	0.01	−3.14
20	Manufacture of chemicals and chemical products	−0.01	0.22	0.01	−1.24
71	Architectural and engineering activities; technical testing and analysis	−0.01	0.22	0.05	−11.02
15	Manufacture of leather and related products	−0.01	0.19	0.00	0.65

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NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
95	Repair of computers and personal and household goods	−0.01	0.13	0.00	0.30
65	Insurance, reinsurance and pension funding, except compulsory social security	−0.01	0.13	−0.01	1.95
60	Programming and broadcasting activities	−0.01	0.10	0.00	0.90
37	Sewerage	0.00	0.08	0.00	0.77
8	Other mining and quarrying	0.00	0.06	0.00	0.20
50	Water transport	0.00	0.04	0.00	0.05
38	Waste collection, treatment and disposal activities; materials recovery	0.00	0.04	0.01	−2.84
3	Fishing and aquaculture	0.00	0.02	0.00	0.11
12	Manufacture of tobacco products	0.00	0.02	0.00	0.19
2	Forestry and logging	0.00	0.01	0.00	−0.07
9	Mining support service activities	0.00	0.01	0.00	0.11
39	Remediation activities and other waste management services	0.00	0.01	0.00	−0.30
7	Mining of metal ores	0.00	0.00	6.89	0.00
99	Activities of extraterritorial organisations and bodies	0.00	−0.01	0.00	−0.32
75	Veterinary activities	0.00	−0.04	0.00	−0.96
19	Manufacture of coke and refined petroleum products	0.00	−0.05	0.00	−0.41
97	Activities of households as employers of domestic personnel	0.00	−0.06	0.00	−0.47
63	Information service activities	0.01	−0.08	0.01	−2.22
36	Water collection, treatment and supply	0.01	−0.10	0.01	−1.23
35	Electricity, gas, steam and air conditioning supply	0.01	−0.12	0.01	−1.67
53	Postal and courier activities	0.02	−0.29	0.03	−6.55
62	Computer programming, consultancy and related activities	0.03	−0.45	0.08	−17.46
1	Crop and animal production, hunting and related service activities	0.03	−0.52	0.03	−6.61
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	0.03	−0.54	0.04	−7.91
84	Public administration and defence; compulsory social security	0.03	−0.54	0.02	−4.25
72	Scientific research and development	0.04	−0.58	0.03	−7.84
87	Residential care activities	0.05	−0.82	0.09	−19.93
85	Education	0.20	−3.25	0.23	−51.62

Note: "abs. FTE" refers to the contribution to the aggregate change in FTE, while "rel. FTE" indicates the percentage contribution to the aggregate FTE change; analogue for employment.

Source: NSSO, own calculations

Table A5: FTE/Employment Growth Decomposition by Nace 2-digit (2021 w.r.t 2020)

NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
78	Employment activities	0.61	11.38	0.43	25.59
47	Retail trade, except of motor vehicles and motorcycles	0.57	10.55	0.12	6.83
85	Education	0.50	9.35	0.34	20.36
81	Services to buildings and landscape activities	0.43	7.99	0.10	6.20
43	Specialised construction activities	0.29	5.47	0.09	5.09
46	Wholesale trade, except of motor vehicles and motorcycles	0.23	4.32	−0.01	−0.51
56	Food and beverage service activities	0.22	4.06	−0.03	−1.74
62	Computer programming, consultancy and related activities	0.19	3.59	0.13	7.58
88	Social work activities without accommodation	0.19	3.57	0.03	1.71
49	Land transport and transport via pipelines	0.14	2.64	0.03	2.00
45	Wholesale and retail trade and repair of motor vehicles and motorcycles	0.13	2.45	−0.03	−1.57
71	Architectural and engineering activities; technical testing and analysis	0.11	1.98	0.05	2.90
84	Public administration and defence; compulsory social security	0.11	1.98	0.07	3.89
10	Manufacture of food products	0.09	1.76	0.05	2.85
52	Warehousing and support activities for transportation	0.09	1.76	0.05	3.06
25	Manufacture of fabricated metal products, except machinery and equipment	0.09	1.66	0.00	0.15
82	Office administrative, office support and other business support activities	0.08	1.41	0.04	2.59
70	Activities of head offices; management consultancy activities	0.07	1.26	0.02	1.22
87	Residential care activities	0.07	1.21	0.06	3.65
41	Construction of buildings	0.06	1.10	−0.01	−0.73
28	Manufacture of machinery and equipment n.e.c.	0.06	1.10	0.01	0.83
69	Legal and accounting activities	0.05	1.02	0.02	1.08
42	Civil engineering	0.05	0.88	0.01	0.62
55	Accommodation	0.05	0.87	−0.01	−0.39
53	Postal and courier activities	0.04	0.83	0.04	2.18
72	Scientific research and development	0.04	0.83	0.03	2.04
93	Sports activities and amusement and recreation activities	0.04	0.78	0.00	0.22
94	Activities of membership organisations	0.04	0.78	0.02	0.99
33	Repair and installation of machinery and equipment	0.04	0.78	0.03	1.57

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NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
90	Creative, arts and entertainment activities	0.04	0.77	0.02	1.06
23	Manufacture of other non-metallic mineral products	0.04	0.77	0.01	0.32
68	Real estate activities	0.04	0.76	0.01	0.58
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	0.04	0.76	0.03	2.03
96	Other personal service activities	0.04	0.68	−0.01	−0.85
73	Advertising and market research	0.04	0.68	0.01	0.86
66	Activities auxiliary to financial services and insurance activities	0.04	0.67	0.01	0.53
32	Other manufacturing	0.03	0.64	0.01	0.87
63	Information service activities	0.03	0.62	0.02	1.40
13	Manufacture of textiles	0.03	0.59	−0.01	−0.45
22	Manufacture of rubber and plastic products	0.03	0.49	0.00	0.20
20	Manufacture of chemicals and chemical products	0.03	0.47	0.01	0.79
24	Manufacture of basic metals	0.03	0.47	−0.02	−0.94
31	Manufacture of furniture	0.02	0.37	0.00	0.04
77	Rental and leasing activities	0.02	0.36	0.00	−0.05
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	0.02	0.31	0.00	0.24
51	Air transport	0.02	0.30	−0.02	−0.91
38	Waste collection, treatment and disposal activities; materials recovery	0.02	0.29	0.01	0.32
59	Motion picture, video and television programme production, sound recording and music publishing activities	0.02	0.28	0.00	0.22
86	Human health activities	0.01	0.25	−0.04	−2.53
80	Security and investigation activities	0.01	0.25	0.00	0.07
27	Manufacture of electrical equipment	0.01	0.24	0.00	−0.06
30	Manufacture of other transport equipment	0.01	0.24	−0.01	−0.47
29	Manufacture of motor vehicles, trailers and semi-trailers	0.01	0.19	−0.02	−1.00
61	Telecommunications	0.01	0.16	0.01	0.44
91	Libraries, archives, museums and other cultural activities	0.01	0.16	0.00	−0.02
26	Manufacture of computer, electronic and optical products	0.01	0.16	−0.01	−0.35
1	Crop and animal production, hunting and related service activities	0.01	0.15	0.03	1.70
11	Manufacture of beverages	0.01	0.15	0.00	−0.17

(Continued on the next page)

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NACE 2	NACE Description	abs. FTE	rel. FTE	abs. Emp	rel. Emp
97	Activities of households as employers of domestic personnel	0.01	0.14	0.01	0.31
74	Other professional, scientific and technical activities	0.01	0.12	0.00	−0.21
18	Printing and reproduction of recorded media	0.01	0.10	−0.01	−0.48
36	Water collection, treatment and supply	0.01	0.10	0.00	0.19
35	Electricity, gas, steam and air conditioning supply	0.01	0.09	0.00	0.13
75	Veterinary activities	0.00	0.09	0.00	0.18
37	Sewerage	0.00	0.08	0.00	0.16
39	Remediation activities and other waste management services	0.00	0.06	0.00	0.05
17	Manufacture of paper and paper products	0.00	0.05	−0.01	−0.32
92	Gambling and betting activities	0.00	0.04	0.00	0.10
50	Water transport	0.00	0.03	0.00	0.01
60	Programming and broadcasting activities	0.00	0.03	0.00	0.04
2	Forestry and logging	0.00	0.02	0.00	0.04
8	Other mining and quarrying	0.00	0.02	0.00	−0.03
99	Activities of extraterritorial organisations and bodies	0.00	0.02	0.00	0.02
14	Manufacture of wearing apparel	0.00	0.01	0.00	−0.22
15	Manufacture of leather and related products	0.00	0.01	0.00	−0.23
12	Manufacture of tobacco products	0.00	0.00	0.00	−0.02
95	Repair of computers and personal and household goods	0.00	0.00	0.00	−0.14
9	Mining support service activities	0.00	0.00	0.00	0.00
7	Mining of metal ores	3.00	0.00	0.00	0.00
3	Fishing and aquaculture	0.00	−0.01	0.00	0.04
19	Manufacture of coke and refined petroleum products	0.00	−0.02	0.00	−0.08
79	Travel agency, tour operator and other reservation service and related activities	0.00	−0.05	−0.01	−0.74
65	Insurance, reinsurance and pension funding, except compulsory social security	−0.01	−0.12	−0.01	−0.47
64	Financial service activities, except insurance and pension funding	−0.01	−0.16	−0.02	−1.39
58	Publishing activities	−0.01	−0.24	−0.02	−1.09

Source: NSSO, own calculations