GCP Employment Update November 2020

CBR's final report to the Greater Cambridge Partnership

Highlights:

Overview

- The current business environment makes it important to have timely data on employment changes. This update covers accounting year ends between 30th November 2019 and 31st May 2020 (on average the year through December 2019).

- Although this period has been largely unaffected by the Covid-19 pandemic, it sets the scene for the updates in February, June and October 2021.

- We find that corporate employment in the GCP area grew by 4.3% in 2019-20, a satisfactory growth but somewhat less than 5.6% achieved in 2018-19. However, there is variation in these growth rates across both industry sectors and firm sizes.

Sectors

- 'Life science and healthcare' (+13.3%), 'Manufacturing' (+11.6%), 'Information technology and telecoms' (+8.9%) and 'Construction and utilities' (+5.9%) have been the fastest growing sectors during 2019-20.

- The largest fall in employment has occurred in 'Transport and travel' (-6.1%). Other sectors that have seen a decline in employment are 'Education, arts, charities, social care' (-0.8%), 'High-tech manufacturing' (-0.5%) and 'Other business services' (-0.4%).

- Employment growth has been faster in KI sectors (+8.2%) than in non-KI sectors (+1.5%).

- 'Life science and healthcare', 'Manufacturing' and 'Construction and utilities' have seen employment growth accelerating somewhat significantly during 2019-20.

- The sectors with the poorest performance relative to 2018-19 are 'Transport and travel' and 'Education, arts, charities, social care'.

Size groups

- One person businesses grew by 7% in the latest year, faster than the 4% achieved by the other size groups. However, their small size means that they played a minor role in employment growth – only 300 extra employees compared with the addition of 4,275 employees by other businesses.

- Whilst 1 employee businesses tend to have been the fastest growing companies in sectors such as ‘High-tech manufacturing’ and ‘Construction and utilities’, 2-9 employee businesses exhibit relatively high growth rates in ‘Life science and healthcare’ and ‘Knowledge intensive services’. Companies with 10+ employees have achieved particularly fast growth in ‘Manufacturing’ and ‘Life science and healthcare’.

- Employment growth at 1-9 employee businesses has accelerated during 2019-20, driven primarily by KI sectors.

- Conversely, employment growth at 10+ employee businesses has slowed down in the most recent year in both KI and, particularly, non-KI sectors.

- Employment change to 2019-20 at 1-9 employee businesses has been more than three times higher than the employment change to 2018-19. The increase in employment change has been particularly high for KI sectors.

- On the contrary, employment change to 2019-20 has been lower than employment change to 2018-19 for businesses with 10+ employees.

Stop press

- We provide a snapshot of the impact of events in 2020 by considering a small sample of companies with accounts having a modal year end in May (compared with December 2019 for the update sample). Their results show the impact of the first few months of Covid.

- We find a significant reduction in the performance of these companies compared with the previous year. The impact on turnover is greater than the impact on employment, reflecting the benefits of the furlough scheme.

- The impact of Covid is not even across companies. We cannot be sure about the true picture until the update in February 2021, but it would appear that certain life sciences and software companies have done well, but business services and hospitality companies have been severely affected.

1. Tracking GCP corporate employment – The November update

The Centre for Business Research (CBR) at Cambridge University has developed three methods for tracking the employment of companies based in the wider Cambridge region (for further details see Appendix A4).

The first is the **annual draw** of all companies within the region. It is comprehensive and also examines company births and deaths along with company location changes. This gold standard work does suffer from being less timely. It is published at the end of January and examines employment in the accounting years ending from 6th April 2019 to 5th April 2020. Since December and, to a lesser extent, March dominate companies' choice of year ends, the modal year end is early December 2019. For comparison, the ONS Business Register and Employment Survey (BRES) provisional employment data recently published has September 2019 as its latest information (and we will have to wait another year before these are confirmed as final).

The second method involves an **update** achieved by sampling the annual corporate database in May, August and November. On each occasion a large sample is drawn (about 30%) of companies that have reported in recent months. This brings more timely information about what is happening to employment and turnover, but does not take account of births and deaths or location changes. For example, this November 2020 update has a modal year end of December 2019 and includes only little impact of the Covid-19 pandemic. A sample of this size, with good coverage of all sectors and company sizes, will give a very accurate picture of what is happening to continuing businesses in the region.

The third method is more timely and provides a **snapshot**, but draws on a very small sample and should be regarded as merely indicative. It considers only the largest businesses (top 100 by employment or turnover) and examines those that have filed interim, or annual, accounts within the last six months. For the November update this covers accounts with years ending between the end of March and the end of June, including some Covid impact. However, it looks only at the largest businesses and the sector coverage may not be representative.

The remainder of this report is structured as follows. Section 2 presents the results of the November 2020 update, drawing on a set of charts that we developed specifically for this study. The section examines growth of Greater Cambridge based companies by area, industry sector and firm size. Section 3 complements the findings from Section 2 by discussing the results of the November 2020 snapshot, while Section 4 offers some concluding remarks. Appendices A1-A3 provide a summary of employment growth rates by sector for Greater Cambridge as a whole, as well as for Cambridge and South Cambridgeshire separately. Appendix A4 explains the methodology underpinning the GCP Employment Update.

2. Update November 2020 results

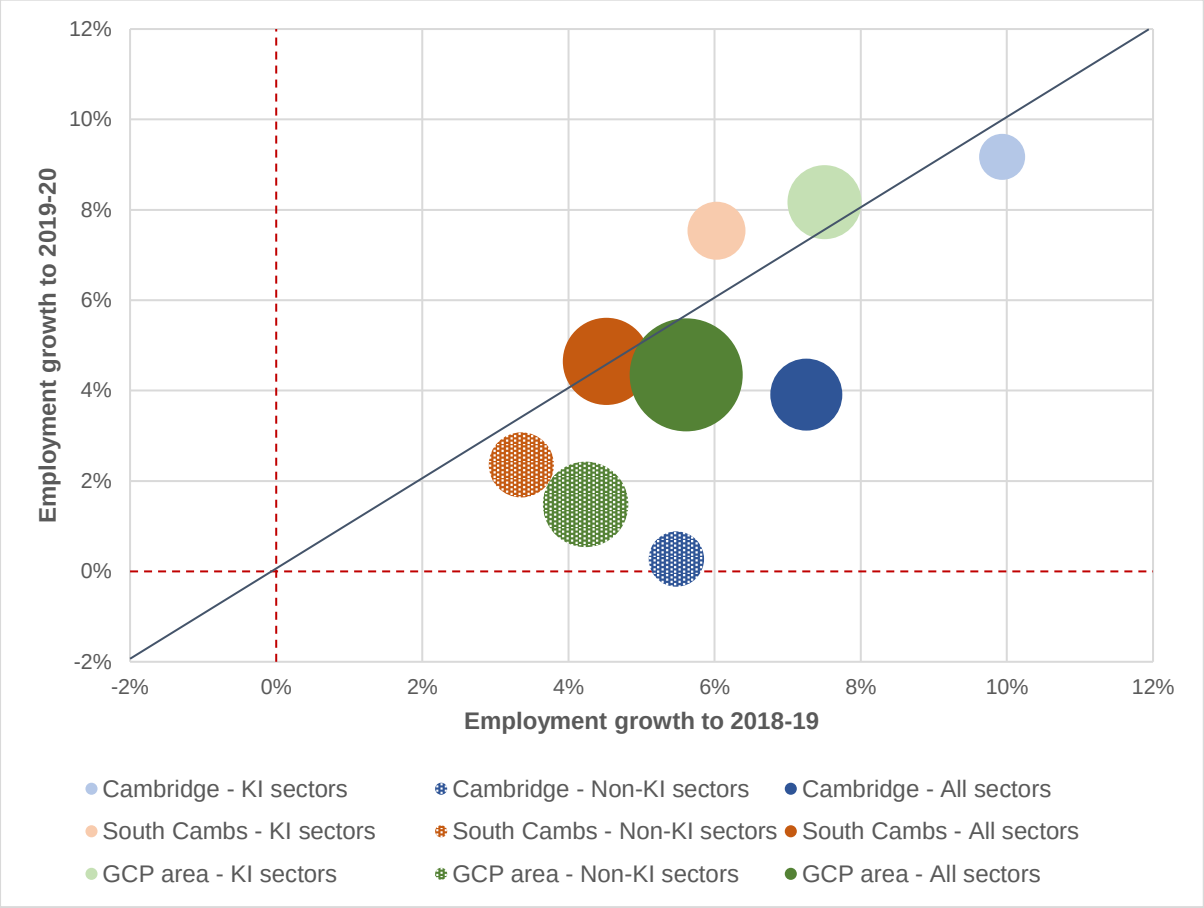
In this section, we present the results of our November 2020 update, the first of a series of updates aimed at providing a timely picture of the performance of the Greater Cambridge corporate economy.

2.1. Analysis by area

Figure 1 depicts employment growth in KI and non-KI sectors during 2018-19 (horizontal axis) and 2019-20 (vertical axis) by area. The position of the area marker relative to the 45˚ line indicates whether a given area has grown more or less fast than last year. This chart allows to compare the performance of each area over time and, in future updates, to identify those

areas most impacted by the Covid-19 pandemic. A summary of employment growth rates by sector for each area is reported in Appendices A1-A3.

Figure 1 One-year employment growth by area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale.
Source: Cosh & Caselli, CBR.

Figure 1 portrays a picture of continued but lower employment growth in the GCP area during 2019-20. Growth in the area has slowed down from 5.6% in 2018-19 to 4.3% in 2019-20. This result is consistent with the total employment growth rate of 4.4% for the GCP area that is reported by the latest BRES release, which has a reference date of 13th September 2019.

Our data show that this slowdown in total employment growth in the area is due primarily to a poorer performance of non-KI sectors during the latest year compared with one year earlier. Whilst employment growth in KI sectors has been slightly higher in 2019-20 than in 2018-19 (8.2% and 7.5%, respectively), non-KI sectors have seen employment growth declining from 4.2% in 2018-19 to 1.5% in 2019-20. In each of the areas, the bubble that reflects all sectors is the largest among the three bubbles, while the bubble that identifies KI sectors tends to be to the right of the bubble for non-KI sectors – suggesting that KI sectors have been growing faster than non-KI sectors.

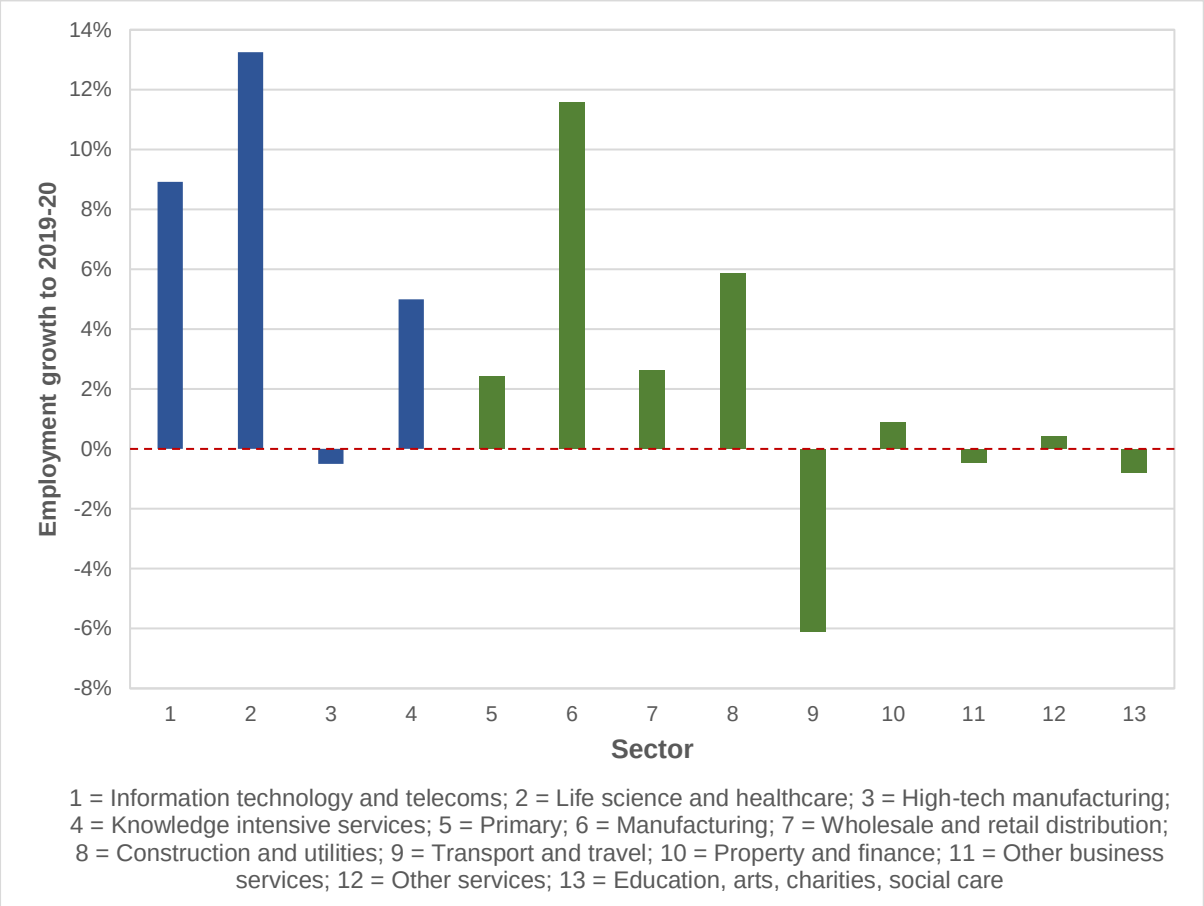
The results point to some important differences between Cambridge and South Cambridgeshire. Employment growth in Cambridge has slowed down from 7.3% in 2018-19 to 3.9% in 2019-20, following a decline in employment in non-KI sectors. In turn, South Cambridgeshire has achieved virtually the same growth rate in 2018-19 and 2019-20 (4.5% and 4.6%, respectively), driven by faster growth in KI sectors that has offset the lower growth

in non-KI sectors. This robust performance of the South Cambridgeshire's KI economy has resulted in a higher employment growth in KI sectors for the GCP area as a whole during the latest year compared with one year earlier.

2.2. Analysis by sector

Figure 2 compares the 13 industry sectors used in the analysis based on their employment growth during 2019-20 (on average the year to December 2019), the latest year covered with this work.

Figure 2 One-year employment growth to 2019-20 by sector in the GCP area



Source: Cosh & Caselli, CBR.

'Life science and healthcare' (+13.3%), 'Manufacturing' (+11.6%), 'Information technology and telecoms' (+8.9%) and 'Construction and utilities' (+5.9%) have been the fastest growing sectors during 2019-20.

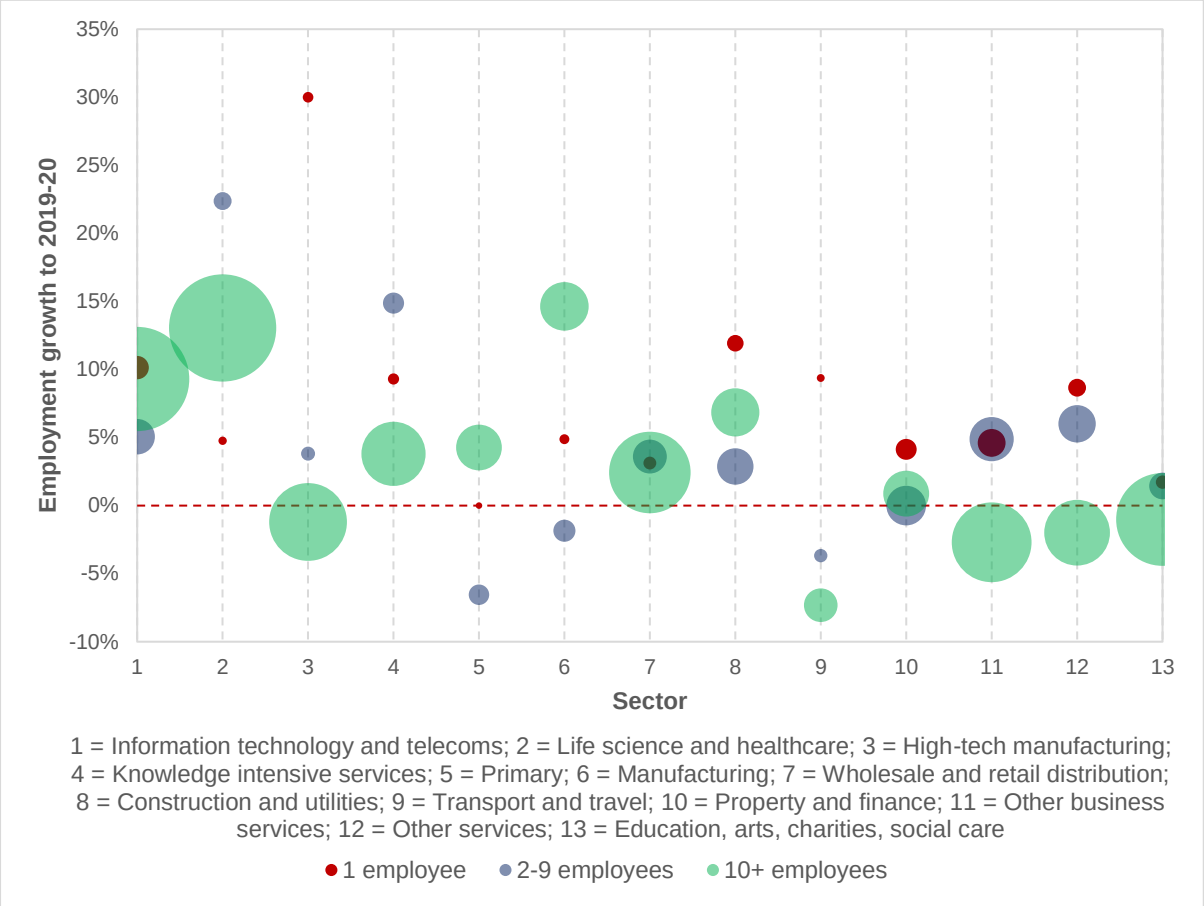
The largest fall in employment has occurred in 'Transport and travel' (-6.1%). The decline in 'Transport and travel' is associated with the decline in business travel and school coaches due to the start of the Covid-19 pandemic. Other sectors that have seen a decline in employment are 'Education, arts, charities, social care' (-0.8%), 'High-tech manufacturing' (-0.5%) and 'Other business services' (-0.4%).[1]

[1] We find that the decline in 'High-tech manufacturing' is associated with the loss of employment at a few companies (e.g. Xaar). The high-tech manufacturing companies reported in Figure 2 and subsequent figures represent those not in 'Life science and healthcare' or 'Information technology and telecoms'. The best time to look at the full picture is at the end of January 2021, when we report on the

Employment growth has been faster in KI sectors (+8.2%) than in non-KI sectors (+1.5%).

Figure 3 expands on the results from Figure 2 presented above by providing a breakdown of employment growth between 2018-19 and 2019-20 by both industry sector and firm size. Companies were assigned to three size classes: 1 employee; 2-9 employees; 10+ employees.

Figure 3 One-year employment growth to 2019-20 by sector and firm size in the GCP area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale.
Source: Cosh & Caselli, CBR.

The results from Figure 2 pointed to 'Life science and healthcare', 'Manufacturing', 'Information technology and telecoms' and 'Construction and utilities' as the fastest growing sectors during 2019-20. Figure 3 qualifies these results by suggesting that there is variation in employment growth rates across both industry sectors and firm sizes.

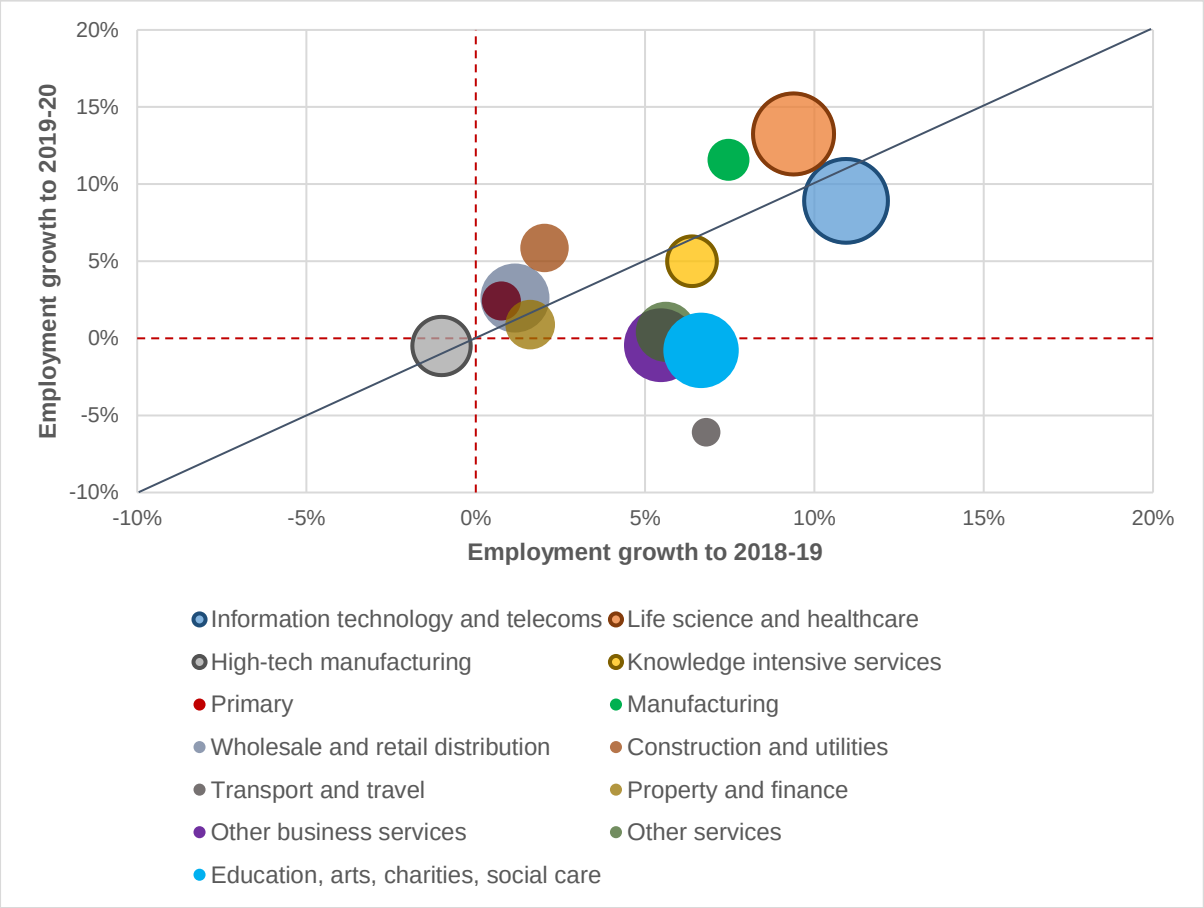
Whilst 1 employee businesses tend to have been the fastest growing companies in sectors such as 'High-tech manufacturing' and 'Construction and utilities', 2-9 employee businesses exhibit relatively high growth rates in 'Life science and healthcare' and 'Knowledge intensive services'. However, the relatively small size of their bubbles shows that their impact on total employment growth is somewhat limited.

results of the annual draw and provide results for seventy-nine subsectors alongside the thirteen sectors examined in this report. However, it must be noted that our findings for 'High-tech manufacturing' are in line with BRES data over the past couple of years.

In turn, 10+ employee businesses have achieved particularly fast growth in 'Manufacturing' and 'Life science and healthcare'. The group of 10+ employee businesses tends to dominate employment growth given its large aggregate size. These businesses appear to be significant contributors to the decline in employment observed in 'Transport and travel', 'Education, arts, charities, social care', 'High-tech manufacturing' and 'Other business services'.

Figure 4 compares the 13 industry sectors according to their employment growth to 2018-19 (horizontal axis) and their employment growth to 2019-20 (vertical axis). The position of the sector marker relative to the 45° line shows whether the sector has grown more or less fast than last year. This chart allows to compare the performance of sectors over time and, in future updates, to identify those sectors most impacted by the Covid-19 pandemic.

Figure 4 One-year employment growth by sector in the GCP area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale. Bubbles with an outline identify KI sectors.
Source: Cosh & Caselli, CBR.

'Life science and healthcare', 'Manufacturing' and 'Construction and utilities' have seen employment growth accelerating somewhat significantly during 2019-20. For example, employment growth in 'Life science and healthcare' has reached 13.3% in 2019-20 compared with 9.4% in 2018-19. Other sectors that have achieved higher growth in the most recent year compared with one year earlier are 'Primary' and 'Wholesale and retail distribution'.

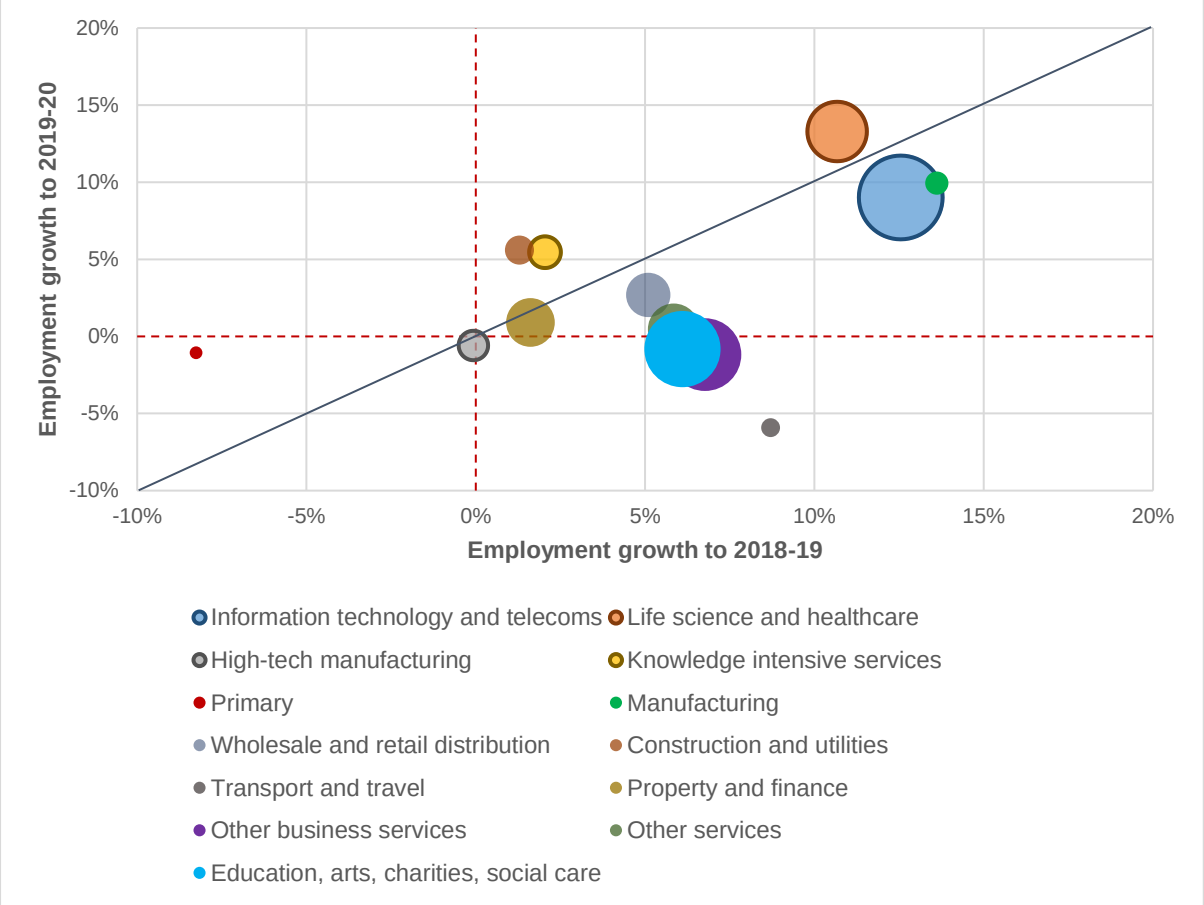
The sectors with the poorest performance relative to 2018-19 are 'Transport and travel' and 'Education, arts, charities, social care'. For example, employment growth in 'Transport and travel' has turned negative in 2019-20 (-6.1%) – a considerable slowdown relative to one year

earlier (+6.8%). The decline in 'Transport and travel' is associated with the decline in business travel and school coaches due to the Covid-19 outbreak.

Employment growth has also slowed down in 'Information technology and telecoms', reaching 8.9% in 2019-20 compared with 10.9% in 2018-19.

Figure 5 compares the 13 industry sectors based on their employment growth to 2018-19 (horizontal axis) and their employment growth to 2019-20 (vertical axis), this time focusing on Cambridge. The position of the sector marker relative to the 45˚ line shows whether the sector has grown more or less fast than last year. This chart allows to compare the performance of sectors over time and, in future updates, to identify those sectors most impacted by the Covid-19 pandemic.

Figure 5 One-year employment growth by sector in Cambridge



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale. Bubbles with an outline identify KI sectors.
Source: Cosh & Caselli, CBR.

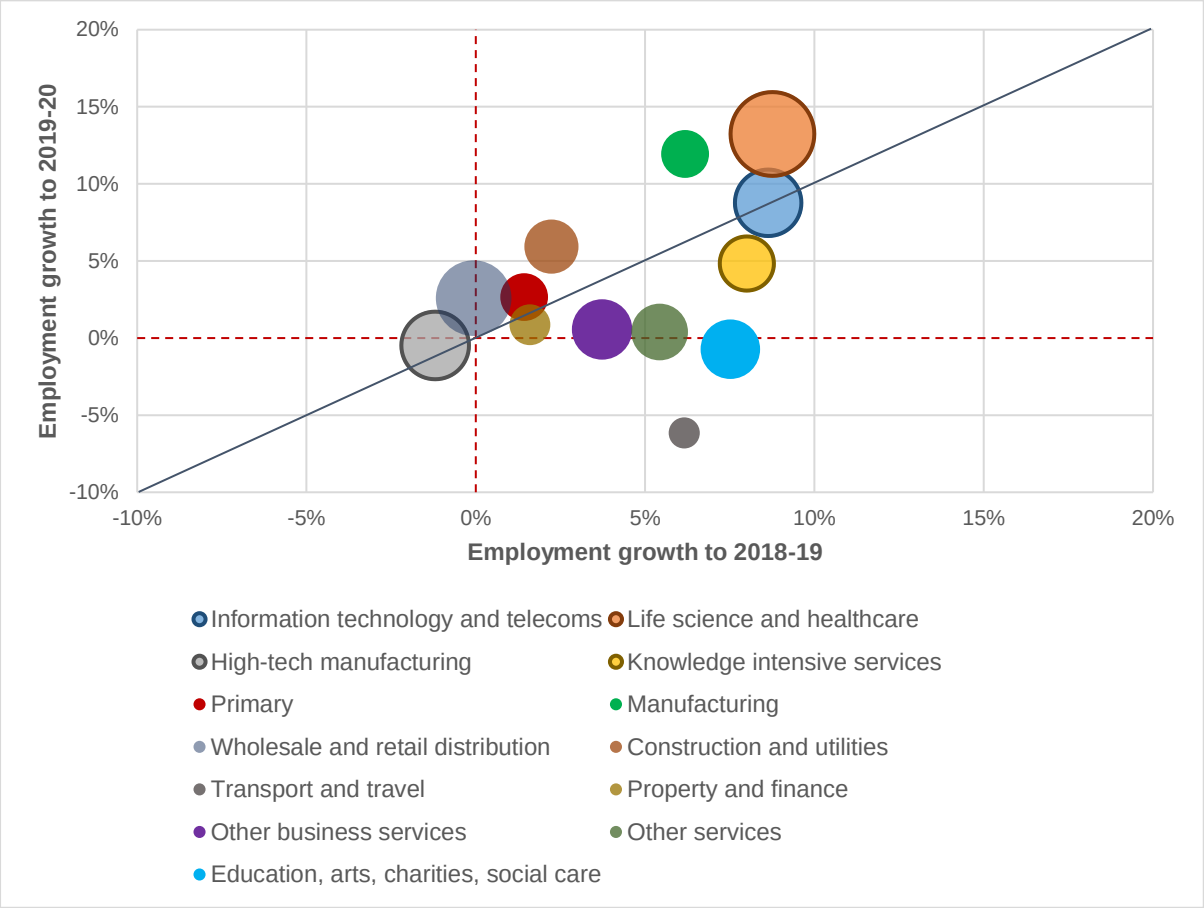
Except for 'High-tech manufacturing', which has witnessed a slight decrease in employment over time, KI sectors in Cambridge have shown a robust performance during 2018-19 and 2019-20. Employment growth has accelerated in 'Life science and healthcare' and 'Knowledge intensive services'. It has also remained high, although somewhat lower in the latest year relative to one year earlier, in 'Information technology and telecoms' (9.0% and 12.5%, respectively).

Among non-KI sectors, 'Construction and utilities' is the only sector that has seen employment growth accelerating during 2019-20, although growth has been high also in 'Manufacturing'.

Conversely, we find evidence of a considerable slowdown in employment growth in 'Transport and travel' (-5.9% in 2019-20 compared with 8.7% in 2018-19), 'Other business services' (-1.2% and 6.8%, respectively) and 'Education, arts, charities, social care' (-0.8% and 6.1%, respectively).

Figure 6 focuses on South Cambridgeshire and compares the 13 industry sectors based on their employment growth to 2018-19 (horizontal axis) and their employment growth to 2019-20 (vertical axis). The position of the sector marker relative to the 45˚ line shows whether the sector has grown more or less fast than last year. This chart allows to compare the performance of sectors over time and, in future updates, to identify those sectors most impacted by the Covid-19 pandemic.

Figure 6 One-year employment growth by sector in South Cambridgeshire



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale. Bubbles with an outline identify KI sectors.
Source: Cosh & Caselli, CBR.

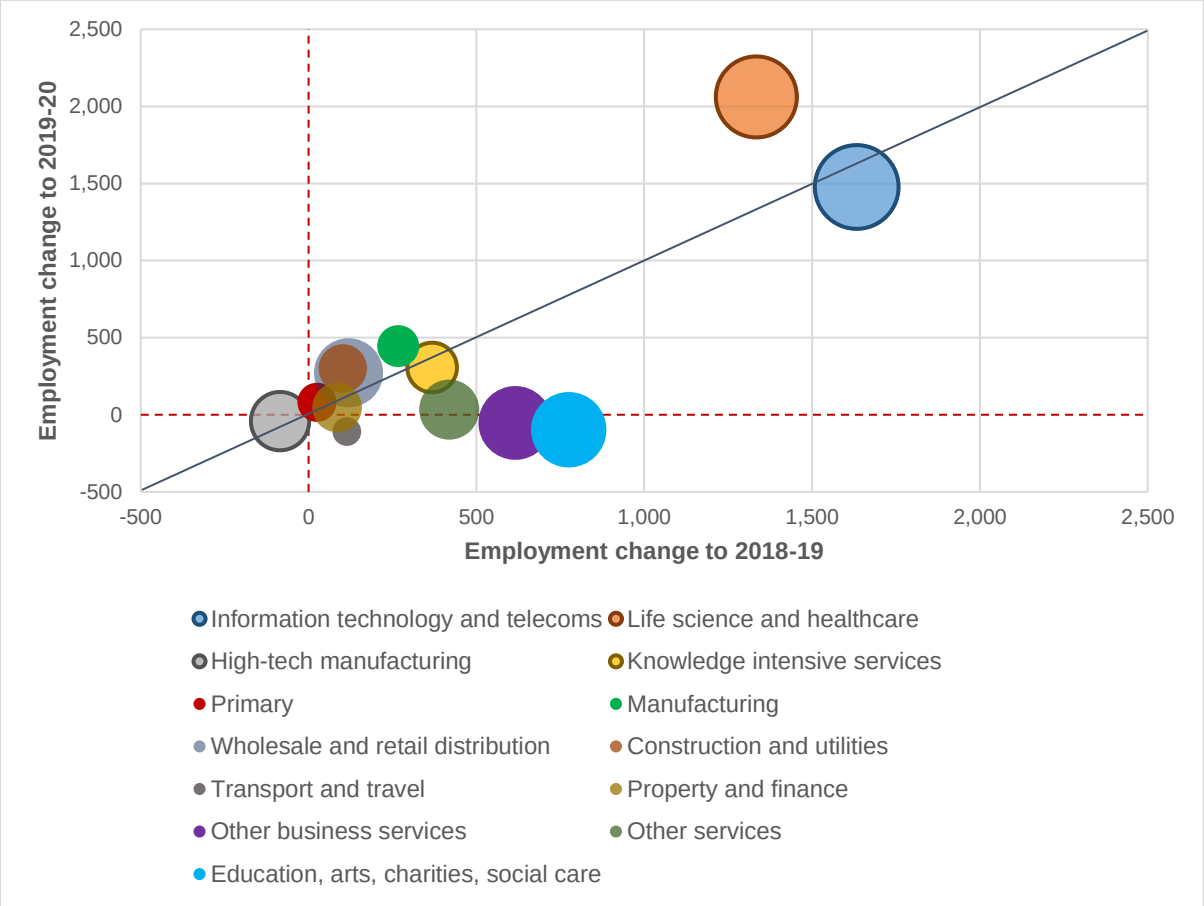
The results from Figure 6 provide a picture of a vibrant KI economy in South Cambridgeshire, particularly in 'Life science and healthcare' and 'Information technology and telecoms'. Employment growth in 'Life science and healthcare' has gone up from 8.8% in 2018-19 to 13.2% in 2019-20. Whilst employment growth in 'Information technology and telecoms' has slowed down in Cambridge during the latest year, South Cambridgeshire has enjoyed a slight increase in employment growth in the sector.

Four out of nine non-KI sectors have seen employment growth accelerating in 2019-20, with the largest differences found for 'Manufacturing' (11.9% in the latest year compared with 6.2% one year earlier) and 'Construction and utilities' (5.9% and 2.2%, respectively).

On the contrary, employment growth during 2019-20 has declined somewhat markedly in 'Transport and travel' and 'Education, arts, charities, social care', in line with our findings for Cambridge.

Figure 7 offers another comparison of the 13 industry sectors, this time looking at their employment change (rather than their employment growth) during 2018-19 (horizontal axis) and 2019-20 (vertical axis). The position of the sector marker relative to the 45˚ line indicates whether employment change in the sector has been higher or lower than last year. Similar to Figures 4-6, this chart allows to compare the performance of sectors over time and, in future updates, to identify those sectors most affected by the Covid-19 pandemic.

Figure 7 One-year employment change by sector in the GCP area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale. Bubbles with an outline identify KI sectors.
Source: Cosh & Caselli, CBR.

The findings from Figure 7 largely confirm those from Figure 4.

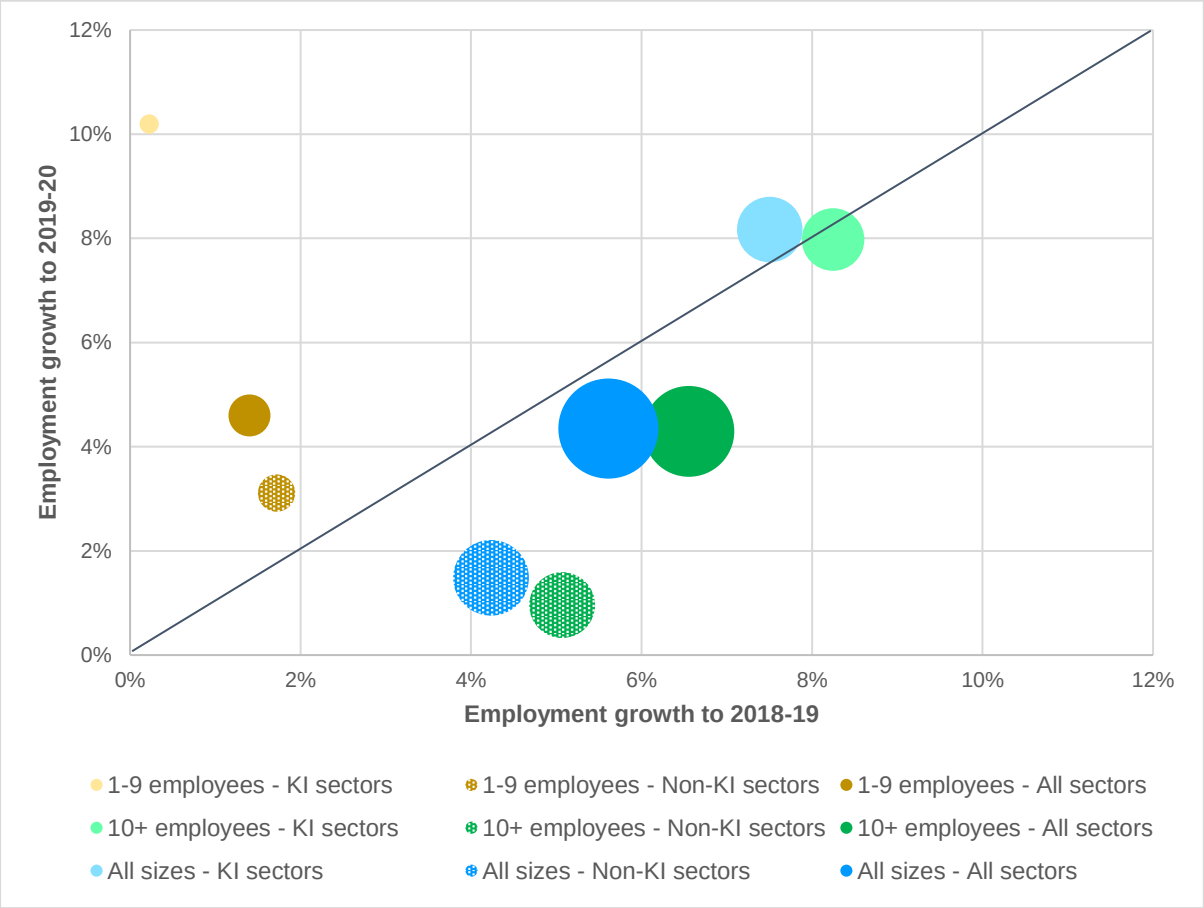
Employment change to 2019-20 has been significantly higher than employment change to 2018-19 in 'Life science and healthcare', 'Manufacturing' and 'Construction and utilities'. The largest employment change to 2019-20 is found in 'Life science and healthcare' (+2,061 compared with +1,334 one year earlier).

'Transport and travel' and 'Education, arts, charities, social care' have witnessed the largest drop in employment between 2018-19 and 2019-20 among all sectors. Another sector that has performed poorly compared with one year earlier is 'Other business services' (-53 and +616, respectively).

2.3. Analysis by firm size

Figure 8 shows employment growth in KI and non-KI sectors during 2018-19 (horizontal axis) and 2019-20 (vertical axis) by firm size. The position of the size marker relative to the 45˚ line indicates whether the size class has grown more or less fast than last year. This chart allows to compare the performance of size classes over time and, in future updates, to identify those size classes most impacted by the Covid-19 pandemic.

Figure 8 One-year employment growth by firm size in the GCP area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale.
Source: Cosh & Caselli, CBR.

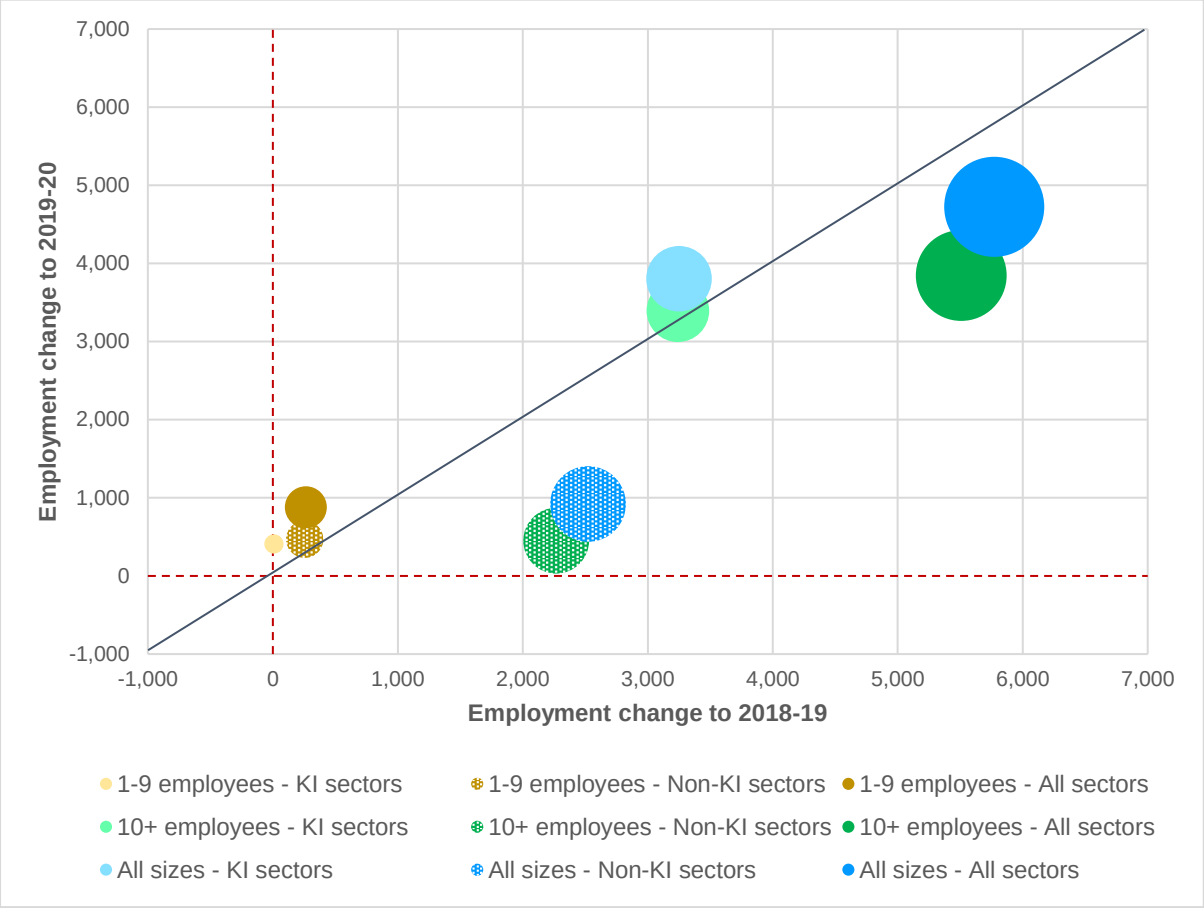
Employment growth at 1-9 employee businesses has accelerated during 2019-20. This growth has been driven primarily by KI sectors, which have seen employment increasing by 10.2% compared with 0.2% in 2018-19. The rate of employment growth has also gone up for non-KI sectors, reaching 3.1% in the latest year against 1.7% one year earlier.

Conversely, employment growth at 10+ employee businesses has slowed down in the most recent year in both KI and, particularly, non-KI sectors. Given the large aggregate size of this group of businesses, total employment in the GCP area has been growing less fast – albeit still significantly – in 2019-20 (+4.3%) compared with 2018-19 (+5.6%).

Figure 9 compares size classes based on their employment change to 2018-19 (horizontal axis) and to 2019-20 (vertical axis). The position of the size marker relative to the 45˚ line indicates whether employment change in the size class has been higher or lower than last year. Similar to Figure 8, this chart allows to compare the performance of size classes over

time and, in future updates, to identify those size classes most affected by the Covid-19 pandemic.

Figure 9 One-year employment change by firm size in the GCP area



Note: The size of each bubble is proportionate to the number of employees in 2018-19 on a continuous scale.
Source: Cosh & Caselli, CBR.

The picture obtained from employment change data largely supports the conclusions drawn from employment growth data.

Employment change to 2019-20 at 1-9 employee businesses has been more than three times higher than the employment change to 2018-19. The increase in employment change has been particularly high for KI sectors (+410 in the most recent year compared with +9 one year earlier).

On the contrary, employment change to 2019-20 has been lower than employment change to 2018-19 for businesses with 10+ employees. This reduction appears to have been caused by non-KI sectors, with total employment change to 2019-20 in the GCP area reaching 4,725 compared with 5,772 in 2018-19.

We now turn to the results of the November 2020 snapshot.

3. Snapshot November 2020 results

This section summarises the results of the November 2020 snapshot. After reviewing the results for employment and turnover data, we present a selection of comments taken directly

from the companies' accounts to elucidate the impact of the Covid-19 pandemic on their business.

3.1. Employment

Our information on employment covers only 16 companies. Together they represent 15,659 employees. Their total employment grew by 4% in the latest year compared with 16% in the previous year. This figure is dominated by the very largest businesses so we can look at the average growth of these businesses instead – the median growth last year was 4% compared with 8% in the previous year. It would appear that the Covid effect has curtailed their growth significantly even though it impacted only during the last few months of their financial year.

3.2. Turnover

We have turnover data for 24 companies. Together they represent a turnover of £5.5bn. Their total turnover fell by 6% in the latest year compared with a growth of 10% in the previous year. Giving each company equal importance in our growth measure, we find the median growth of these companies was 3% last year compared with 9% the previous year. The growth of turnover increased in only 7 of the 24 companies. Of these 3 were in 'Life science and healthcare', 3 were in other KI sectors and the other was an Academy Trust.

Taking employment and turnover together suggests that the furlough and other Covid-related schemes have had some effect in moderating its impact on employment.

3.3. Companies' comments on the impact of the Covid-19 pandemic

We report below some comments from the companies' accounts that we examined as part of the November 2020 snapshot, which offer some further insights into the impact of the Covid-19 pandemic on their business. We noted above that the impact of Covid has varied across businesses in different sectors. However, these comments show that Covid has had a significant effect (whether positive or negative) on these businesses.

The COVID-19 pandemic significantly impacted the Group's financial performance during the Period and its effects are likely to continue to be felt for at least the remainder of the year. The impact of COVID-19 will accelerate the rationalisation and consolidation of the UK franchise dealer network and benefit us.

Marshall Motor Holdings PLC

Wholesale and retail distribution

Whilst our order books remain relatively strong, we are aware that the full effect of the pandemic may not have filtered through the entire supply chain, and we could still be impacted by a second wave.

Xaar PLC

Manufacturing

While actively recruiting for key roles to strengthen the Group and to position the organisation in a post-Covid-19 world, the Board recognises the inherent uncertainty and lack of predictability in the months ahead and will therefore remain prudent.

Science Group PLC

Knowledge intensive services

The year started strongly, but new subscriptions fell in March and April as a result of the Covid-19 pandemic, before starting their recovery in May.

Quartix Holdings PLC

Information technology and telecoms

Although a number of clinical trials were delayed because of COVID-19, the financial impact was more than compensated for by the new contract wins.

Cambridge Cognition Holdings PLC

Life science and healthcare

Our core markets of telecoms and utilities have proven to be resilient throughout the pandemic.

Iqgeo Group PLC

Information technology and telecoms

Undoubtedly, COVID-19 has brought in a level of uncertainty with respect to the near-term outlook, however the Group's plans remain unchanged, reflecting our confidence in the long-term opportunity.

Abcam PLC

Life science and healthcare

The current COVID-19 pandemic has undoubtedly had an impact on our markets, clients, partners and staff however we are well positioned to address any challenges and more importantly maximise the opportunities arising.

Mills & Reeve LLP

Other business services

Covid has accelerated the development and acceptance of flagship product Bleepa.

Feedback PLC

Life science and healthcare

Since middle of March our traditional business all but stopped - a devastating effect.

Arena Event Services Group Limited

Other services

4. Concluding remarks

The overall picture in the year covered by the November 2020 update is one of continued but lower employment growth in the GCP area. The update, which sets the scene for the updates in February, June and October 2021, shows that there has been variation in employment growth across both industry sectors and firm sizes. However, it is important to bear in mind that the accounts we examined include only little impact of the Covid-19 pandemic. We will have to defer any further considerations on the effects of Covid on local businesses until the next update in February 2021.

The results of the November 2020 update are complemented by a snapshot, which draws on a very small sample of companies that have filed interim, or annual, accounts within the last six months. After examining these accounts, we find evidence of a mixed picture. Business services and hospitality companies appear to have been severely affected by the pandemic. Conversely, the worse performance of these businesses in the most recent period has partly been offset by life sciences and software companies, some of which have been able to benefit from the opportunities offered by the Covid-19 pandemic.

Andy Cosh
Giorgio Caselli
Centre for Business Research, University of Cambridge
November 2020

Appendix A1. Employment growth by sector in the GCP area

	Number of companies	Total empl 2019-20	Total empl 2018-19	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS					
Information technology and telecoms	1,421	18,046	16,569	8.9%	10.9%
Life science and healthcare	309	17,612	15,551	13.3%	9.4%
High-tech manufacturing	294	8,269	8,310	-0.5%	-1.0%
Knowledge intensive services	391	6,439	6,132	5.0%	6.4%
TOTAL KI SECTORS	**2,415**	**50,366**	**46,562**	**8.2%**	**7.5%**
OTHER SECTORS					
Primary	212	3,418	3,337	2.4%	0.8%
Manufacturing	370	4,290	3,845	11.6%	7.5%
Wholesale and retail distribution	730	10,684	10,412	2.6%	1.2%
Construction and utilities	938	5,429	5,128	5.9%	2.0%
Transport and travel	184	1,681	1,790	-6.1%	6.8%
Property and finance	1,257	5,423	5,375	0.9%	1.6%
Other business services	2,011	11,833	11,886	-0.4%	5.5%
Other services	1,087	7,918	7,885	0.4%	5.6%
Education, arts, charities, social care	619	12,329	12,426	-0.8%	6.7%
TOTAL NON-KI SECTORS	**7,408**	**63,005**	**62,084**	**1.5%**	**4.2%**
TOTAL ALL SECTORS	**9,823**	**113,371**	**108,646**	**4.3%**	**5.6%**

Source: Cosh & Caselli, CBR.

Appendix A2. Employment growth by sector in Cambridge

	Number of companies	Total empl 2019-20	Total empl 2018-19	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS					
Information technology and telecoms	584	10,765	9,875	9.0%	12.5%
Life science and healthcare	108	5,816	5,134	13.3%	10.7%
High-tech manufacturing	51	1,389	1,397	-0.6%	-0.1%
Knowledge intensive services	148	1,685	1,598	5.5%	2.0%
TOTAL KI SECTORS	**891**	**19,655**	**18,004**	**9.2%**	**9.9%**
OTHER SECTORS					
Primary	45	209	211	-1.1%	-8.3%
Manufacturing	110	771	701	9.9%	13.6%
Wholesale and retail distribution	236	2,628	2,559	2.7%	5.1%
Construction and utilities	256	1,162	1,100	5.6%	1.3%
Transport and travel	54	435	462	-5.9%	8.7%
Property and finance	597	3,114	3,086	0.9%	1.6%
Other business services	794	6,798	6,879	-1.2%	6.8%
Other services	460	3,493	3,477	0.5%	5.8%
Education, arts, charities, social care	321	7,501	7,563	-0.8%	6.1%
TOTAL NON-KI SECTORS	**2,873**	**26,109**	**26,038**	**0.3%**	**5.5%**
TOTAL ALL SECTORS	**3,764**	**45,765**	**44,042**	**3.9%**	**7.3%**

Source: Cosh & Caselli, CBR.

Appendix A3. Employment growth by sector in South Cambridgeshire

	Number of companies	Total empl 2019-20	Total empl 2018-19	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS					
Information technology and telecoms	837	7,281	6,694	8.8%	8.6%
Life science and healthcare	201	11,796	10,417	13.2%	8.8%
High-tech manufacturing	243	6,880	6,913	-0.5%	-1.2%
Knowledge intensive services	243	4,753	4,534	4.8%	8.0%
TOTAL KI SECTORS	**1,524**	**30,711**	**28,558**	**7.5%**	**6.0%**
OTHER SECTORS					
Primary	167	3,209	3,126	2.7%	1.4%
Manufacturing	260	3,519	3,144	11.9%	6.2%
Wholesale and retail distribution	494	8,056	7,853	2.6%	-0.1%
Construction and utilities	682	4,267	4,028	5.9%	2.2%
Transport and travel	130	1,246	1,328	-6.2%	6.2%
Property and finance	660	2,309	2,289	0.9%	1.6%
Other business services	1,217	5,035	5,007	0.6%	3.7%
Other services	627	4,425	4,408	0.4%	5.4%
Education, arts, charities, social care	298	4,828	4,863	-0.7%	7.5%
TOTAL NON-KI SECTORS	**4,535**	**36,895**	**36,046**	**2.4%**	**3.4%**
TOTAL ALL SECTORS	**6,059**	**67,606**	**64,604**	**4.6%**	**4.5%**

Source: Cosh & Caselli, CBR.

Appendix A4. GCP Employment Update methodology

This appendix describes the purpose and methodology of regular updates of the corporate database.

Annual draw

Dr Cosh and Dr Caselli at the CBR hold a corporate database of local companies with data going back nine years. The current database goes from 2010-11 to 2018-19 audited company data and covers the accounting periods of companies ending in the 2018-19 financial year. This database is currently being updated to 2019-20 and the findings will be made available at the end of January 2021. The reasons for the delay in publication relative to the accounting periods are:

- The need to wait until most companies have filed their accounts at Companies House.
- The incorporation of all company births and deaths.
- The careful checking of any changes in ownership, or corporate structure.
- The investigation of changes of location by companies into and out of the area.

This yields a comprehensive picture each year of the total employment of all companies that are based in the Cambridgeshire and Peterborough Combined Authority, GCP or Cambridge Ahead areas. It enables us to analyse the composition of growth split into growth of continuing businesses, less the decline due to companies dying or moving out of the area, plus the contribution to growth of company births and businesses moving into the area.

A full description of the methodology used can be found at:

https://www.cbr.cam.ac.uk/fileadmin/user_upload/centre-for-business-research/downloads/research-projects-output/cambridge-ahead/2019/CBR-Database-Methodology-2020.docx

Various analyses can be found at:

https://www.cbr.cam.ac.uk/research/research-projects/the-cambridge-corporate-database-regional-growth/#item-2

Updates

Timings

The current circumstances for business make it important to attempt to have more timely data. This can be achieved by using a sampling approach drawing upon the most recently published accounts.

We recommend an update every four months, spread evenly over the year and this can be seen in Table 1. If we look at 2021, we suggest February, June and October updates which will yield estimates of growth for the years to end April 2020, early August 2020 and early December 2020. These periods will capture respectively the effects of: the first three months of Covid; the impact of the first lockdown; and the impact of both lockdowns.

Another important point is the fact that the annual draw is less timely than the current November update due to the necessity to wait for most of the accounts to be published. However, it must be remembered that the update takes no account of births or deaths, or of changes in location.

Update Sample (using November 2020 update example)

We download data from FAME for any company in Cambridge, South Cambridgeshire, Huntingdonshire, or East Cambridgeshire that has available Accounts for the periods ending between 30 November 2019 and 31 May 2020. We then check 2018-19 and 2017-18 employment data against the existing figures on the database. Differences can occur for a number of reasons and are corrected to ensure that consistency and accuracy are maintained across the years under review.

We eliminate companies from the update sample that do not have actual employment data for the last two years. We then create final employment figures for each of the following financial years: 2019-20 (if available), 2018-19 and 2017-18. Finally, we create a file with the following information for those remaining in the update sample (**3,555** companies this time):

- Company name
- Company registration number
- LA District
- Sector
- KI or non-KI
- Size class in 2018-19 – 1 = 1 employee, 2 = 2-9 employees, 3 = 10 or more employees
- Latest employment (on average December 2019)
- Employment 1 year earlier (on average December 2018)
- % change in employment over last year (i.e. on average to December 2019)

Table 1 Summary of GCP Employment Updates

Draw Name	Sample or All	Accounting year ends within:	Median growth period	Release date	Relation to Covid
Update November 2020*	Sample	30 November 2019 to 31 May 2020	Year to end December 2019	November 2020	Little impact
Annual draw 2020	All companies	6th April 2019 to 5th April 2020	Year to early December 2019	February 2021	Little impact
Update February 2021*	Sample	February 2020 to August 2020	Year to end April 2020	February 2021	3 months Covid impact
Update June 2021*	Sample	May 2020 to November 2020	Year to early August 2020	June 2021	Impact of first Covid lockdown
Update October 2021	Sample	October 2020 to April 2021	Year to early December 2020	October 2021	Impact of both lockdowns

Notes: * commissioned and sponsored by the Greater Cambridge Partnership and Cambridge Ahead; ** commissioned and sponsored by Cambridge Ahead, Arm, Marshall of Cambridge and the Cambridgeshire and Peterborough Combined Authority.

Next, we produce a table showing the number of companies (excluding any companies born in the latest year) in each of the four KI sectors and nine non-KI sectors and their total employment in the latest and previous year. This table is then reproduced separately for our three size classes.

We then create three measures of growth over the latest year: the unweighted arithmetic mean, the median and the weighted mean. The first suffers from extreme values and also attaches the same importance to a large company as that for a small company. The second will often have the values of zero since a large proportion of companies do not change size. Therefore, it is the latter that we use for the next stage of the work.

Updating the corporate database for the GCP area

We take from our corporate database all companies currently alive that are based in Cambridge or South Cambridgeshire. We next download the latest FAME data and check 2018-19 and 2017-18 employment data against the existing figures on the database. Following this work we create a file with all the companies based in the GCP area (10.626 companies, or **9,823** companies excluding births in 2018-19) with the following information:

- Company name
- Company registration number
- LA District
- Sector
- KI or non-KI
- Size class in 2018-19 (as above)
- Employment 2018-19
- Employment 2017-18
- % change in employment over this year

We now use the estimates of growth by size and sector from the update sample to create an estimate of the size of each company and sector in 2019/20. This allows us to compare the most recent growth of each sector and size class over the most recent year in comparison with the year to 2018/19.

This growth period has been largely unaffected by Covid but sets the scene for the next three updates which will have increasing magnitudes of Covid effect.

Analyses

Using the methodology described above we can compare the performance of our sectors over time and identify those sectors most impacted by Covid. A powerful tool for doing this is one that has as the horizontal axis the sector's employment growth rate in the year to 2018/19 and as the vertical axis the annual growth shown in the update sample (in this case effectively the year to December 2019) – see Figure 4 above for an example. The position of the sector marker relative to the 45˚ line shows those growing more or less fast than last year. This can be shown more informatively by having the size of the marker related to the total employment in that sector.

This type of chart can be used to examine different sectors, company sizes or districts. It is reinforced by an appendix that provides detailed tables (see Appendices A1-A3).