

Greater Cambridge Employment Update February 2021

CBR's report for the Greater Cambridge Partnership and Cambridge Ahead

Highlights:

Overview

- The current business environment makes it important to have timely data on employment changes. This is the second of a series of updates that bring up-to-date information about what is happening to corporate employment in the Greater Cambridge area.
- This update covers accounting year ends between 31st March 2020 and 31st August 2020 (the median year end is 30th April 2020). This period captures on average the effects of the first three months of the Covid-19 pandemic.
- We find that corporate employment growth in the Greater Cambridge area has slowed down from 4.7% in 2018-19 to 2.3% in 2019-20 – the latter is still a significant rate of growth considering the unprecedented challenges brought about by Covid. However, there is variation in these growth rates across both industry sectors and firm sizes.
- Employment growth in Greater Cambridge has been notably faster in KI sectors (+5.4%) than in non-KI sectors (+0.9%).
- The reduction in the rate of growth of employment over the last two years has taken place in both KI and non-KI sectors in both Cambridge and South Cambridgeshire, but the growth of KI sectors has remained stronger than that of non-KI sectors (7.1% in Cambridge and 3.8% in South Cambridgeshire).

Sectors

- The Covid pandemic has had a varied impact across sectors. Sectors like Life Sciences are involved in supporting the fight against the virus and future outbreaks. Logistics companies have been in high demand as the pattern of consumer spending has changed. Information technology and telecoms have benefited as a consequence of the increase in remote communications, gaming and global security, which have more than offset the reduction of demand in other areas.
- The fastest growing sectors during 2019-20 have been 'Life science and healthcare' (+12.0%), 'Transport and travel' (+5.9%), and 'Information technology and telecoms' (+5.2%).

- Many service sectors have suffered reduced demand from their customers as a result of the impact of Covid on their businesses. The largest fall in employment has occurred in 'Other services' – e.g. hotels, pubs and restaurants (-2.0%).
- 'Life science and healthcare', 'Transport and travel' and 'Manufacturing' (i.e. low-tech and med-low-tech manufacturing) are the only sectors to have seen employment growth in 2019-20 greater than in 2018-19.
- The sectors with the largest fall in employment growth relative to 2018-19 are 'Other services', 'Knowledge intensive services' and 'Construction and utilities'. These are the only three sectors to have experienced a material fall in employment growth during 2019-20.

Size groups

- One-person businesses grew by 1.8% in the latest year, a rate that is in line with total employment growth across all size classes. However, their small size means that they played a minor role in employment growth – only 47 extra employees compared with the addition of 1,117 employees by other businesses.
- Whilst 1 employee businesses tend to have been the fastest growing companies in sectors such as 'Primary' and 'Wholesale and retail distribution', 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 'Information technology and telecoms', 'Manufacturing', 'Other business services' and 'Transport and travel'.
- 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 'Other services' and 'Property and finance'.
- Employment growth at 1-9 employee businesses has accelerated during 2019-20. This growth has been driven primarily by KI sectors.
- The picture looks different for 10+ employee businesses. Employment growth at these businesses has slowed down in the most recent year primarily due to non-KI sectors.
- Employment in KI sectors grew at about 5% in both size classes adding 839 employees.

Stop press

- We provide a snapshot of the impact of events in 2020 by considering a small sample of companies with accounts ending from June 2020 onwards. This period captures the effects of the first six months of the Covid-19 pandemic.
- 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. Therefore, we support the extension of the furlough scheme announced in the March Budget.
- The impact of Covid is not even across companies; and it would appear that certain life sciences, communications and software companies have done well, but durable goods retailers, sports and sports gaming companies, pubs, restaurants and hospitality companies have been severely adversely affected.
- This snapshot covers only the impact of the first lockdown in England. Businesses then returned to a form of normality but have been hit by two further lockdowns since October. Future updates will examine how they have fared during these periods.

Concluding remarks

- Overall, the findings are clear. The pandemic has slowed growth in both the KI and non-KI sectors. The latter have shown scarcely any employment growth and might have suffered large employment falls without the furlough scheme. KI businesses, particularly in life science and information technology, have continued to show robust growth.

1. Tracking Greater Cambridge corporate employment – the February 2021 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.¹ 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 was published at the end of January and examined 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 published in November 2020 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** of companies in the Greater Cambridge area achieved by sampling the annual corporate database in February, June and October. 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, but does not take account of births and deaths or location changes. For example, this February 2021 update has a modal year end of April 2020 and all of the companies have had some experience of the Covid epidemic, varying from one to seven months. We compare the performance of this sample in 2019/20 with their performance a year earlier (2018/19). On average the companies in the sample will reflect the impact Covid has had on their performance during the last three months of their financial year. A sample of this size, with good coverage of all sectors and company sizes, should 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 February 2021 update this covers accounts with years ending between August and December 2020, including several months of 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 February 2021 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 February 2021 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 Greater Cambridge Employment Update.

¹ The underlying core corporate database has been established and maintained with the ongoing support of Cambridge Ahead, and is currently sponsored by Arm, Marshall of Cambridge and the Cambridgeshire and Peterborough Combined Authority.

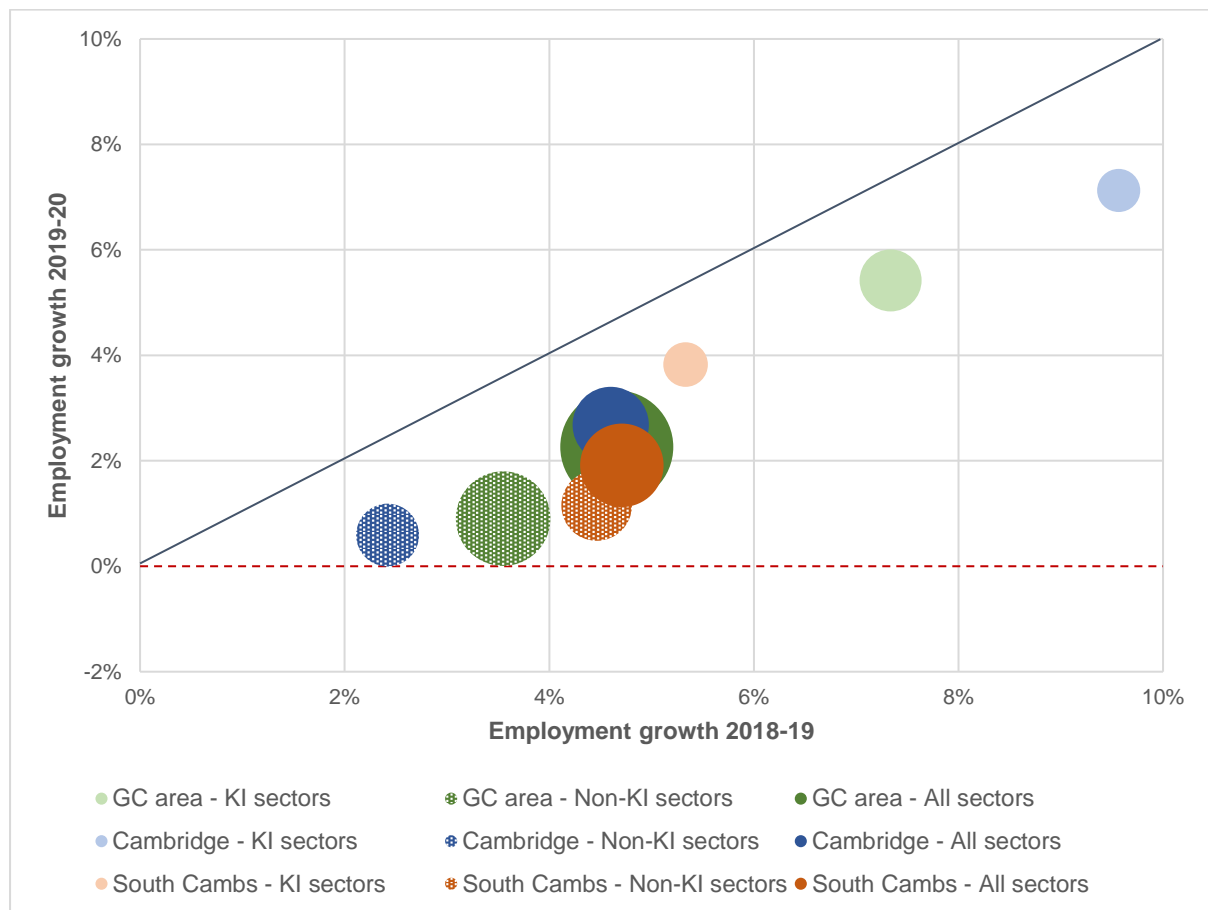
2. February 2021 update results

In this section, we present the results of our February 2021 update, the second 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. It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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. It shows growth for KI, non-KI and all sectors for Cambridge, South Cambridgeshire and for Greater Cambridge overall. This chart allows us to compare the performance of each area over time. 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 2019 on a continuous scale.

Source: Cosh & Caselli, CBR.

Figure 1 portrays a picture of continued but lower overall employment growth in the Greater Cambridge area during 2019-20. Growth in the area has slowed down from 4.7% in 2018-19 to 2.3% in 2019-20 – still a significant rate of growth considering the unprecedented challenges brought about by the Covid-19 pandemic.

Our data show that this slowdown in total employment growth in the area is due to a weakening performance of both KI and non-KI sectors during the latest year compared with one year earlier. While employment growth in KI sectors has fallen from 7.3% in 2018-19 to 5.4% in 2019-20, non-KI sectors have seen employment growth declining from 3.5% in 2018-19 to 0.9% in 2019-20.

In each of the charts the size of the bubble is proportional to total employment in that area or sector. The bubble that identifies KI sectors is to the right of the bubble for non-KI sectors – showing that KI sectors have been growing faster than non-KI sectors.

Employment growth in Cambridge has slowed down from 4.6% in 2018-19 to 2.7% in 2019-20. South Cambridgeshire exhibited a similar fall from 4.7% to 1.9%.

The KI sectors held up better in Cambridge, falling from 9.6% growth in the previous year compared with 7.1% this year. This was helped by the performance of Abcam that added 179 employees.

The growth of the KI sectors in South Cambridgeshire dropped from 5.3% to 3.8%, despite an increase of 76 and 48 employees by Frontier Developments and Darktrace.

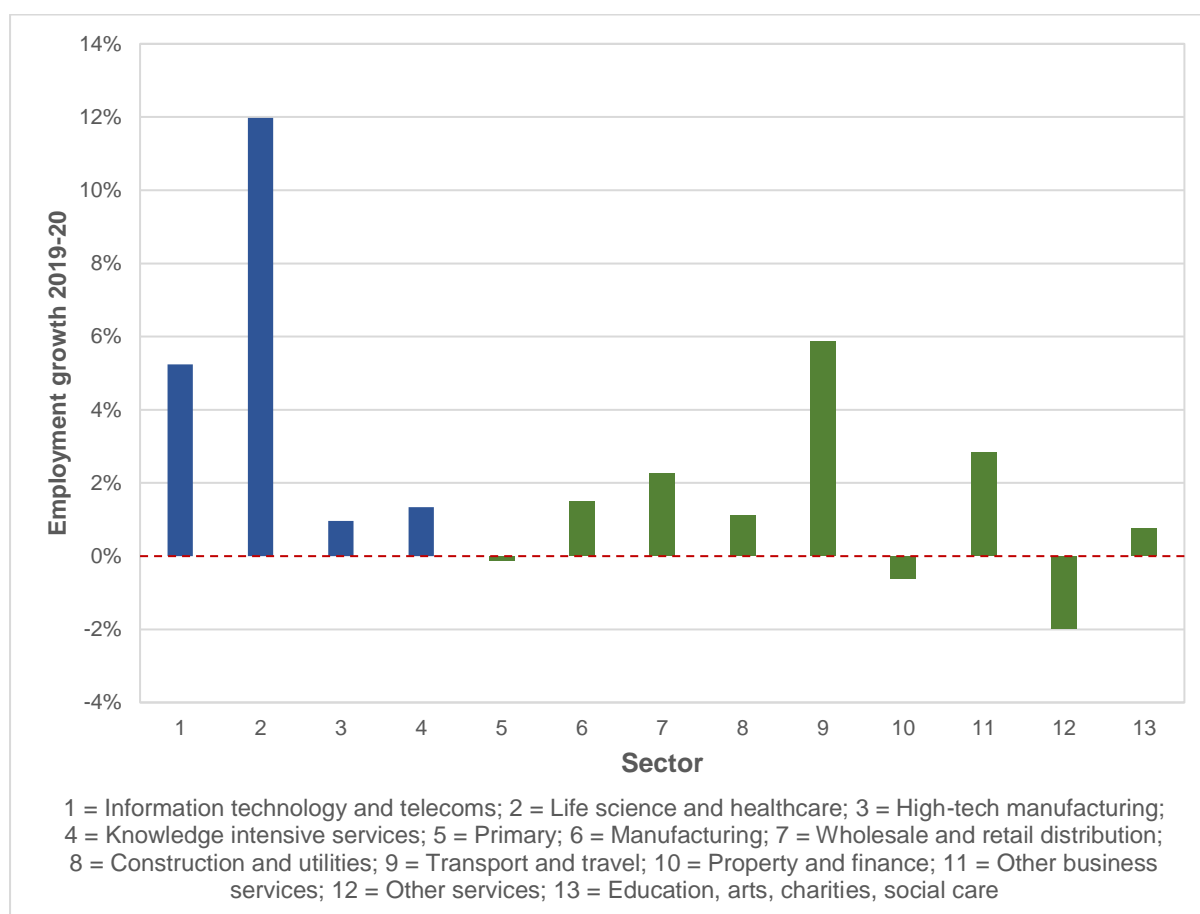
We found the opposite picture for non-KI sectors. Despite the stable performance of Mills and Reeve (+16 employees), the slowdown in employment by several other companies (e.g. Polytec Personnel) has brought employment growth in non-KI sectors in Cambridge to 0.6% in the latest year compared with 2.4% one year earlier.

Non-KI sectors in South Cambridgeshire have grown somewhat faster than those in Cambridge, with companies such as Cambridge Meridian Academies Trust (Swavesey Village College and others) and GSL Dardan (security company) witnessing a steady increase in their employee numbers. Overall, non-KI growth fell from 4.5% to 1.2%.

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 April 2020), the latest year covered with this work. It is drawn from a sample of companies with accounts for the years ending March-August 2020.

Figure 2 One-year employment growth 2019-20 by sector in the Greater Cambridge area



Note: Blue bars identify KI sectors, whereas green bars are for non-KI sectors.

Source: Cosh & Caselli, CBR.

'Life science and healthcare' (+12.0%), 'Transport and travel' (+5.9%) and 'Information technology and telecoms' (+5.2%) have been the fastest growing sectors during 2019-20.

The strong performance of the 'Life science and healthcare' sector during the Covid-19 pandemic testifies to the resilience of the Life Science cluster in the Greater Cambridge area. Whilst some companies in this sector were hampered by Covid, others positively benefited from it.

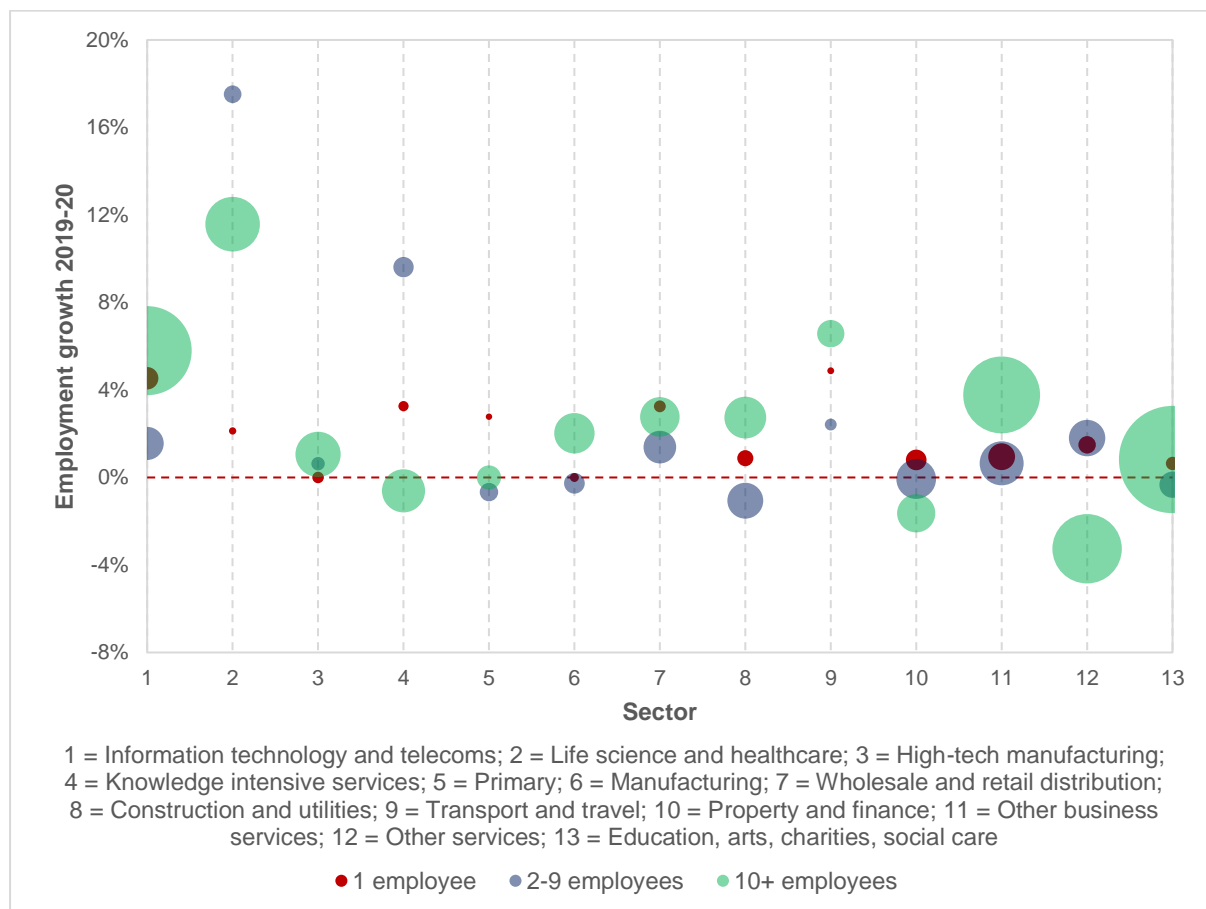
At first glance, the results for 'Transport and travel' seem at odds with the results from our November 2020 Update, which showed a negative employment growth rate of -6.1% for the sector in the year through December 2019. This is largely explained by differences in the sample composition between the two updates. The sample for the February 2021 Update includes primarily companies involved in the transport of goods (e.g. The Courier Company Nationwide and Halls Distribution), which have benefited from the rise in home deliveries. Conversely, the sample for the November 2020 Update was made up by some large companies operating in the transport of people (e.g. ExecuJet), which have suffered from the travel restrictions. Indeed, it is just these types of personal service businesses (e.g. tourism, hairdressers, gyms, hotels and restaurants) that have suffered worst during the epidemic.

The sectors that have seen a decline in employment are 'Other services' (-2.0%) – which includes hospitality businesses – 'Property and finance' (-0.6%) and 'Primary' (-0.1%).

Employment growth has been faster in KI sectors (+5.4%) than in non-KI sectors (+0.9%). Among the fastest growing KI companies are Abcam (+15.5%) and Frontier Developments (+18.1%).

Figure 3 expands on the results from Figure 2 presented above by providing a breakdown of employment growth between 2019 and 2020 by both industry sector and firm size. It is drawn from a sample of companies with accounts for the years ending March-August 2020. Companies were assigned to three size classes: 1 employee; 2-9 employees; 10+ employees.

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



Note: The size of each bubble is proportionate to the number of employees in 2019 on a continuous scale.
Source: Cosh & Caselli, CBR.

The results from Figure 2 pointed to ‘Life science and healthcare’, ‘Transport and travel’ and ‘Information technology and telecoms’ 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.

Looking at percentage growth rates for small businesses can be problematic. Most small businesses do not grow and the median growth is uninformative at 0%. However, a few small businesses can grow very fast in percentage terms (e.g. from 2 to 8 employees). It is these rare businesses that create the overall growth of smaller businesses.

Whilst 1 employee businesses tend to have been the fastest growing companies in sectors such as ‘Primary’, ‘Wholesale and retail distribution’ and ‘Property and finance’, 2-9

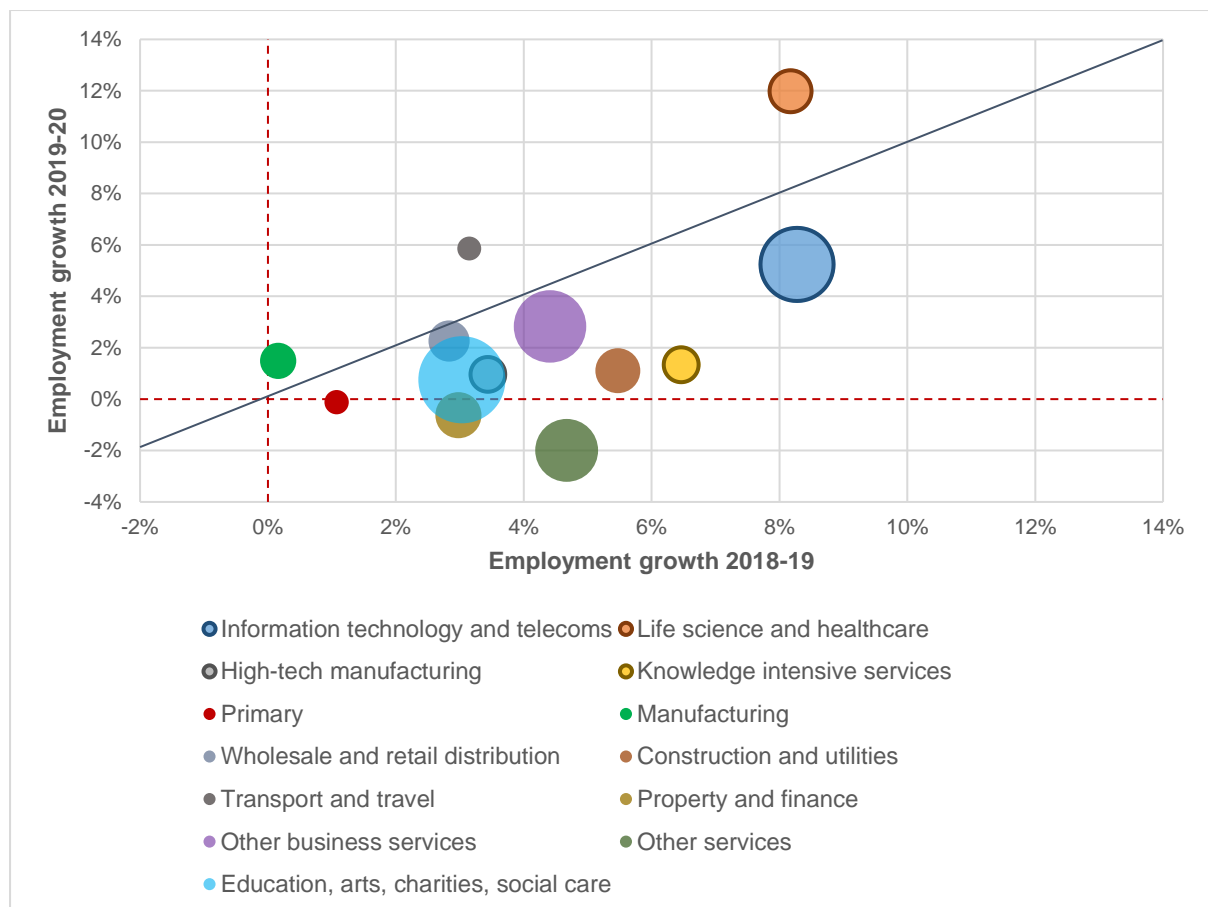
employee businesses exhibit relatively high growth rates in 'Life science and healthcare' and 'Knowledge intensive services'. However, the relatively small size of their bubbles shows that their impact on total employment growth is somewhat limited.

Good examples of fast growth in the 2-9 employee businesses are CompChem Solutions, which provides computational chemistry services to help academic investigators in drug discovery, and electronRx, which uses AI to enable early detection and monitoring of medical conditions.

In turn, 10+ employee businesses have achieved particularly fast growth in 'Information technology and telecoms', 'Manufacturing', 'Other business services' and 'Transport and travel'. 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 'Other services' (e.g. hotels, pubs and restaurants) and 'Property and finance'.

Figure 4 compares the 13 industry sectors according to their employment growth during 2018-19 (horizontal axis) and their employment growth during 2019-20 (vertical axis). It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of sectors over time.

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



Note: The size of each bubble is proportionate to the number of employees in 2019 on a continuous scale. Bubbles with an outline identify KI sectors.

Source: Cosh & Caselli, CBR.

'Life science and healthcare', 'Transport and travel' and 'Manufacturing' (i.e. low-tech and med-low-tech manufacturing) are the only sectors to have seen employment growth accelerating during 2019-20. For example, employment growth in 'Life science and healthcare' has reached 12.0% in 2019-20 up from 8.2% in 2018-19, driven by the strong performance of Abcam (+15.5%) and SDI Group (+12.8%).

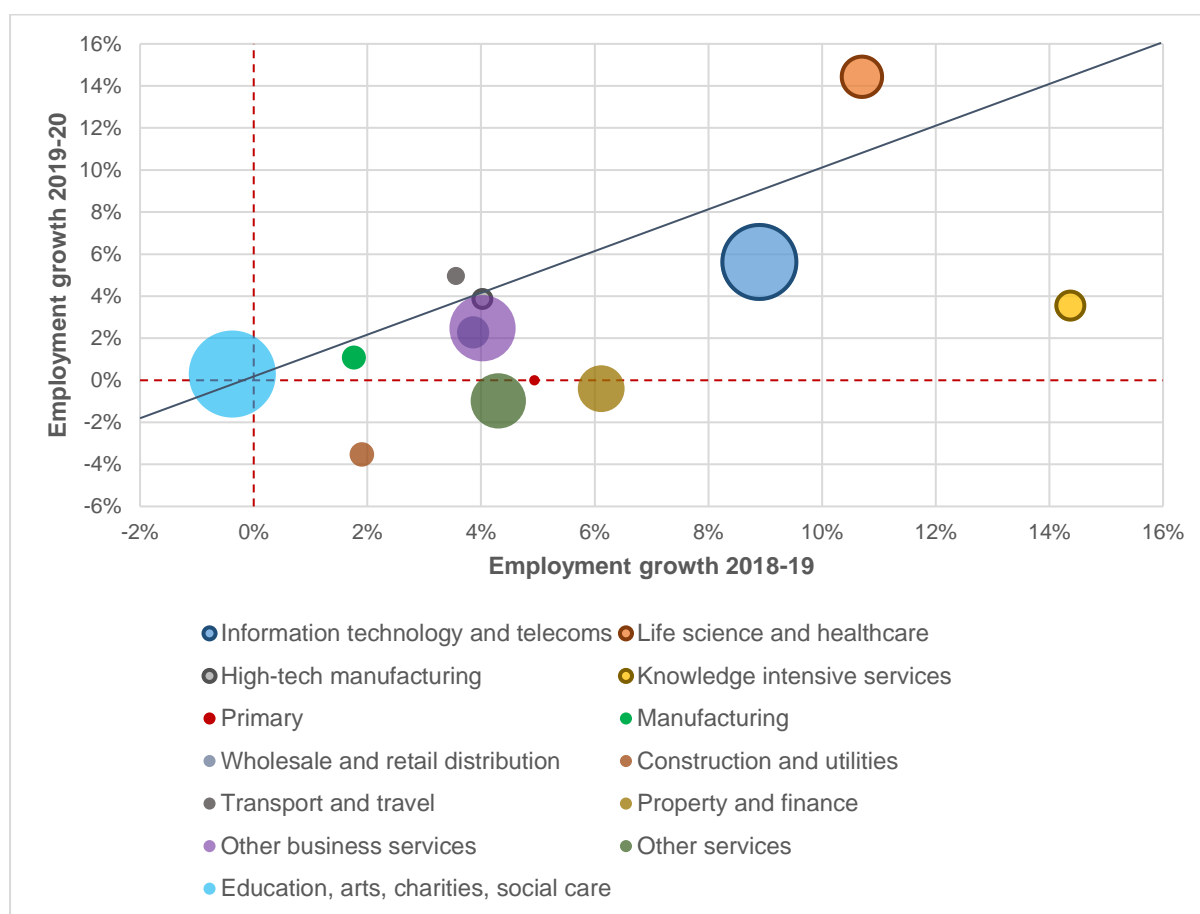
The sectors with the largest fall in employment growth relative to 2018-19 are 'Other services', 'Knowledge intensive services' and 'Construction and utilities'.

For example, employment growth in 'Knowledge intensive services', which includes a number of engineering and science consultancies, has gone down from 6.5% in 2018-19 to 1.3% in 2019-20. The Covid-19 pandemic might pose some challenges for 'Knowledge intensive services' businesses, as clients tighten their belts as a consequence of the impact of Covid on their businesses.

Employment growth has also slowed down in 'Information technology and telecoms', the largest KI sector in the area together with 'Life science and healthcare', reaching 5.2% in 2019-20 compared with 8.3% in 2018-19.

Figure 5 compares the 13 industry sectors based on their employment growth during 2018-19 (horizontal axis) and their employment growth during 2019-20 (vertical axis), this time focusing on Cambridge. It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of sectors over time.

Figure 5 One-year employment growth by sector in Cambridge



Note: The size of each bubble is proportionate to the number of employees in 2019 on a continuous scale. Bubbles with an outline identify KI sectors.
Source: Cosh & Caselli, CBR.

Employment growth has accelerated noticeably only in two of the 13 sectors, namely ‘Life science and healthcare’ and ‘Transport and travel’. However, growth remained positive in ten of the sectors despite the onset of the pandemic.

Employment growth has been particularly fast in ‘Life science and healthcare’, where it has reached 14.4% in the latest year compared with 10.7% one year earlier. This largely reflects the strong performance of Abcam (+15.5%) and SDI Group (+12.8%).

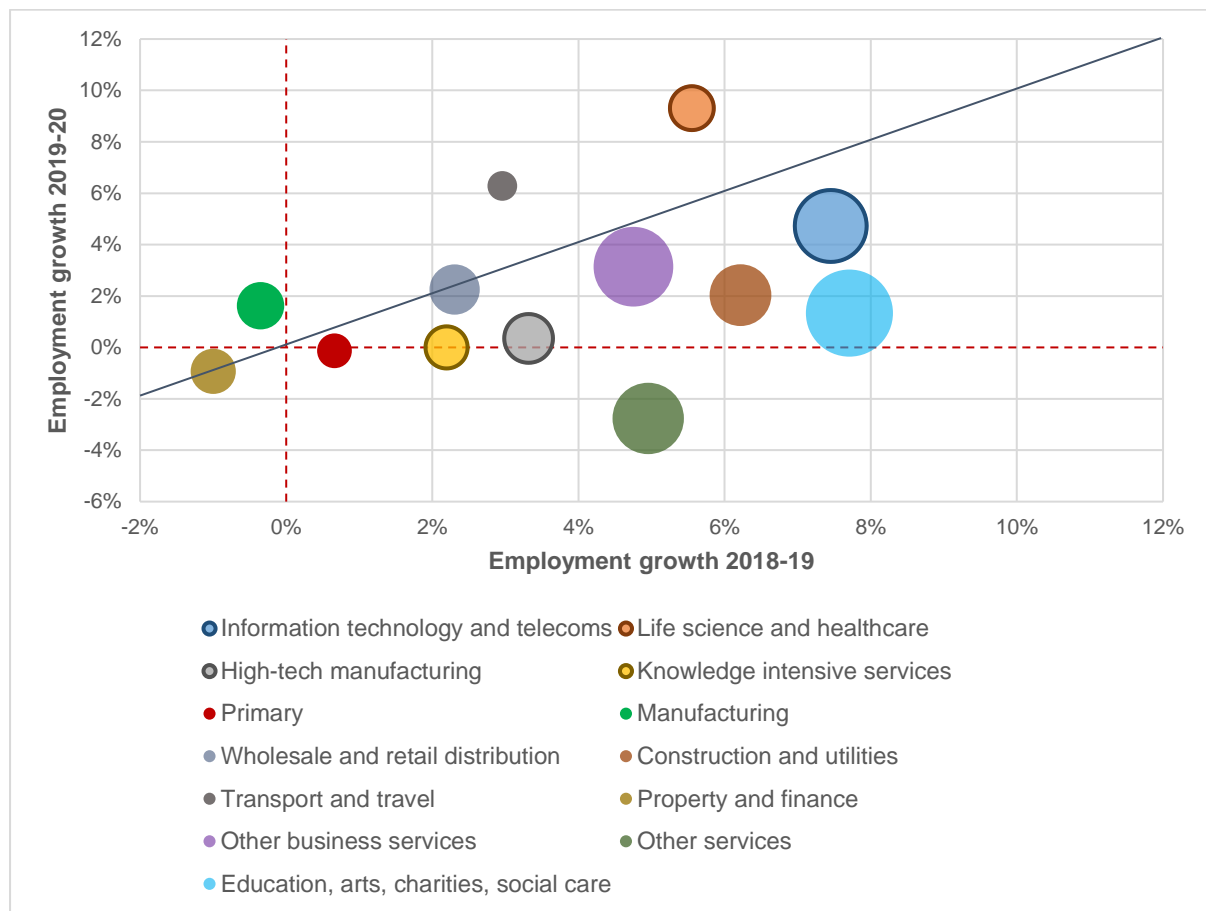
Employment growth has remained high, although somewhat lower in the latest year relative to one year earlier, in ‘Information technology and telecoms’ (5.6% and 8.9%, respectively). Among non-KI sectors, ‘Transport and travel’ has seen growth accelerating from 3.6% in 2018-19 to 5.0% in 2019-20.

Conversely, we find evidence of a considerable slowdown in employment growth in ‘Knowledge intensive services’ (3.6% in 2019-20 compared with 14.4% in 2018-19), ‘Property and finance’ (-0.4% and 6.1%, respectively), ‘Construction and utilities’ (-3.5% and 1.9%, respectively) and ‘Other services’ (-1.0% and 4.3%, respectively).

Figure 6 focuses on South Cambridgeshire and compares the 13 industry sectors based on their employment growth during 2018-19 (horizontal axis) and their employment growth during 2019-20 (vertical axis). It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of sectors over time.

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 2019 on a continuous scale. Bubbles with an outline identify KI sectors.

Source: Cosh & Caselli, CBR.

As is the case for Cambridge, 'Life science and healthcare' has been the only KI sector to have witnessed faster employment growth in the latest year relative to one year earlier. Employment growth in the sector has gone up from 5.6% in 2018-19 to 9.3% in 2019-20, following the strong performance of several companies including Cytocell, PhoreMost and PredictImmune. Like Cambridge, growth remained positive in ten of the 13 sectors despite the onset of the pandemic.

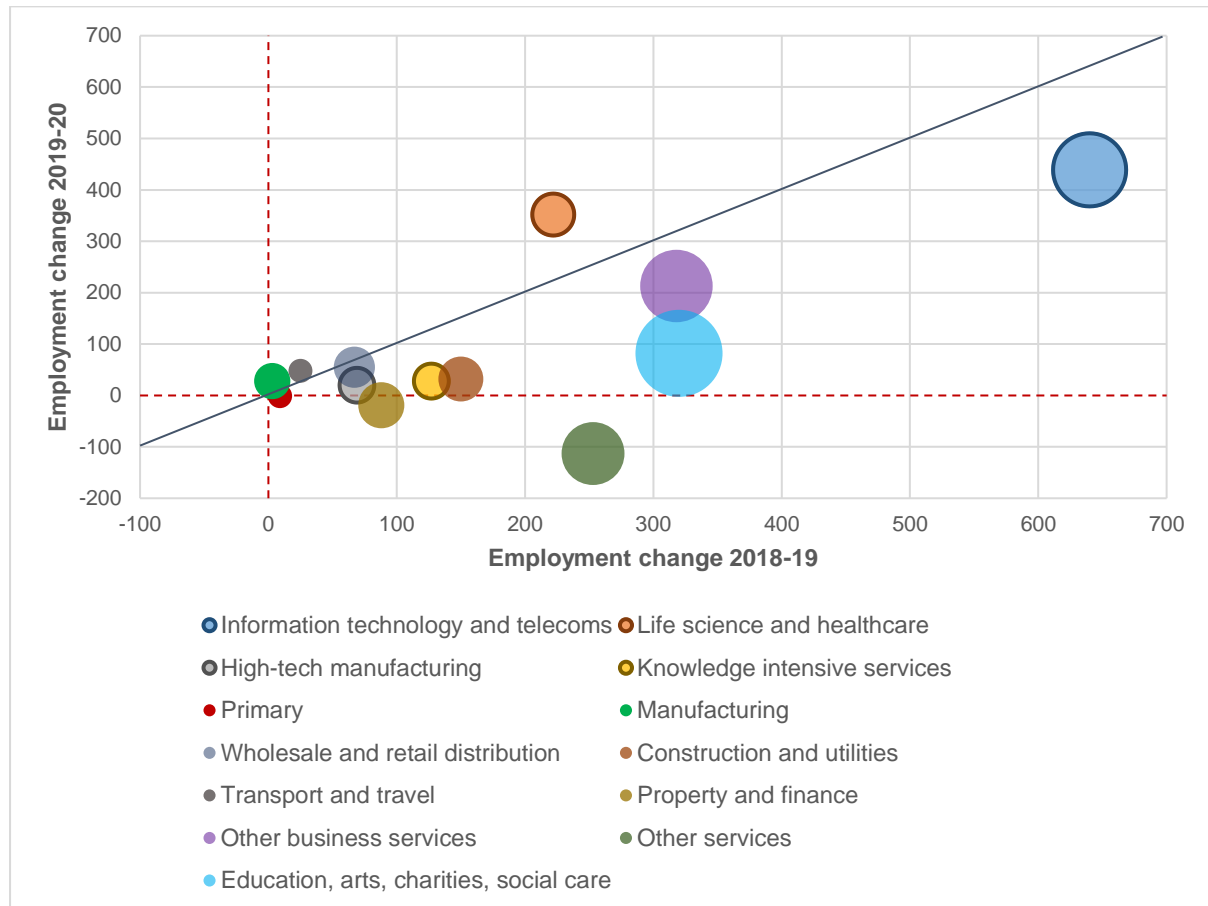
Whilst employment growth in 'Information technology and telecoms' has slowed down during 2019-20, the sector has still achieved a 4.7% growth rate. This was helped by the performance of Frontier Development and Darktrace, who added 76 and 48 employees respectively.

'Transport and travel' (6.3% in the latest year compared with 3.0% one year earlier) and 'Manufacturing' (1.6% and -0.4%, respectively) have been the only two non-KI sectors where employment growth in 2019-20 has been higher than growth in 2018-19.

Among non-KI sectors, the largest slowdown in employment growth is observed in 'Other services' (-2.8% and 5.0%, respectively) and 'Education, arts, charities, social care' (1.3% and 7.7%, respectively).

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). It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of sectors over time.

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



Note: The size of each bubble is proportionate to the number of employees in 2019 on a continuous scale. Bubbles with an outline identify KI sectors.

Source: Cosh & Caselli, CBR.

Since % changes can sometimes be misleading, Figure 7 examines changes in employment in terms of the number of people employed. In this case, the findings from Figure 7 largely confirm those from Figure 4.

The largest employment change in 2019-20 is found in 'Information technology and telecoms', although the number of employees in the sector has gone up by less than 2018-19 (+439 and +640, respectively).

The performance of the 'Life science and healthcare' sector stands out when examined in terms of absolute employment changes. There has been a positive change of 352 in 2019-20 compared with a change of 222 in 2018-19, largely due to the additions of 179 and 19 employees by Abcam and SDI Group respectively.

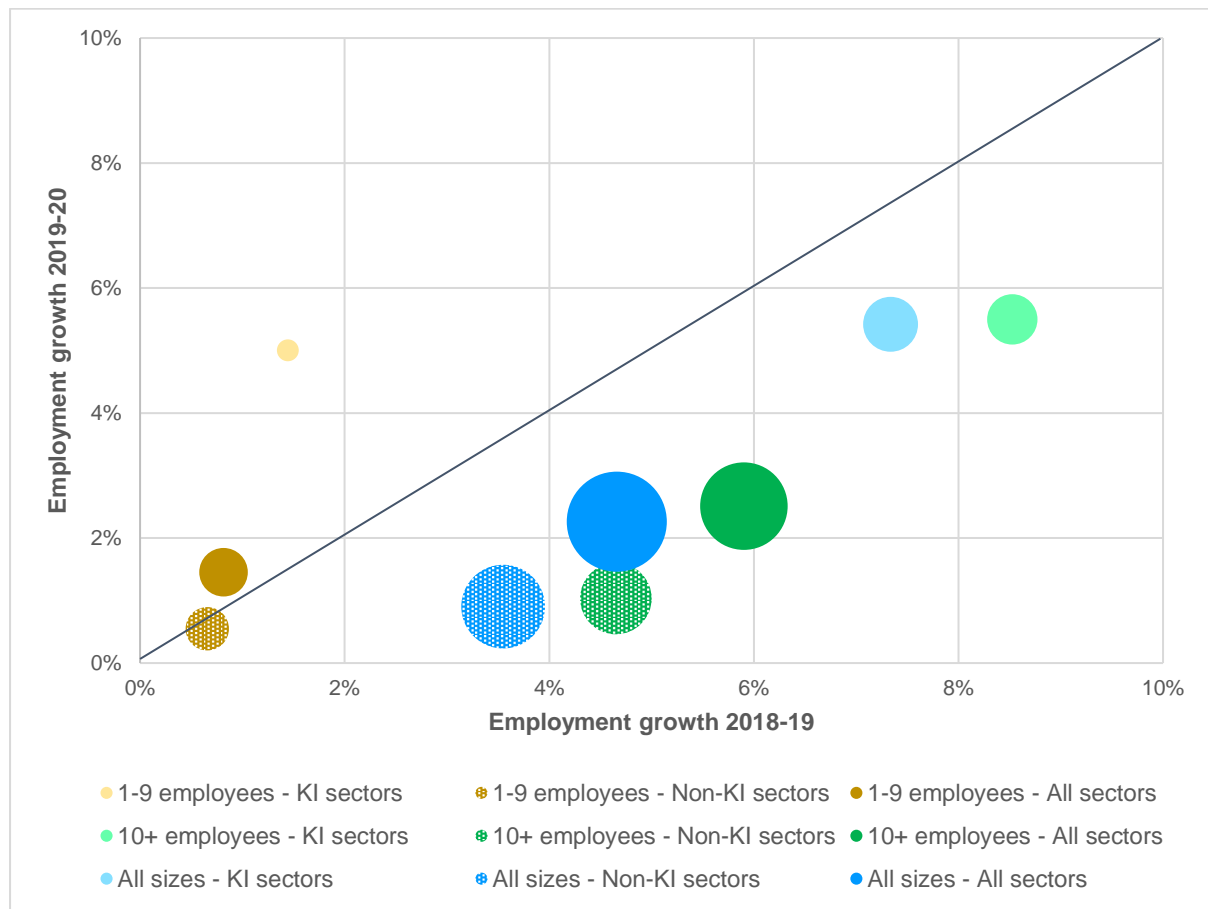
Employment change in 2019-20 has been higher than employment change in 2018-19 also in 'Manufacturing' and 'Transport and travel'.

'Other services' (-113) has seen the largest drop in employment in 2019-20 among all sectors. Other sectors with a significant slowdown in employment during the latest year are 'Education, arts, charities, social care', 'Construction and utilities', 'Property and finance' and 'Other business services'.

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. It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of size classes over time.

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



Note: The size of each bubble is proportionate to the number of employees in 2019 on a continuous scale.
Source: Cosh & Caselli, CBR.

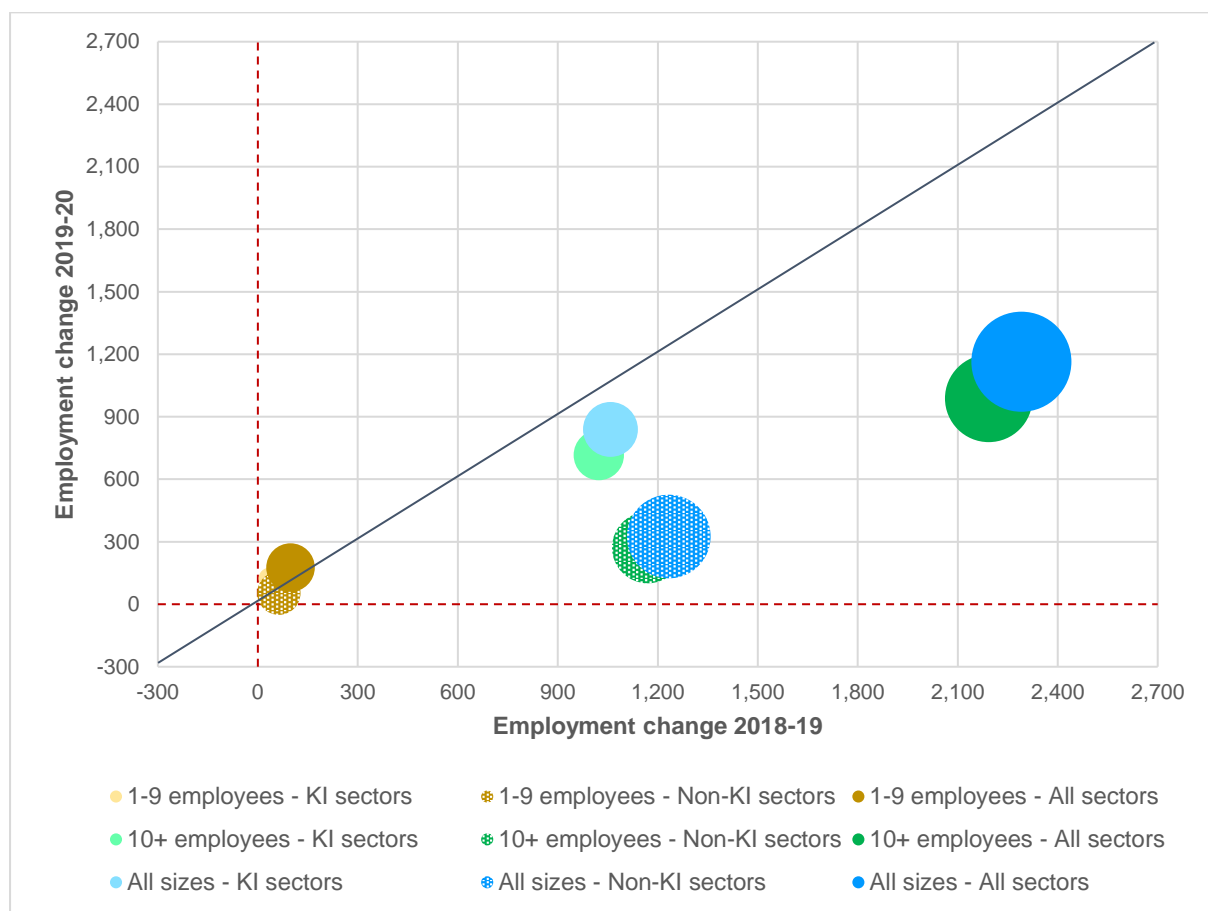
Employment growth of 1-9 employee businesses has accelerated during 2019-20. This growth has been driven primarily by KI sectors, which have seen employment increasing by 5.0% compared with 1.4% in 2018-19. In contrast, the rate of employment growth has gone down slightly for non-KI sectors in this size class, reaching 0.5% in the latest year against 0.7% one year earlier.

The picture looks different for 10+ employee businesses. Employment growth in these businesses has slowed down in the most recent year for both KI sectors (5.5% this year down from 8.5%) and non-KI sectors (1.0% down from 4.7%).

Given the large aggregate size of non-KI businesses employing ten or more, total employment in the Greater Cambridge area has been growing less fast – albeit still significantly given the unprecedented challenges brought about by the Covid-19 pandemic – in 2019-20 (+2.3%) compared with 2018-19 (+4.7%).

Figure 9 compares size classes based on their employment change during 2018-19 (horizontal axis) and 2019-20 (vertical axis). It is drawn from a sample of companies with accounts for the years ending March-August 2020. 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 us to compare the performance of size classes over time.

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



Note: The size of each bubble is proportionate to the number of employees in 2019 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 increase in 2019-20 at 1-9 employee businesses (176 employees) has been almost twice the employment increase in 2018-19 (98 employees). This higher employment change has originated primarily in KI sectors (+123 in the most recent year compared with +35 one year earlier).

Conversely, the employment increase in 2019-20 (988 employees) has been much lower than employment increase in 2018-19 (2,193 employees) for businesses with 10+ employees. This reduction appears to have been caused mainly by non-KI sectors, which

have seen employment change falling from +1,170 in 2018-19 to 272 in 2019-20. A lesser reduction is observed for KI sectors (+716 in the latest year compared with +1,023 one year earlier).

Total employment change to 2019-20 in the Greater Cambridge area as a whole has been +1,164 compared with +2,291 in 2018-19.

We now turn to the results of the February 2021 snapshot.

3. February 2021 snapshot results

This section summarises the results of the February 2021 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 185 companies that reported their results for years ending between August and December 2020 (i.e. those with over half of their financial year affected by Covid). Together they represent 2,711 employees. Their total employment grew by 0.8% in the latest year compared with 4.9% in the previous year. It would appear that the Covid effect has curtailed their growth significantly during the second half of their financial year.

3.2. Turnover

We have 49 companies that have reported turnover with periods ending between June and December 2020. Together they represent a turnover of £2.95bn. Their total turnover fell by 18.2% last year compared with a growth of 2.6% in the previous year. Giving each company equal importance in our growth measure, we find the median turnover growth of these companies was -6.3% last year compared with a growth of 6.1% in the previous year.

We have both employment and turnover data for 17 large companies with accounting periods ending between June and December 2020. Together they represent a turnover of £616m and employment of 4,464. Their total turnover fell by 7.5% in the latest year compared with a growth of 10.4% in the previous year. In addition, the median turnover growth of these companies was -8.3% last year compared with 11.4% the previous year. The growth of turnover decreased in 13 of the 17 companies. Of the other four, two were in 'Life science and healthcare' (Abcam and Kymab). Total employment for this group of large companies grew by 5.5% in the last year compared with 8.0% in the year before (and median growth decreased slightly from 2.7% to 2.4%). Taking employment and turnover together suggests that the furlough and other Covid-related schemes have had some effect in moderating its impact on employment despite falling turnover.

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 February 2021 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.

Revenue decline is largely due to rapid reduction of academic research work caused by COVID-19 pandemic.

Horizon Discovery Group PLC

Life science and healthcare

The Company had two clinical trials under way when the pandemic was declared and the pandemic did cause some delays to the trials. However these delays had little impact on the

Company's performance in the year. The impact on future operations of a continued Covi-19 pandemic is uncertain. Kymab continues to be an essential business but Kymab's ability to move projects rapidly through clinical development may be impacted by a continued pandemic.

Kymab Ltd

Life science and healthcare

In summary, the performance of the Group in the first half of 2020 has been ahead of the Board's pre-Covid-19 expectations, despite the operational challenges resulting from the pandemic. 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

Despite the COVID-19 pandemic's stark impact on revenue, prompt action to contain costs resulted in an adjusted pre-tax loss of \$1.2m (2019 H1: The global COVID-19 pandemic in H1 2020 resulted in a slowdown of product movement in the Group, which has seen inventory levels increase. We expect this to unwind over the coming months as deliveries resume. The global pandemic has caused significant disruption in electronic component production such that we are experiencing volatile pricing, unpredictable lead times and unexpected end-of-life notices served on us by our suppliers.

Quixant 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

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

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

Iqgeo Group PLC

Information technology and telecoms

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

Covid-19 brought a significant but brief downturn to our business from late March 2020 onwards where we saw over 90% of our customer base temporarily close ... We responded and took advantage of the Government's furlough scheme to reduce our cost base and furloughed half of the UK staff. April was a very poor month in the UK but we remained profitable on the back of good volumes to Japan. During early May we brought the sales team back to full strength and with significant activity back in the market we started to achieve our strategies resulting in all staff returning at the start of June.

Nason Davis Holdings Ltd

Wholesale – timber agents and suppliers

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

4. Concluding remarks

The findings in this report are based on a sample of over 6,700 companies in the Greater Cambridge area with accounting year ends between 31st March 2020 and 31st August 2020. This sample represents about half of corporate employment and has a modal year end of April 2020. All of the companies have had some experience of the Covid epidemic, varying from one to seven months. On average the companies in the sample will reflect the impact Covid has had on their performance during the last three months of their financial year.

The overall picture is one of continued but lower employment growth in the Greater Cambridge area and the growth is coming from the KI sectors. A recent report on Silicon Valley found that in 2020 there was a significant fall in employment in the retail, arts, personal services, hotels and restaurants, and travel sectors.² On the other hand, life sciences, information technology and transportation were robust. This is very similar to our findings with one exception. The large falls in the non-KI sectors in Silicon Valley in the early months of the pandemic have not been observed here, largely because of the Government's furlough scheme.

The results of this update are complemented by a snapshot, which draws on a very small sample of companies that have filed interim, or annual, accounts between June and December 2020. It shows that the local economy slowed further during the first lockdown and that the impact varies across different types of business. It is clear that turnover has suffered greater falls than employment, demonstrating the benefits of the furlough scheme.

Andy Cosh

Giorgio Caselli

Centre for Business Research, University of Cambridge
March 2021

² Joint Venture Silicon Valley (2021), *2021 Silicon Valley Index*, available at: <https://www.jointventure.org/download-the-2021-index>.

Appendix A1. Employment growth by sector in the Greater Cambridge area

February 2021 Update	Number of companies	Total empl 2020	Total empl 2019	% of GC total 2019	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS						
Information technology and telecoms	845	8,813	8,374	46.4%	5.2%	8.3%
Life science and healthcare	143	3,290	2,938	16.7%	12.0%	8.2%
High-tech manufacturing	189	2,095	2,075	25.1%	1.0%	3.4%
Knowledge intensive services	220	2,120	2,092	32.5%	1.3%	6.5%
TOTAL KI SECTORS	1,397	16,318	15,479	30.7%	5.4%	7.3%
OTHER SECTORS						
Primary	130	846	847	24.8%	-0.1%	1.1%
Manufacturing	204	1,908	1,880	43.8%	1.5%	0.2%
Wholesale and retail distribution	420	2,487	2,432	22.8%	2.3%	2.8%
Construction and utilities	609	2,923	2,891	53.3%	1.1%	5.5%
Transport and travel	95	867	819	48.7%	5.9%	3.1%
Property and finance	840	3,023	3,042	56.1%	-0.6%	3.0%
Other business services	1,293	7,739	7,526	63.6%	2.8%	4.4%
Other services	696	5,555	5,668	71.6%	-2.0%	4.7%
Education, arts, charities, social care	423	10,951	10,869	88.2%	0.8%	3.0%
TOTAL NON-KI SECTORS	4,710	36,299	35,974	57.1%	0.9%	3.5%
TOTAL ALL SECTORS	6,107	52,617	51,453	45.4%	2.3%	4.7%

Source: Cosh & Caselli, CBR.

Appendix A2. Employment growth by sector in Cambridge

February 2021 Update	Number of companies	Total empl 2020	Total empl 2019	% of Camb total 2019	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS						
Information technology and telecoms	329	5,068	4,798	44.6%	5.6%	8.9%
Life science and healthcare	56	1,752	1,531	26.3%	14.4%	10.7%
High-tech manufacturing	26	376	362	26.1%	3.9%	4.0%
Knowledge intensive services	80	816	788	46.8%	3.6%	14.4%
TOTAL KI SECTORS	491	8,012	7,479	38.1%	7.1%	9.6%
OTHER SECTORS						
Primary	28	85	85	40.7%	0.0%	4.9%
Manufacturing	54	467	462	59.9%	1.1%	1.8%
Wholesale and retail distribution	154	853	834	31.7%	2.3%	3.9%
Construction and utilities	154	465	482	41.5%	-3.5%	1.9%
Transport and travel	27	275	262	60.3%	5.0%	3.6%
Property and finance	392	1,746	1,753	56.3%	-0.4%	6.1%
Other business services	500	3,601	3,514	51.7%	2.5%	4.0%
Other services	300	2,424	2,448	70.1%	-1.0%	4.3%
Education, arts, charities, social care	223	6,094	6,076	81.0%	0.3%	-0.4%
TOTAL NON-KI SECTORS	1,832	16,010	15,916	61.0%	0.6%	2.4%
TOTAL ALL SECTORS	2,323	24,022	23,395	51.1%	2.7%	4.6%

Source: Cosh & Caselli, CBR.

Appendix A3. Employment growth by sector in South Cambridgeshire

February 2021 Update	Number of companies	Total empl 2020	Total empl 2019	% of S Cambs total 2019	Empl growth 2019-20	Empl growth 2018-19
KNOWLEDGE INTENSIVE SECTORS						
Information technology and telecoms	516	3,745	3,576	49.1%	4.7%	7.5%
Life science and healthcare	87	1,538	1,407	11.9%	9.3%	5.6%
High-tech manufacturing	163	1,719	1,713	24.9%	0.4%	3.3%
Knowledge intensive services	140	1,304	1,304	27.4%	0.0%	2.2%
TOTAL KI SECTORS	906	8,306	8,000	26.0%	3.8%	5.3%
OTHER SECTORS						
Primary	102	761	762	23.7%	-0.1%	0.7%
Manufacturing	150	1,441	1,418	40.3%	1.6%	-0.4%
Wholesale and retail distribution	266	1,634	1,598	19.8%	2.3%	2.3%
Construction and utilities	455	2,458	2,409	56.5%	2.0%	6.2%
Transport and travel	68	592	557	44.7%	6.3%	3.0%
Property and finance	448	1,277	1,289	55.8%	-0.9%	-1.0%
Other business services	793	4,138	4,012	79.7%	3.1%	4.8%
Other services	396	3,131	3,220	72.8%	-2.8%	5.0%
Education, arts, charities, social care	200	4,857	4,793	99.3%	1.3%	7.7%
TOTAL NON-KI SECTORS	2,878	20,289	20,058	54.4%	1.2%	4.5%
TOTAL ALL SECTORS	3,784	28,595	28,058	41.5%	1.9%	4.7%

Source: Cosh & Caselli, CBR.

Appendix A4. Greater Cambridge 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 ten years. The current database goes from 2010-11 to 2019-20 audited company data and covers the accounting periods of companies ending in the 2019-20 financial year. The results of the 2019-20 annual draw were made available at the beginning of March 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, Greater Cambridge, 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.cambridgeahead.co.uk/media/1927/cbr-database-methodology-2021-rev.pdf>

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 (six months); and the impact of the first and second lockdowns (nine months). However, it must be remembered that the update takes no account of births or deaths, or of changes in location.

Table 1 Summary of Greater Cambridge Employment Updates

Draw Name	Sample or All	Accounting year ends within:	Median growth period	Release date	Relation to Covid
<i>Update November 2020*</i>	Sample	30 November 2019 to 31 May 2020	Year to end December 2019	November 2020	Little impact
<i>Annual draw 2020**</i>	All companies	6 th April 2019 to 5 th April 2020	Year to early December 2019	February 2021	Little impact
<i>Update February 2021*</i>	Sample	March 2020 to August 2020	Year to end April 2020	March 2021	3 months Covid impact
<i>Update June 2021*</i>	Sample	June 2020 to January 2021	Year to early August 2020	July 2021	Impact of first Covid lockdown
<i>Update October 2021</i>	Sample	October 2020 to April 2021	Year to early December 2020	November 2021	Impact of 1 st and 2 nd 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.

Update Sample (using February 2021 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 31 March 2020 and 31 August 2020. We then check 2019 and 2018 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 years ending March to August: 2020 (if available), 2019 and 2018. Finally, we create a file with the following information for those remaining in the update sample (**3,899** companies this time):

- Company name
- Company registration number
- LA District
- Sector
- KI or non-KI
- Size class in 2019 – 1 = 1 employee, 2 = 2-9 employees, 3 = 10 or more employees
- Latest employment (on average April 2020)
- Employment 1 year earlier (on average April 2019)
- % change in employment over last year (i.e. on average to April 2020)

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 Greater Cambridge area

We take from our corporate database all companies currently alive that are based in Cambridge or South Cambridgeshire. We select a sample of those companies that have accounting periods ending between February 2020 and August 2020. For companies that were included in the update sample we enter their employment data for the last three years. For the remaining companies that have not yet reported in 2020 we next download the latest FAME data and check 2019 and 2018 employment data against the existing figures on the database. Following this work we create a file with all the companies based in the Greater Cambridge area (**6,107** companies) with the following information:

- Company name
- Company registration number
- Local Authority District
- Sector
- KI or non-KI

- Size class in 2019 (as above)
- Employment 2019
- Employment 2018
- % 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 2020. This allows us to compare the most recent growth of each sector and size class over the most recent year 2019/20 in comparison with the year 2018/19 for this sample of companies. The resulting sample is shown in Appendices A1–A3 and these tables show how significant they are, representing 45% of total corporate employment in Greater Cambridge.

Since we include only companies that have a reporting date between March 2020 and August 2020, they have all had some experience of the Covid epidemic varying from one to seven months. On average the companies in our sample will reflect the impact Covid has had on their performance during the last three months of their year.

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 2019 and as the vertical axis the annual growth shown in the update sample (in this case effectively the year to April 2020) – 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).