

## Growth in the Cambridge economy 2018-24

The Government has put Cambridge at the heart of its plans for growth. It is therefore of great importance that this area continues to provide a growth impetus. This note addresses this question by examining the performance of businesses that are based within Greater Cambridge.

The underlying core corporate database has been established and maintained by Andy Cosh and Giorgio Caselli at Cambridge University with the ongoing support of Cambridge Ahead, and is currently sponsored by Arm, Cambridgeshire and Peterborough Combined Authority, Greater Cambridge Partnership, Marshall of Cambridge and Mills & Reeve. This has allowed the performance of companies based in Cambridge to be monitored over the past decade making use of this longitudinal database of companies that is both consistent and location-specific.

### Rapid growth in Greater Cambridge

The table below shows Greater Cambridge employment and turnover growth between 2017-18 and 2023-24.

**Table 1 Employment and turnover growth in Greater Cambridge**

Six year growth 2018-24 %pa	Employment			Turnover		
	<i>KI</i>	<i>Non-KI</i>	<i>All</i>	<i>KI</i>	<i>Non-KI</i>	<i>All</i>
Cambridge	8.3%	3.1%	5.3%	10.3%	6.0%	9.0%
South Cambridgeshire	5.1%	2.9%	4.0%	7.5%	3.6%	6.0%
<b>Greater Cambridge</b>	<b>6.2%</b>	<b>3.0%</b>	<b>4.5%</b>	<b>8.6%</b>	<b>4.4%</b>	<b>7.1%</b>

Source: Cosh & Caselli, Centre for Business Research (CBR), Cambridge University.

The Greater Cambridge corporate economy saw exceptional growth over the last six years. Overall employment grew by 4.5% pa, driven by a buoyant KI economy. Employment growth in the KI sectors (6.2% pa) was twice as high as it was in non-KI sectors (3.0% pa). Turnover growth exceeded employment growth as it does usually, yet the picture based on turnover data is broadly similar.

Some examples of fast-growing sectors and companies over the last six years include:

- KI
  - Software development
    - Darktrace (+559 employees; 23.1% pa)
    - Frontier Developments (+527 employees; +17.9% pa)
    - Redgate Software (+248 employees; +12.1% pa)
  - IT & computer services
    - Arm, Cambridge estimate (+725 employees; +5.4% pa)

- Amazon’s EVI Technologies (+422 employees; +18.1% pa)
- Biotech R&D
  - AstraZeneca (+1,948 employees; +10.4% pa)
  - Illumina Cambridge (+395 employees; +11.5% pa)
  - Bicycle Therapeutics (+242 employees; +49.3% pa)
- Non-KI
  - Health services
    - Ieso Digital Health (+121 employees; +21.1% pa)
    - Arthur Rank Hospice (+119 employees; +9.2% pa)
  - Education
    - The Edmund Trust (+119 employees; +9.3% pa)
    - Cambourne Village College (+83 employees; +9.2% pa)
  - Hospitality
    - Lunchtime Co (+168 employees; +9.6% pa)
    - Hot Numbers Coffee (+67 employees; +23.7% pa)

However, the figures for 2023-24 reported in the table below suggest that Greater Cambridge is not immune to the current slack national picture. A case in point is the slowdown in KI employment growth (4.7% in the latest year compared with 6.2% pa over the six-year growth period), which was only slightly higher than non-KI employment growth.

A drill down on the individual districts making up Greater Cambridge reveals that this slowdown in KI employment growth is associated with Cambridge city. Cambridge KI employment grew by 4.5% in the latest year, well below the 8.3% pa rate achieved over the six-year growth period. By contrast, Cambridge’s non-KI sectors grew faster in 2023-24 (6.7%) than their six-year average (3.1% pa) and outperformed KI sectors.

We find a different picture for South Cambridgeshire, where KI sectors continued to outperform non-KI sectors by a considerable margin.

**Table 2 Employment and turnover growth in Greater Cambridge**

Latest year growth 2023-24 %pa	Employment			Turnover		
	KI	Non-KI	All	KI	Non-KI	All
Cambridge	4.5%	6.7%	5.6%	7.4%	10.3%	8.1%
South Cambridgeshire	4.8%	2.8%	3.9%	1.8%	2.5%	2.0%
<b>Greater Cambridge</b>	<b>4.7%</b>	<b>4.4%</b>	<b>4.6%</b>	<b>4.0%</b>	<b>5.0%</b>	<b>4.3%</b>

Source: Cosh & Caselli, CBR, Cambridge University.

### Business demography of Greater Cambridge

Overall corporate growth depends on continuing companies (i.e. those alive at the start and end of the period) and on changes to the business stock caused by company births and deaths, along with companies moving into and out of the area. The table below compares the

employment growth rates of these groups of businesses in the latest year and over the last six years.

**Table 3 Greater Cambridge business demography: employment growth rates**

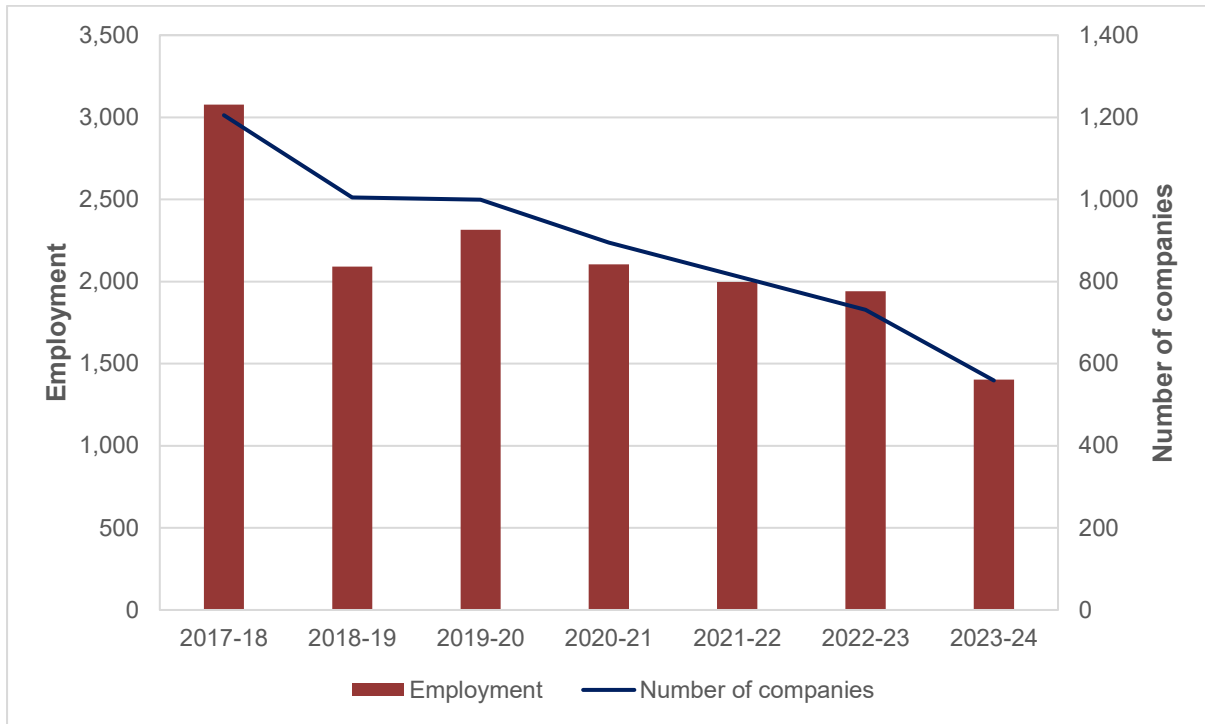
Employment growth rates	Latest year 2023-24	6 years 2018-24
Continuing firms	4.9%	4.2%
Births	1.3%	2.1%
Deaths	-1.6%	-2.0%
Moved in	0.6%	0.7%
Moved out	-1.3%	-1.3%
<b>Total</b>	<b>3.7%</b>	<b>3.9%</b>
<b>Net births</b>	<b>-0.3%</b>	<b>0.1%</b>
<b>Net moves</b>	<b>-0.7%</b>	<b>-0.5%</b>
<b>Combined (net entrants)</b>	<b>-1.0%</b>	<b>-0.4%</b>

Source: Cosh & Caselli, CBR, Cambridge University.

Employment growth of continuing companies was 4.9% in 2023-24 (4.2% pa over the last six years). This growth was reduced by net births (i.e. births minus deaths, -0.3%) and net moves (i.e. companies moved in minus those moved out, -0.7%). Employment growth of net births and net moves combined ('net entrants') was -1.0%, against an average figure of -0.4% pa over the six-year period. These figures reveal an increasingly more negative contribution of net entrants to overall employment growth in Greater Cambridge.

A more detailed analysis of the data sitting behind these figures suggests that this increasingly more negative contribution of net entrants is caused primarily by a fall in birth rates. The figure below looks at the number of business births in Greater Cambridge and their employment since 2017-18.

### Business births in Greater Cambridge



Source: Cosh & Caselli, CBR, Cambridge University.

The number of business births, along with their employment, has more than halved in the six-year growth period to 2023-24. The falling birth rate of companies in the Greater Cambridge area is a concern and appears to be found for both KI and non-KI businesses, as indicated in the table below.

**Table 4 Number of KI and non-KI business births in Greater Cambridge**

Year	KI births	Non-KI births
2017-18	344	861
2018-19	389	616
2019-20	329	670
2020-21	241	654
2021-22	191	622
2022-23	141	590
2023-24	122	437

Source: Cosh & Caselli, CBR, Cambridge University.

This decline is important because, despite the higher death rate of newly-formed companies, their growth rate is exceptional. This is particularly true for KI companies, since their growth has been superior to non-KI births in every year studied.

**If we take the 2017-18 Non-KI births:**

37% of the 861 births had died by the latest year

Taking account of the deaths, the employment of this birth cohort had grown by 3% pa over the past six years.

Those companies born in 2017-18 and alive six years later have seen employment growth of 7% pa.

**If we take the 2017-18 KI births:**

51% of the 344 births had died by the latest year which is due to innovation risk.

Taking account of the deaths, the employment of this birth cohort had grown by 16% pa over the past six years – much more dynamic than their non-KI counterparts.

Those companies born in 2017-18 and alive six years later have seen employment grow at the exceptional rate of 27% pa.

Some good examples of this are: Oval Medical Technologies Ltd; Closed Loop Medicine Ltd; Gearset Ltd; Cambridge GAN Devices Ltd; BIT BIO Ltd; Sano Genetics Ltd; XAP Therapeutics Ltd; and Echion Technologies Ltd. These eight companies grew from 20 employees in 2017-18 to 700 employees in 2023-24.

We will need to monitor this declining birth rate of KI companies and its causes.

## The non-corporate sector

A major weakness of the data presented so far is that it does not cover non-corporates. Therefore, we turn to data from the Office for National Statistics (ONS) for those sectors dominated by organisations that are not companies based in Cambridge (e.g. public services, retail and sole proprietors), which are more important in the non-KI sectors. Also, there is no equivalent corporate database available for the whole country. In an attempt to bridge these gaps, we draw upon an analysis of the Business Register and Employment Survey carried out by ONS.

The ONS data shows Greater Cambridge is growing faster than the rest of Britain over the past six years and in the latest year.

**Table 5 ONS employment growth: Greater Cambridge vs Great Britain**

Employment Growth %pa	Greater Cambridge			Great Britain		
	1yr 22-23	1yr 23-24	6yrs 18-24	1yr 22-23	1yr 23-24	6yrs 18-24
Using ONS data analysis sectors						
<i>Sub-total - KI sectors</i>	-7.5%	7.1%	3.0%	4.3%	0.9%	1.3%
<i>Sub-total - Other sectors</i>	1.0%	5.3%	1.0%	1.7%	1.2%	0.9%
<b>Total Employment</b>	<b>-1.2%</b>	<b>6.0%</b>	<b>1.5%</b>	<b>1.9%</b>	<b>1.2%</b>	<b>0.9%</b>

Source: CBR's calculations based on data from BRES (Nomis).

However, the ONS data records a slower rate of growth than the CBR data over the last six years and in the latest year.

The CBR data can be arranged into the sectors used by ONS in its employment analysis. A comparison of the results for the two sources is shown in the following table. For this comparison, the CBR corporate data is augmented by the findings from our annual survey of employment in research organisations.

**Table 6 Employment growth in Greater Cambridge: ONS data vs CBR data**

Greater Cambridge Analysis sector	ONS data			CBR data		
	1yr 22-23	1yr 23-24	6yrs 18-24	1yr 22-23	1yr 23-24	6yrs 18-24
High-tech manufacturing	0.0%	-8.3%	-3.9%	2.7%	4.5%	1.1%
Life sciences manufacturing	0.0%	0.0%	10.1%	17.8%	5.6%	10.7%
ICT	-15.2%	7.1%	3.8%	3.2%	6.8%	7.1%
R&D	0.0%	13.9%	5.3%	8.0%	3.2%	6.1%
Knowledge intensive services	-17.4%	10.5%	2.6%	6.6%	2.1%	4.8%
<i>Sub-total - KI sectors</i>	<i>-7.5%</i>	<i>7.1%</i>	<i>3.0%</i>	<i>6.2%</i>	<i>4.3%</i>	<i>5.5%</i>
Primary	6.7%	-12.5%	-2.2%	3.2%	-5.1%	0.3%
Other manufacturing	17.6%	0.0%	0.0%	1.2%	-0.7%	1.2%
Property and construction	10.5%	4.8%	1.6%	1.0%	3.3%	2.4%
Utilities	-22.2%	21.4%	-0.9%	23.9%	0.3%	4.1%
Publishing	62.5%	-26.9%	2.9%	2.6%	-0.7%	1.8%
Transport and travel	0.0%	20.0%	3.1%	5.4%	4.8%	2.0%
Wholesale distribution	0.0%	11.1%	1.8%	10.7%	6.1%	-1.7%
Retail distribution	-7.7%	0.0%	-1.9%	6.9%	1.4%	2.1%
Hotels, pubs and restaurants	-3.7%	3.8%	0.0%	14.4%	4.6%	6.8%
Other business services	-4.9%	7.7%	1.7%	3.3%	3.3%	2.0%
Public services	-5.9%	6.3%	6.0%	-9.1%	80.0%	5.6%
Other services	0.0%	6.3%	0.0%	7.4%	6.5%	2.9%
Education	0.0%	9.8%	2.4%	4.0%	5.5%	2.1%
Finance and professional services	-5.0%	5.3%	0.0%	10.9%	5.2%	5.8%
Health services	5.9%	3.7%	0.9%	4.2%	7.2%	4.6%
<i>Sub-total - Other sectors</i>	<i>1.0%</i>	<i>5.3%</i>	<i>1.0%</i>	<i>4.7%</i>	<i>4.9%</i>	<i>3.0%</i>
<b>Total Employment</b>	<b>-1.2%</b>	<b>6.0%</b>	<b>1.5%</b>	<b>5.3%</b>	<b>4.6%</b>	<b>4.0%</b>

Source: CBR's calculations based on data from BRES (Nomis) [ONS data]; Cosh & Caselli, CBR, Cambridge University [CBR data].

A compromise estimate could be formed by taking the growth data for sectors with a lower proportion of company influence from ONS data and combining it with CBR data. But this is hampered by two factors. First, the ONS data is volatile, as can be seen by a comparison of the growth rates estimated for 2022-23 with those for 2023-24 for sectors like ICT, R&D, Life Sciences, Knowledge intensive services, Utilities etc. Second, the ONS data is constrained by using the Standard Industrial Classification, which is now a very poor representation of the structure of modern industry.

## Summary

Our findings suggest that:

- Business in Cambridge has grown rapidly and far faster than the national economy over the past six years;
- The KI sector has led this growth but does not appear to have hampered the growth of the non-KI sector;
- The faltering national economy over the past year has had an impact even in Cambridge by slowing growth;
- The impact of net moves and net births has worsened over recent years, partially offsetting the fast growth of continuing firms;
- The decline in birth rates in recent years is found in both KI and non-KI businesses;
- This is particularly worrying for KI sectors since the births generate fast subsequent employment growth;
- ONS data shows Cambridge growth to be above the national average, but generally has a lower growth estimate than CBR data;
- The volatility of ONS data and the use of an outdated Standard Industrial Classification hamper the further use of the ONS data.

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