

The modern UK industrial sector

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A case study about post-industrial employment in service industries

Since 1980 the proportion of the workforce in services has increased from 63% to 83%. This is why we refer to the economy as ‘post-industrial’. Traditional manufacturing industries have largely disappeared. Today, wealth in the UK is mainly created through providing services.

The unit focuses on two case studies:

- Cambridge – the development of knowledge-based enterprises relying on university expertise.
- Retailing – the growth of superstores, retail parks, shopping malls and, most recently, online sales.

Key vocabulary

post-industrial, knowledge-based, workforce, start-up, retail park, regional shopping centre, internet shopping

Learning outcome

In this unit you will:

- learn how the structure of UK industry has changed over time
- understand the importance of knowledge-based enterprises to the UK economy
- learn why service industries like retailing have become so dominant in UK employment.

Relevance to specifications

| Exam board | Link to specification |
|------------------------|--|
| AQA | Paper 2: Challenges in the human environment, Section B: The changing economic world, see page 20. Click here |
| Cambridge IGCSE | Theme 3: Economic development, Topic 3.1: Development, see page 12. Click here |
| Edexcel A | Component 2: The human environment, Topic 4: Changing cities, see pages 17–19. Click here |
| Edexcel B | Component 1: Global geographical issues, Topic 3: Challenges of an urbanising world, see pages 14–15. Component 2: UK geographical issues, Topic 5: The UK’s evolving human landscape, see pages 23–25. Click here |
| Edexcel IGCSE | Section B: People and their environments, Topic 4: Economic activity and energy, see page 9. Click here |
| Eduqas A | Component 2: Environmental and development issues, Theme 6: Development and resource issues, see page 19. Click here |
| Eduqas B | Component 1: Investigating geographical issues, Theme 1: Changing places – changing economies, see pages 10–11. Click here |
| OCR A | Component 1: Living in the UK today, 1.2 People of the UK, see page 7. Click here |
| OCR B | Component 2: People and society, Topic 7: UK in the 21st century, see page 14. Click here |
| WJEC A | Unit 2: Options, Theme 11: Retail and urban change, see page 20. Click here |
| WJEC B | Theme 1: Challenges of living in a built environment, Key idea 2: Access to services and changing service provision, see page 14. Theme 3: Uneven development and sustainable environments, Key idea 2: The location of economic activities, see page 20. Click here |

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The changing structure of industry

In the last 30 years the UK has become a **post-industrial** society. That means most of us do not make things to earn a living. Instead we provide services, either to other people, businesses, government and administration, or to manufacturing firms.

Traditionally, there are three types of job that people do:

- Primary industries exploit natural resources.
- Secondary industries process or make products.
- Tertiary industries provide services.

In the 20th century a fourth category developed:

- Quaternary industries are **knowledge-based**, often involving research and development (R&D).

Figure 1 shows changes in employment over the past 170

“Today employment is dominated by services.”

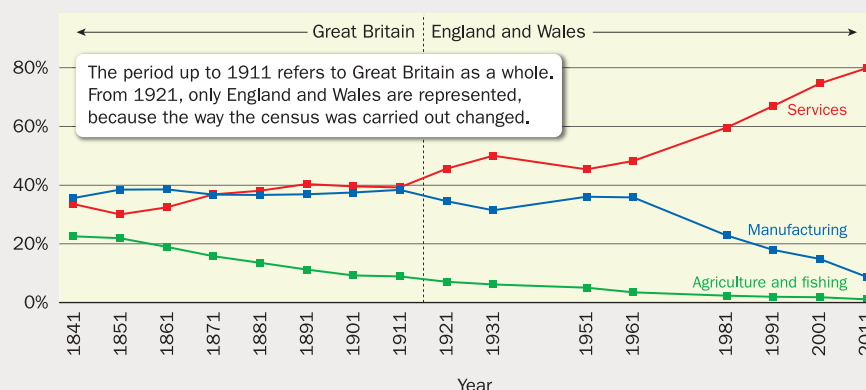


Figure 1 Employment structure in the UK, 1841–2011

years. The figures are based on census information. The graph shows that jobs in farming and fishing have gradually gone down. Now less than 1% of people work in this sector. In the 19th century, when Britain was ‘the workshop of the world’, manufacturing and services each employed about one-third of the **workforce**. Services became more important as manufacturing declined during the Great Depression of the 1930s. During the last 50 years so many manufacturing jobs have been lost that it now accounts for less than 10% of the workforce. Employment is now dominated by services,

with over 80% of the working population in tertiary and quaternary industries.

In 2015 the UK population was almost 65 million, of which 31 million were in employment. This represented three-quarters of working age people (16–64). In that year 1.7 million were unemployed (5% of working age people) and 8.9 million aged 16–64 were economically inactive. During 2015 most types of employment rose in number, with the highest category being professional, scientific and technical staff. Only employment in public administration and defence dropped.

Cambridge – engine of economic growth

Cambridge is a rapidly expanding city, population 128 000, in East Anglia. It is regarded as one of the ‘national engines of economic growth’. It ticks all the boxes for government plans to boost the economy

of post-industrial Britain. The city has been remarkably successful in developing a high-tech industrial and research sector. Known as ‘Silicon Fen’ it consists of over 4300 knowledge-based businesses in and around the city. Together they have an

annual turnover of £11 billion and employ 58 000 people. Some 40% of the Cambridge workforce has a university degree, which is more than twice the national average. The wide range of industries includes:

- research and development
- software consultancy

- bioscience
- medicines
- high-value engineering
- creative occupations
- tourism.

Cambridge has many advantages as a centre of modern industry:

- It is directly linked to Greater London, only 80 km away, by the M11 and A1(M) motorways. Mainline rail services allow commuters to reach central London in under an hour. Cambridge airport provides commercial flights to Europe.
- Cambridge University is an educational hot-house that generates expertise and innovation. It has close links with the city's high-tech industries and research establishments, and provides a pool of highly skilled labour.
- The University Science Park was founded in 1970 to provide accommodation and facilities for new firms. Cambridge has the highest rate of successful **start-ups** in the country (Figure 2), with half of them still operating after five years.

“ Cambridge has the highest rate of successful start-ups in the country.”

- Addenbrooke's Hospital, on the southern edge of the

ARM HOLDINGS: UK's leading technology company

Founded: 1990, as a joint venture between Acorn Computers and Apple

Original staff: 12 Acorn engineers + CEO

Business: Designs silicon chips (microprocessors) and graphics software

Worth: approximately £14 billion

Headquarters: Fulbourn Road, Cambridge

Staff: 3800 in total (1600 at Cambridge HQ) – includes employees from 23 European countries outside the UK

Output: 15 billion chips featuring its technology were manufactured in 2015. Half of these were for mobile devices, including the iPhone. The other half were for thousands of different products, giving a very diverse market.

Future developments: ARM is at the forefront of 'the internet of things'. Its work means that chips are much cheaper, smaller and more energy-efficient than before. This means they can be embedded into a wide range of everyday objects. Opportunities are growing to connect domestic devices and systems to the internet at both household and town levels. ARM is also working on automotive applications, using computing power in cars to make them smarter, safer and more fuel-efficient. The ultimate goal is the self-drive car, though this is still some years away. Increasingly powerful smartphones will extend internet access for people in developing countries, helping with healthcare and social problems. ARM is working with UNICEF, which is exploring the use of smartphone photos to diagnose illnesses.

July 2016: ARM sold to Japan's SoftBank for £24 billion. The new owner promises to double the UK staff over the next five years and to keep the firm's HQ in Cambridge.

Figure 2 About ARM

city, is at the centre of Cambridge's Biomedical Campus. The site already incorporates large laboratories for the Medical Research Council and Cancer Research UK, as well as many smaller research units. The new global headquarters for the drugs firm AstraZeneca is being built there.

- The Greater Cambridge City Deal will potentially provide £500 million of government funding over the next 15 years to invest in housing, transport and jobs. Additional funds will come from the councils and commercial firms involved in the developments.

- The city offers a high quality of life in a historic setting, with a thriving cultural scene.
- Cambridge is a major tourist destination, with over 5 million visitors a year. People come to see the historic university buildings and grounds along the River Cam (Figure 3). Currently 85% of tourists are on day trips but 'Visit Cambridge and Beyond', the tourism development body, is encouraging longer stays by promoting attractions outside the city.
- The city is surrounded by attractive countryside, with picturesque villages and desirable, but expensive housing.



Figure 3 Tourists in Cambridge
Source: Photo by Mike Morrish

Retailing – a major service industry

Retailing is one of the most important activities in the service sector. There have been dramatic changes in how people shop. In the 1950s shops were located in small neighbourhood parades, local high streets and town centres. Separate shops sold different types of product. Many large British cities had suffered bomb damage during the Second World War and their centres were rebuilt to include open-air pedestrian 'shopping precincts'.

In the 1960s the American concept of supermarkets was rapidly established in the UK. Supermarkets needed larger sites to accommodate the bigger buildings and extensive car parks so they chose locations further out of town. These were by main roads in the suburbs, which

were easily accessible by car and where land was cheaper.

From the mid-1970s onwards, firms selling bulky household goods – furniture, carpets, DIY – moved out of town centres to warehouse-style superstores, usually clustered together in **retail parks**. By the early 1980s they had been joined by a range of comparison goods retailers and 'cash & carry' or discount warehouses. All these developments threatened the traditional city centres. They reacted by building enclosed shopping centres which offered an attractive climate-controlled environment with a full range of national chain stores.

In 1976 the first major free-standing shopping centre opened at Brent Cross in northwest London. It was followed in the 1980s and 1990s by several larger

regional shopping centres (Figure 4).

By the mid-1990s there were over 250 retail parks nationwide and many hundreds of individual superstores. Out-of-town retailing accounted for 25% of all sales.

Rise of internet shopping

By 2016 one-tenth of the UK population was shopping exclusively online. A further half used the internet regularly for purchases. More consumers are using smartphones and tablets to place orders 'on the go' rather than at home. The 'click and collect' service is proving very popular.

All the large supermarkets offer **internet shopping** and delivery services. They have all struggled to make their online business profitable in a highly

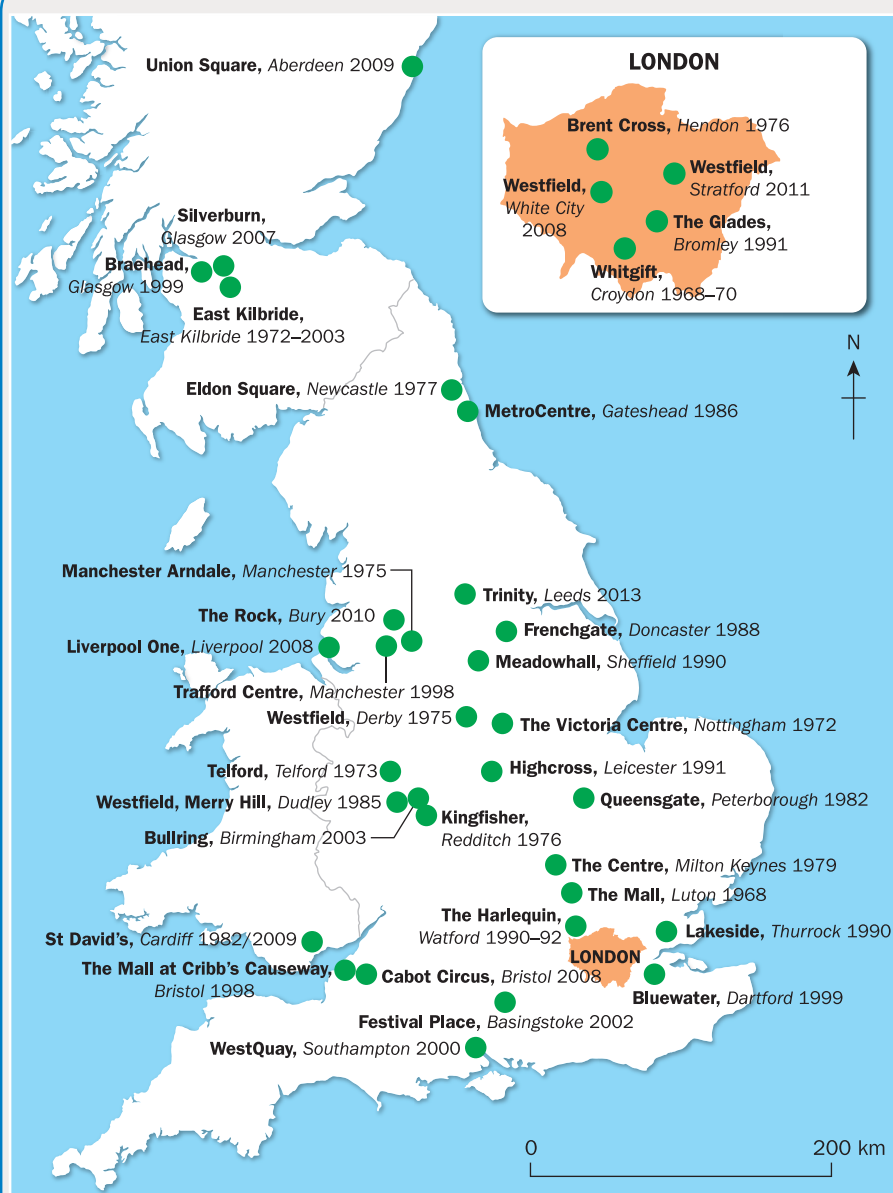


Figure 4 UK's largest shopping centres and dates of opening

competitive market. Outside the supermarket trade, Amazon is the giant of internet shopping (Figure 5).

Return to the city

In 1996 a shift in planning policy encouraged retailers to focus on town centre

locations. The big supermarkets responded by setting up chains of smaller, more convenient stores in cities, such as Tesco Express and Sainsbury's Local.

Decline of the high street

Following the financial crisis of 2008, the closure of the



Figure 5 Amazon warehouses in the UK

Woolworths chain sent shock waves through the UK's high streets. During 2012/13 a series of retailers failed and in spring 2016 British Home Stores went bankrupt, with the loss of 11 000 jobs.

High street shops have continued to struggle. In early 2012 it was predicted that 40% of high street shops would close over the next five years. By the end of the year 15% of UK shops were vacant. There was also a north-south split in vacancies, with rates in northern towns running at 20–30%, compared with 10% or less in the south.

Conclusion

In the last 50 years there have been many changes in employment patterns in the UK. Traditional 'factory floor' labour has largely disappeared

as industries have closed down or been automated. Many new service jobs have been created and employment in that sector is high. However, these posts are

frequently poorly paid, part-time or insecure. The labour market today can be tough and unrewarding.

Activities

- 1 Look at Figure 1.
 - a How has employment in agriculture and fishing, manufacturing and services changed over time?
 - b Suggest reasons for the changes.
- 2 Read the text in Figure 2. List five ways in which ARM is typical of Cambridge's industrial sector.
- 3 Look at Figure 3.
 - a What does it suggest about the advantages and disadvantages of tourism for Cambridge?
 - b Go to the tourist website visitcambridge.org. Write a paragraph explaining why people want to visit the city.
 - c Suggest five service jobs that would benefit from tourism.

- 4 a Arrange the following types of retail location into a 'shopping hierarchy'.
 - suburban high street
 - retail park • superstore
 - central business district
 - neighbourhood parade
 - regional shopping mall
 - corner shop • major suburban centre
 - b Name a type of shop you might find in each location.
- 5 Look at Figure 5 which shows the location of Amazon's warehouses in the UK. How might their distribution have been influenced by:
 - i major cities
 - ii the motorway network
 - iii the cost of land
 - iv recruiting workers?
- 6 Use the data in Figure 6.
 - a List the categories in descending order of size

(number of shops). Try to explain the pattern in your list.

- b There is a large Tesco superstore on the edge of Royston. How might this have affected the range of shops in the town centre?

| Category | Number |
|---------------------------|--------|
| Cars and cycles | 17 |
| Charity | 6 |
| Clothing | 14 |
| Convenience services | 47 |
| Financial services | 10 |
| Food | 10 |
| Household | 22 |
| Leisure | 45 |
| Non-professional services | 29 |
| Professional services | 20 |

Figure 6 Shops in Royston, near Cambridge

Learning checkpoint

- The UK's industrial structure is typical of a post-industrial economy.
- The UK has moved towards a reliance on knowledge-based industries for its economic growth and wealth creation.
- Cambridge is a nationally important centre of modern technology, attracting talented staff from throughout the UK and abroad.
- Retailing is one of the UK's largest and most important service industries today.
- The trend for out-of-town locations has now changed to an emphasis on regenerating town centres.

retail park
start-up

structure of industry
workforce

Remember this case study

To help you remember this case study, make notes under the following headings:

Changes in the UK's structure of industry over the past 150 years

Reasons for the dominance of service industries in the UK today

Why Cambridge is an engine of growth for the current UK economy

How the nature of retailing in the UK has altered over the last 50 years

Try to make your notes fit a single sheet of A4.

Glossary task

Write glossary definitions for these terms:

internet shopping

post-industrial

knowledge-based

regional shopping centre