Office for National Statistics

Article

Firm employment dynamics in local economies, UK: 2004 to 2022

Local employment changes dynamics influenced by job creation and job destruction. These are official statistics in development.

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1 . Main points

- Between 2004 and 2022, the rate at which jobs were being created and destroyed fell in around 87% of international territorial level 3 (ITL3) regions.
- The fall in job creation rates ranged from negative 7% to positive 3% and the fall in job destruction rates ranged from negative 8% to positive 2% in ITL3 subregions.
- The fall in the rate at which jobs were being created can mostly be attributed to existing firms opening fewer additional employment sites.

2 . Overview of job creation and destruction

During a business or organisation's lifecycle, they will create jobs as they open and grow, and will remove jobs when they shrink and close. As jobs are removed by firms that shrink or close, displaced workers flow to opening or expanding enterprises.

A steady rate of creation and destruction is necessary for an economy to grow in the long term, because it allows new ideas and activities to flourish. This process is tied to the idea of "creative destruction", proposed by economist Joseph Schumpeter.

Our Business dynamism in the UK economy bulletin records a fall in both job creation and job destruction rates at the UK level between 1999 and 2019. However, less is known about how these effects appear within a subnational setting.

We explore how firms create jobs and destroy jobs in a local context and how the rate at which jobs are added and removed has changed since 2004 at lower levels of geography. To do this, we utilise data on business sites from the inter-departmental business register (IDBR) and a developed activity criteria from the longitudinal business database (LBD).

3 . Channels of job creation and destruction

An enterprise or firm with employees will operate from one or more employment sites. Where a supermarket chain represents an enterprise, its individual stores, warehouses, and head office represent its employment sites. For firms operating at a single site, this one location corresponds to its employment site.

Firms can add jobs to local economies by either creating new employment sites or by increasing the number of people they employ at their existing employment sites. Firms can also destroy jobs by reducing the number of people they employ at existing employment sites or by closing employment sites entirely.

Figure 1 shows the number of jobs created and destroyed through these activities and the resulting net effect on employment. In 2022, a net addition of around 411,000 jobs occurs because of a total of 4.4 million jobs being created by firms and a further 4.0 million jobs being destroyed at the same time. This reflects the large level of labour reallocation or churn that exists beneath overall changes in employment.

Figure 1: Large amounts of job creation and destruction affect net changes in employment

Jobs created, and jobs destroyed by channel, UK, 2022

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4 . Trends in local job creation and destruction

We can calculate a job creation rate and a job destruction rate by looking at the number of jobs created or destroyed by firms in a year relative to the existing level of employment within an area.

As an example, a job creation rate of 10% in an area with 100,000 workers would correspond to 10,000 jobs being added per year. This allows us to better compare the pace of job creation and destruction across time as well as areas of different sizes.

Figure 2 shows the change in average annual job creation rate and job destruction rate during periods between 2004 to 2007 and 2016 to 2019 at the international territorial level 3 (ITL3) level. 87% of ITL3 areas sit in a region of the graph representing a decrease in both the job creation and destruction rate. The change in job creation rates ranged from negative 7% to positive 3% and the change in job destruction rates ranged from negative 8% to positive 2% in ITL3 subregions.

This does not necessarily mean that these areas have experienced negative employment growth but rather that the rate at which jobs are being added and removed is slowing in almost all areas. Notably, many areas experiencing the largest decreases also observed the highest levels of job creation and destruction within the earlier period.

This observed fall in both rates reflects a general slowdown in both the rate at which businesses are growing and the rate at which they are shrinking, also referred to as a fall in business dynamism. This echoes the findings of our recent Trends in UK business dynamism and productivity bulletin, which explores this effect at the UK level using enterprise rather than employment site level data.

Figure 2: Job creation rates and job destruction rates declined in most ITL3 regions

Change in job creation rate and job destruction rate, international territorial level 3 (ITL3) subregions, 2004 through to 2007 to 2016 through to 2019

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Figure 3 shows job creation and destruction rates split out into the different ways firms can add and remove jobs. Summing across these different channels will give the total job creation or job destruction for an area at a point in time. The drop-down bar can be used to explore this series at the ITL2 level.

At the UK level, we observe that most of the fall in the rate at which jobs are being created is influenced by fewer jobs being generated following the creation of new employment sites. The overall contribution to job creation from continuing employment sites expanding has been more constant across time.

On the job destruction side, most of the fall in the rate at which jobs are being destroyed is the result of fewer jobs being destroyed through the closure of employment sites.

Figure 3: Fewer jobs were created by firms opening employment sites and fewer jobs were destroyed by firms closing employment sites in 2022 compared with 2004

Job creation rate and job destruction rate split out by channel, UK and international territorial level 2 (ITL2), 2004 to 2022

Notes:

1. The sign of job destruction has been reversed for illustrative purposes. Therefore, a value nearer to zero corresponds to a smaller job destruction rate and a more negative value corresponds to a larger job destruction rate.

2. Northern Ireland data for earlier periods has been smoothed because of differences in data collection methods.

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For employment creation in a local context, this reflects a shift in the importance of new employment sites in driving local employment growth. Figure 4 shows how the ratio of jobs created from the creation of new employment sites to the jobs created at existing employment sites has changed through time at the ITL2 level.

Between 2004 and 2007, on average, for every 1 job created by at an existing employment site, 1.3 was created by a new employment site being created within a given area. In the 2020 to 2022 period, this ratio had fallen to just under 1.

This means that local economies are becoming more reliant on expansion from within already existing employment sites to drive their job growth. This shift also appears to be uniform across local areas reflected by the shift of the cloud to the left through time in figure 4.

Figure 4: New employment sites have become less important for local employment growth

Ratio of jobs created by new employment sites versus jobs created at already established employment sites, international territorial level 3, 2004 to 2022

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5 . Exploring the slowdown in local job creation

To understand why fewer jobs are being created when new employment sites are being created, as in Haltiwanger and others (2014), we can classify the contribution of new employment sites into jobs created when a new employing firm is initially created, and jobs created when an existing firm opens a new employment site.

The first case will capture new startup and entrepreneurial activity and the second case will capture the expansion of multi-site firms, such as supermarkets or restaurants opening new locations in addition to their existing locations.

Figure 5 shows the average number of jobs created by these channels at the industry level. We observe that when new employment sites are created by expanding enterprises, they tend to employ more people than when a new firm initially starts up.

For example, in the wholesale and retail industry in 2022, an existing firm opening a new store created seven jobs on average compared with a new enterprise which created three jobs on average. This potentially indicates that firms capable of operating across multiple sites tend to be larger operations than a standalone store operating in the same industry.

Figure 5: New employment sites were larger in expanding firms than in start-up equivalents

Average number of jobs created by channel and by industry, UK, 2022

Notes:

1. For public sector employers appearing in this analysis, references to firm should instead be interpreted as organisation.

2. Key to industry groupings:

- Production and manufacturing includes section A (agriculture), sections B (mining and quarrying), C (manufacturing), D (electricity, gas, steam and air conditioning supply) and E (water supply; sewerage, waste management and remediation activities)
- Construction represents section F (construction)
- Wholesale and retail includes G (wholesale and retail trade; repair of motor vehicles and motorcycles) and I (accommodation and food service activities)
- Transport and storage represents section H (transportation and storage)
- Information and communication represents section J (information and communication)
- Finance represents section K (finance)
- Professional services technology and media includes section L (real estate), M (professional, scientific and technical activities) and N (administrative and support service activities)
- Government, healthcare and education section P (education), section O (public administration and defence) section Q (human health and social work activities)
- Other services section R (arts, entertainment and recreation), section S (other service activities), section T (Activities of households as employers) and section U (Activities of extraterritorial organisations and bodies).

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We find that most of the fall in the job creation rate is coming from fewer jobs being created from existing firms choosing to open additional employment sites, rather than jobs created by a new start up activity, which in turn creates an employment site. We determined this by splitting out job creation into the contribution of new employment sites into new employment sites in new firms versus new employment sites in expanding firms. This is shown in Figure 6.

For job destruction, we also find that a large share of the fall in the job destruction rate can be explained by fewer jobs being removed when existing firms close some but not all of their employment sites and continue to trade at others. Combined, these two effects represent a decline in the dynamism of multi-site firms.

Figure 6: Fewer jobs were created by firms opening additional employment sites in 2022 compared with 2004

Job creation rate and job destruction rate by channel, UK, 2004 to 2022

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Figure 7 explores how this effect varies spatially and plots the change in the rate at which jobs are created through these channels, comparing the 2004 to 2007 period and the 2016 to 2019 period at the international territorial level 2 (ITL2) level.

A value of zero would mean that within an area, a given source of employment creation is creating just as many jobs relative to the level of employment as it was in an earlier period. A negative value means that fewer jobs are being created, though a given source relative to the level of employment within a given area.

Looking at the change in the jobs being created by new employment sites from within expanding firms, local areas on average see a fall of two percentage points in the job creation rate. In the context of a local area with 100,000 workers, this represents 2,000 fewer jobs being created per year from already established firms opening new employment sites or stores.

This shift appears to be uniform across ITL2 regions with some areas seeing as much as a four percentage point fall.

Figure 7: Fewer jobs were created by firms opening additional sites across all ITL2 regions

Percentage point change in job creation rate by channel, international territorial level 2 (ITL2), 2004 through to 2007 to 2016 through to 2019

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6 . Industry effects

Figure 8 shows the job creation rate for several industry groupings split out into the different channels. Summing across the three channels will give the total job creation rate within an industry at a point in time.

Across all industries, most job creation has been caused by employment growth from within existing continuing employment sites. Job creation from this channel has remained largely consistent over time.

In contrast, the contribution to job creation of existing firms opening additional new employment sites has declined across a number of different industries. Generally, we see the largest fall from this channel in service sectors of the economy. The effect is still seen in production, manufacturing, and construction industries, but to a smaller extent.

The industry by source breakdowns shown in Figure 8 can be found at the international territorial level 2 (ITL2) level within the accompanying dataset.

Figure 8: Job creation rates were highest amongst continuing sites in all industries

Job creation rate by channel by industry, UK, 2004 to 2022

Notes:

1. For public sector employers appearing in this analysis, references to "firm" should instead be interpreted as "organisation".

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The fall in the number of jobs created when firms choose to open employment sites in addition to their existing ones documented in both Figure 6 and 8 could either be affected by a firm continuing to open new locations but with less staff, or firms opening employment sites of the same size but at a lower rate.

Figure 9 shows the change in the average number of jobs created by the channels presented in Figure 5. We observe that on average, for most industries, new employment sites create the same number of jobs through time. For example, a new employment site opening in retail and wholesale, on average, is creating the same number of staff as it did in earlier periods.

There are, however, some exceptions. In industries such as finance, and transport and storage, new employment sites have become smaller in size. This may reflect machinery and other technologies reducing the number of employees needed at a given employment site, an effect known as capital-labour substitution. Alternatively, it may reflect differences in the scope of operations being carried out at the newer sites.

Figure 9: Levels of job creation per newly created employment site have remained stable in most industries.

Change in the average number of jobs created by channel and industry, UK, 2022

Notes:

1. For public sector employers appearing in this analysis, references to "firm" should instead be interpreted as "organisation".

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7 . Firm propensity to open additional employment sites

Figure 9 shows that between 2004 and more recent periods, in most industries, there has not been a large shift in the average size of employment sites when they are created. This means that the fall in the rate at which jobs are added from the creation of new employment sites is more likely driven by a reduction in the number of employment sites being created.

Figure 10 shows the number of additional employment sites created by whether firms are standalone, operating regionally, or operating nationally. In comparison to earlier periods, across all these categories, we see a decline in the propensity of firms to open additional employment sites. The size of the effect in nationally and regionally operating firms could also explain the relatively uniform effect seen at lower levels of geography.

For standalone firms, this represents the ability of a single site firm to scale up and begin operating across multiple sites. In regional and national enterprises, this represents a reduced likelihood of organisations adding to their existing stock of locations.

The combined effect of the slowdown in both the creation of additional employment sites and the propensity to close employment sites while trading at others could also lead to there being less churn among the locations of multi-site firms.

Figure 10: Nationwide firms have opened fewer additional sites over time

Number of additional employment sites added, and the number of sites removed by firms who continue to trade by geography of enterprise, UK, 2004 to 2022

Notes:

1. Presented as a three-year rolling average.

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Across industries, this effect is most pronounced in wholesale and retail as well as public services. Professional services also see a sharp decline post global financial crisis but appear to have recovered in more recent years, shown in Figure 11.

Many factors could explain this general shift in the propensity of firms to open additional employment sites. Among these are: reduced demand, greater adoption of online sales or frictions in opening new physical locations. In future work we hope to expand upon these findings to better understand the factors driving this effect and its impact on local economies.

Figure 11: The wholesale and retail industry had the largest fall in site creation

Number of additional employment sites added by industry and geography of enterprise, UK, 2004 and 2022

Notes:

1. Presented as a three-year rolling average.

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8 . Data on firm employment dynamics in local economies

Firm employment dynamics in local economies, ITL3
Dataset | Released 9 July 2024
Local employment dynamics using firm-level data, including the channels through which firms create and destroy jobs during their lifecycle and how these activities combine to drive changes in local employment. These are official statistics in development.

9 . Glossary

Employment sites and firms

A site, also referred to as a local unit, plant or establishment, represents a single geographically defined operating location of a potentially larger business. An enterprise or firm refers to an organisational unit producing goods or services, which has a certain degree of autonomy in decision-making.

Where a supermarket chain represents an enterprise, its individual stores, warehouses and head office represent its sites. For firms operating on a single site, this one location corresponds to its site.

In the Office for National Statistics's (ONS's) Business Register and Employment Survey (BRES), the definition of a site is a location in which one or more persons carry out economic activity for a minimum of 20 hours per week and the planned activity is for more than one year.

Job creation and destruction

At the site level, job creation refers to the employment created when employment sites are initially created, reactivate or when sites increase the number of staff they employ between years.

Job destruction refers to the employment destroyed when employment sites are permanently closed, exit prior to a period of inactivity or when sites reduce the number of staff they employ between years.

To create job creation and job destruction rates for a given cell, these values are divided by the total level of employment within the cell in the previous period. A cell here could refer to an industry, an area or a combination of the two.

Business dynamism

Business dynamism refers to the rate at which firms enter, grow, shrink, and then exit the market.

Standalone, regional and nationally operating firms

A standalone firm refers to an enterprise or firm that operates at only one location. We define a regional firm as a firm with multiple sites but operating in less than or equal to three regions. We define a nationally operating firm as a firm operating at more than or equal to four regions.

When exploring how firms are spread across regions, many multi-site enterprises are operating in a single region and a large number are operating in all 12 UK regions. Firms operating in-between are harder to characterise. Future iterations may review these cut-offs to best classify the geographical area of operation of firms.

10 . Data sources and quality

This work uses business site-level data from the Longitudinal Business Database (LBD), an experimental data spine constructed using the Inter-Departmental Business Register (IDBR).

The IDBR contains all businesses that are Value Added Tax (VAT) and/or Pay As You Earn (PAYE) registered. Our analysis therefore only covers the registered business population.

A site, also referred to as a local unit, plant or establishment, represents a single geographically defined operating location of a potentially larger business.

At the site level, the UK Business Register and Employment Survey (BRES) is the primary source of employment in the IDBR. Though the BRES captures the annual employment dynamics, its use introduces a lag, as the updated employment may not be updated until the following year in the IDBR.

The BRES also does not survey all firms every year. For firms that are not surveyed on an annual basis, the employment may not update every year. While we do observe the entry and exit of firms at a higher frequency, we suggest that these official statistics in development be used to observe general trends through time rather than point in time values.

Our analysis infers job creation and destruction from annual changes in headcounts and we therefore cannot look at labour flows that occur within a one-year period. We also cannot look at changes that exist within the headcount number, for example, if a business has 15 employees and over the course of a year 10 leave and 10 join, we will not observe this churn.

For methodological reasons, official statistics in development presented in this article and its datasets may not reproduce accredited official statistics published in the BRES or UK business counts publications. Additionally, because of the use of site-level data rather than enterprise-level data in this article, data are not comparable with our previous publications related to business dynamism.

These statistics are labelled as “official statistics in development” and may be subject to revision in future iterations. Until September 2023, these were called “experimental statistics”. Read more about the change in the Guide to official statistics in development (opens in a new tab).

We are developing how we collect and produce the data to improve the quality of these statistics. Once the developments are complete, we will review the statistics with the Statistics Head of Profession. We will decide whether the statistics are of sufficient quality and value to be published as official statistics, or whether further development is needed. Production may be stopped if they are not of sufficient quality or value. Users will be informed of the outcome and any changes.

We value your feedback on these statistics. Contact us at subnational@ons.gov.uk.

Further information about the LBD can be found in the UK Longitudinal Business Database technical report from the Economic Statistics Centre of Excellence.

11 . Future developments

Impact of dynamism on local productivity

An important reason for interest in metrics related to firm entry and exit is the potential links to productivity growth. The reallocation of workers and resources that occurs from the process of firms simultaneously entering, growing, shrinking and exiting can be productivity enhancing, but only where entering and growing firms are more productive than shrinking or exiting ones.

As this reallocation is not always productivity enhancing, future work in this space will look to disentangle these effects and expand on the ideas introduced in this article to explore the productivity impacts of business dynamism within local economies.

12 . Related links

Trends in UK business dynamism and productivity: 2023
Bulletin | Released 11 December 2023
Experimental statistics on firm-level productivity, business dynamism and business markup estimates, showing how the economy has changed from 1997 to 2022.

Business dynamism in the UK economy: Quarter 1 (Jan to Mar) 1999 to Quarter 4 (Oct to Dec) 2019
Bulletin | Released 15 October 2020
Experimental statistics on business dynamism at a firm level using the Inter-Departmental Business Register (IDBR). The analysis includes changes in quarterly job creation and destruction rates by different firm characteristics since 1999 to 2019 for the UK.

13 . Cite this article

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