

Statistical bulletin

Business dynamism in the UK economy: Quarter 1 (Jan to Mar) 1999 to Quarter 4 (Oct to Dec) 2019

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.

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1 . Main points

- New experimental data that track the business population in the UK show that business dynamism (the rate of job creation and destruction caused by entry and exit of businesses) has declined in the UK between 1999 and 2019.
- Both job creation and job destruction rates have declined, but as the fall in job destruction was sharper, this helps to explain the growing labour market in recent years.
- Micro businesses (one to nine employees) are primarily responsible for the decline in the rate of job destruction from business closure.
- Large businesses (250 employees or more) have experienced a substantial decline in both job creation and destruction – this might reflect a decline in corporate and public sector restructurings in the UK.
- The job destruction rate has fallen in all industries, indicating an economy-wide trend rather than industry-specific factors.
- The share of employment held by large businesses has decreased over time, as large businesses have been destroying more, and creating fewer jobs since the 2008 to 2009 economic downturn.

2 . Business dynamism – what it is and why it matters

Business dynamism relates to measures of birth, growth and decline of businesses and its impact on employment. A steady rate of business creation and closure is necessary for an economy to grow in the long-run because it allows new ideas to flourish. This stems from the ideas of renowned economist Joseph Schumpeter, whose theories on so-called "creative destruction" have been influential for decades. Business dynamism has been a topic of significant academic and policy-maker interest for many years, most notably because of evidence of declining productivity growth.

In this bulletin, we focus on the impact of business dynamism (businesses that are entering and leaving the market) on employment and its possible links to productivity. The full time series data are published in the accompanying dataset, but this bulletin is mainly focused on analysis of a comparison between two eight-year periods – before and after the economic downturn in 2008 to 2009.

This analysis is a result of a new [experimental](#) dataset built from the [Inter-Departmental Business Register \(IDBR\)](#). Alongside this release, a [more detailed paper](#) published by the Economic Statistics Centre of Excellence explains the methods and data sources used to build the dataset, with more detailed results.

Alongside this bulletin, we have also published data on firm births and deaths up to Quarter 3 (July to Sept) 2020 in our [quarterly business demography bulletin](#). Despite differences in methodology, the estimates are similar in the overlapping periods.

Total employment in the UK was a record 32.9 million in Quarter 4 (Oct to Dec) 2019, according to data from the Office for National Statistics (ONS) [Labour Force Survey](#). This is an increase of 12% in the eight years since 2011, while in the eight-year period from 1999 to 2007, employment increased by only 8%. An important driver in the big increase in employment since 2011 is changing trends in business dynamism.

Business dynamism affects employment through changes in job creation and destruction. In this context, the UK has seen strong employment growth in recent years at the expense of a lower rate of business dynamism. A lack of business dynamism could lead to a stagnation in productivity and wage growth, and the emergence of so-called "zombie firms" (businesses that survive despite being unproductive or unprofitable).

During the last two decades, the period between 2012 and 2016 showed the most intensive employment growth; the IDBR workforce¹ expanded by 3.2 million jobs. The growth in these four years was greater than in the preceding 15 years. If the job creation and destruction rates had remained as they were before 2008, only 1.8 million jobs would have been added between 2012 and 2016. This is primarily because of the decrease in the destruction rate; that is, 1.4 million extra jobs were present in the economy in 2016 because jobs were not destroyed as rapidly as they once were. This highlights the importance of understanding business dynamism to identify the origin of employment growth.

Job creation comes from both continuing businesses (incumbents) and also from brand new businesses. Jobs are also destroyed every quarter, by incumbent businesses and by businesses closing. As a result, there are multiple measures of business dynamism. The literature differentiates the dynamism from incumbents and new and closing businesses² because their impacts vary on the economy.

Notes for: Business dynamism – what it is and why it matters

1. IDBR workforce refers to the total number of jobs in the active enterprise population. This measure does not differentiate from part- and full-time jobs, people that have multiple jobs, working proprietors and a large proportion of self-employees.
2. Formally known as intensive and extensive margins, respectively.

3 . How has business dynamism changed over time?

The rates of both job creation and job destruction fell in the eight-year period since the economic downturn in 2008 to 2009, compared with the eight-year period prior to the downturn (Table 1). However, the fall in the job destruction rate is larger. Net job creation (job creation minus job destruction) in the 2011 to 2019 period is 0.04% higher than in the 1999 to 2007 period; this small change is consistent enough to make a substantial difference to the growth of jobs and employment.

Table 1 shows that incumbents have greater job churn on average – higher job destruction, indicating higher business dynamism – after the 2008 to 2009 economic downturn. However, the net job creation effect from incumbents is much smaller and almost zero after the economic downturn.

By contrast, new and closing businesses (taken together) had a much larger net job creation effect after the 2008 to 2009 downturn. This is because of a large fall in the job destruction rate from businesses exiting the market, which nearly halved. This indicates a fall in dynamism amongst this group of businesses.

Table 1: Job creation and destruction rates are lower in 2011 to 2019 than in 1999 to 2007
 Quarterly average employment contributions over the total IDBR workforce (including public sector), UK, 1999 to 2007, 2008 to 2009, 2011 to 2019 and change between pre- and post-downturn periods

Employment contribution (%)

	1999 to 2007	2008 to 2009	2011 to 2019	All periods	Change between pre- and post-downturn periods
Job creation	5.12	3.81	4.82	4.78	-0.30
New businesses ¹	1.31	0.82	1.12	1.14	-0.19
Incumbents, growing	3.81	3.00	3.70	3.68	-0.11
Job destruction	4.71	3.78	4.37	4.47	-0.34
Closing businesses	1.36	0.97	0.74	1.05	-0.62
Incumbents, shrinking	3.35	2.81	3.63	3.43	0.28
Net effect	0.41	0.04	0.45	0.32	0.04

Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes

1. Includes reactivations and truly new businesses. See the Glossary for more details.

Another way of measuring business dynamism is the reallocation rate, which is the sum of absolute job creation and job destruction rates. Figure 1 shows a fall over time, and especially after 2008, in the job reallocation rate from new and closing businesses. By contrast, we do not see a fall in the reallocation rate for incumbents over the same period – consistent with cross-country analysis by the Organisation for Economic Co-operation and Development (OECD).

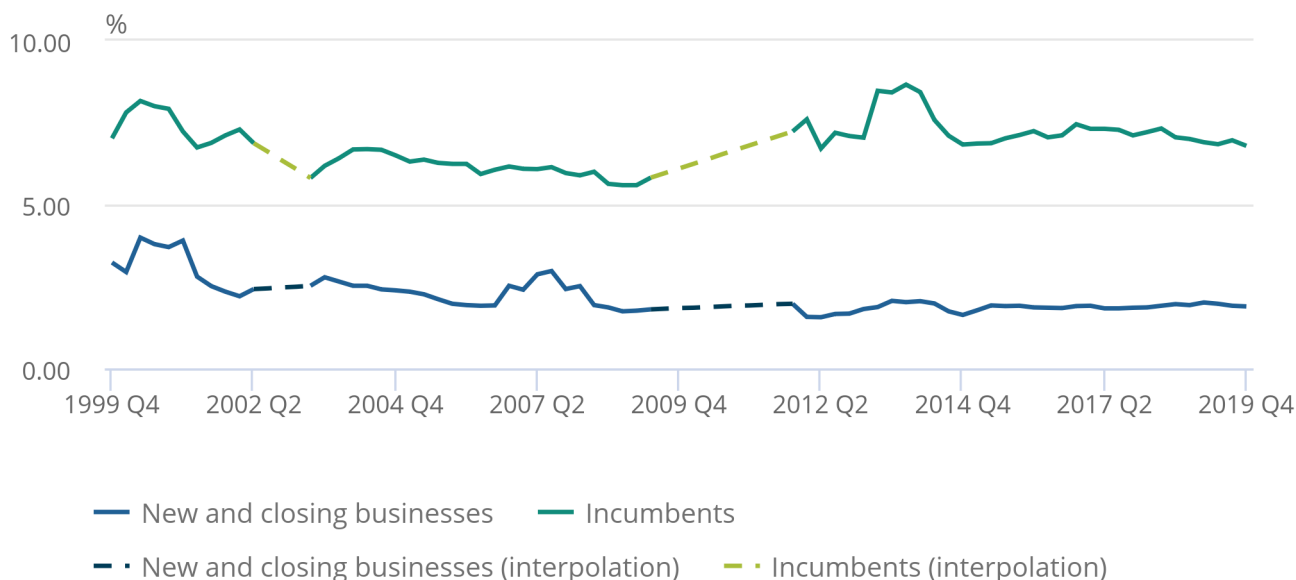
Although new and closing businesses account for a small fraction of total job reallocation, the decline in business dynamism from entry and exit is still significant. New entrants are thought to be important to the economy and society, as they create jobs, offer new opportunities, often innovate, increase competition for existing firms, and may boost productivity growth.

Figure 1: The reallocation rate from new and closing businesses has fallen over time, whilst incumbents' reallocation rate remains relatively stable

Quarterly averages of reallocation rates, UK, from 1999 to 2019

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Quarterly averages of reallocation rates, UK, from 1999 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. The data are presented as a quarterly average considering the last four quarters.
2. The dotted lines are a linear interpolation. Some changes in how employment data were recorded mean that quarterly rates cannot be produced for those two periods.

New businesses are often small, but job creation and destruction can occur from businesses of all sizes. Figure 2 shows the change in job creation and job destruction rates between the pre- and post- 2008 to 2009 economic downturn periods, broken down by employment size of the business. The biggest changes come from micro (one to nine employment) and large (250 and over employment) businesses after the economic downturn, but the interpretation of these changes differ for the two size bands.

The decline in job destruction by micro businesses is considerably larger than the increase in job creation – it is one of the main drivers of changes in overall business dynamism.

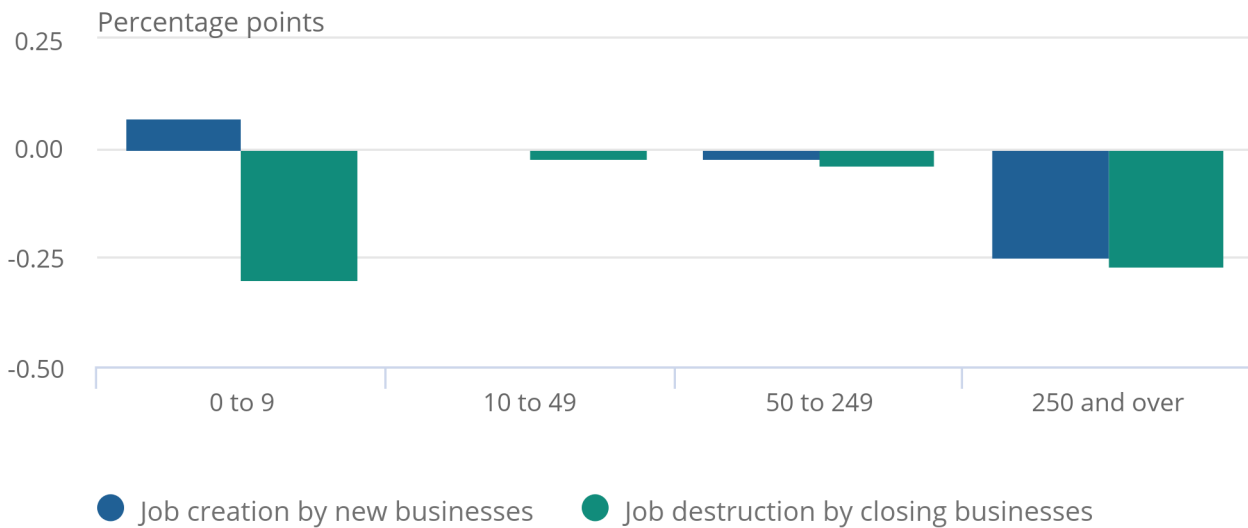
As for large businesses, there is a similar decrease in both job creation and destruction, which suggests a fall in the reallocation of labour between large businesses, with little effect of overall net job creation (see [Section 5](#)).

Figure 2: The decline in job destruction for micro businesses is larger than the increase in job creation after the 2008 to 2009 economic downturn

The difference in quarterly average contributions by new and closing businesses by size, UK, from 1999 to 2007 and 2011 to 2019

Figure 2: The decline in job destruction for micro businesses is larger than the increase in job creation after the 2008 to 2009 economic downturn

The difference in quarterly average contributions by new and closing businesses by size, UK, from 1999 to 2007 and 2011 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. The employment contributions are computed over the total IDBR workforce.

4 . Job destruction from business closure

Table 1 showed that the largest change in business dynamism comes from the fall in job destruction from business closure after the 2008 to 2009 economic downturn, and Figure 2 showed that this was caused by both micro and large businesses. This section examines this trend for micro businesses in more detail, while [Section 5](#) looks at the large businesses.

Business closures are usually a stressful process for workers and owners and cause a loss to the economy in the short-term. From a macroeconomic perspective, however, job destruction can be considered positive in the long-term; if low productivity jobs and businesses shut down, it makes space for new, innovative and more productive businesses.

Fewer micro businesses closed each quarter, on average, in the period since the economic downturn of 2008 to 2009 than in a comparable period before then. This decline in closures equates to a 24% fall in the number of jobs being destroyed by exit. On average, this is equivalent to 245,000 jobs destroyed per quarter between 1999 and 2007, falling to 187,000 jobs per quarter between 2011 and 2019.

Micro businesses are, on average, less productive than large businesses, as seen in the [firm-level labour productivity measures](#) published by the Office for National Statistics (ONS). A lower exit rate, especially among these low-productive small businesses, may allow less-productive businesses to stay active, which may have a negative impact on aggregate labour productivity and, in the long-run, standards of living. Cross-country analysis by the Organisation for Economic Co-operation and Development (OECD) has suggested a link between the fall in business dynamism (job destruction by closing businesses) and labour productivity growth¹.

Figure 3 shows the steady decline in the job destruction rate of closing micro businesses from 1999 to 2019 in the UK, particularly from around 2005 and onwards. Over a comparable period, Figure 4 shows that UK labour productivity growth has also declined – the so-called "productivity puzzle".

Figure 3: Job destruction rate of closing micro businesses have fallen steadily over the last two decades

Job destruction by closing micro firms, UK, 1999 to 2019

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Job destruction by closing micro firms, UK, 1999 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. The data are presented as a quarterly average considering the last four quarters.
2. The dotted lines are a linear interpolation. Some changes in how employment data were recorded mean that quarterly rates cannot be produced for those two periods.

Figure 4: Labour productivity growth has fallen steadily over the last two decades

Output per hour growth, quarter on same quarter a year ago seasonally adjusted, UK, 1999 to 2019

Figure 4: Labour productivity growth has fallen steadily over the last two decades

Output per hour growth, quarter on same quarter a year ago seasonally adjusted, UK, 1999 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Figure 5 examines the relationship between declining dynamism and productivity growth more closely by industry. It shows the average multi-factor productivity growth and the average job destruction rate from business closure (of all business sizes) for 10 industry groupings, in the pre- and post- 2008 to 2009 economic downturn periods.

Most industries have lower productivity growth and lower job destruction rates post-downturn than pre-downturn, shown by the connecting line going from bottom-left to top-right. The exception to this rule is the retail, food and accommodation industry group (which has lower dynamism but marginally higher productivity growth post-downturn), while the rates are similar pre- and post-downturn in both measures for construction and non-manufacturing production industries.

Figure 5: Most industries had lower productivity growth and lower job destruction rates after the 2008 to 2009 economic downturn

Average multi-factor productivity growth by industry and the average job destruction by closing businesses, UK, 1999 to 2019

Source: Office for National Statistics – Multi-factor productivity, Inter-Departmental Business Register (IDBR)

Notes:

1. ABDE – production; C – manufacturing; F – construction; GI – wholesale and retail; H – transportation and storage; J – information and communication; K – finance; LMN – professional services, technology and media; OPQ – government, healthcare and education; RSTU – other services

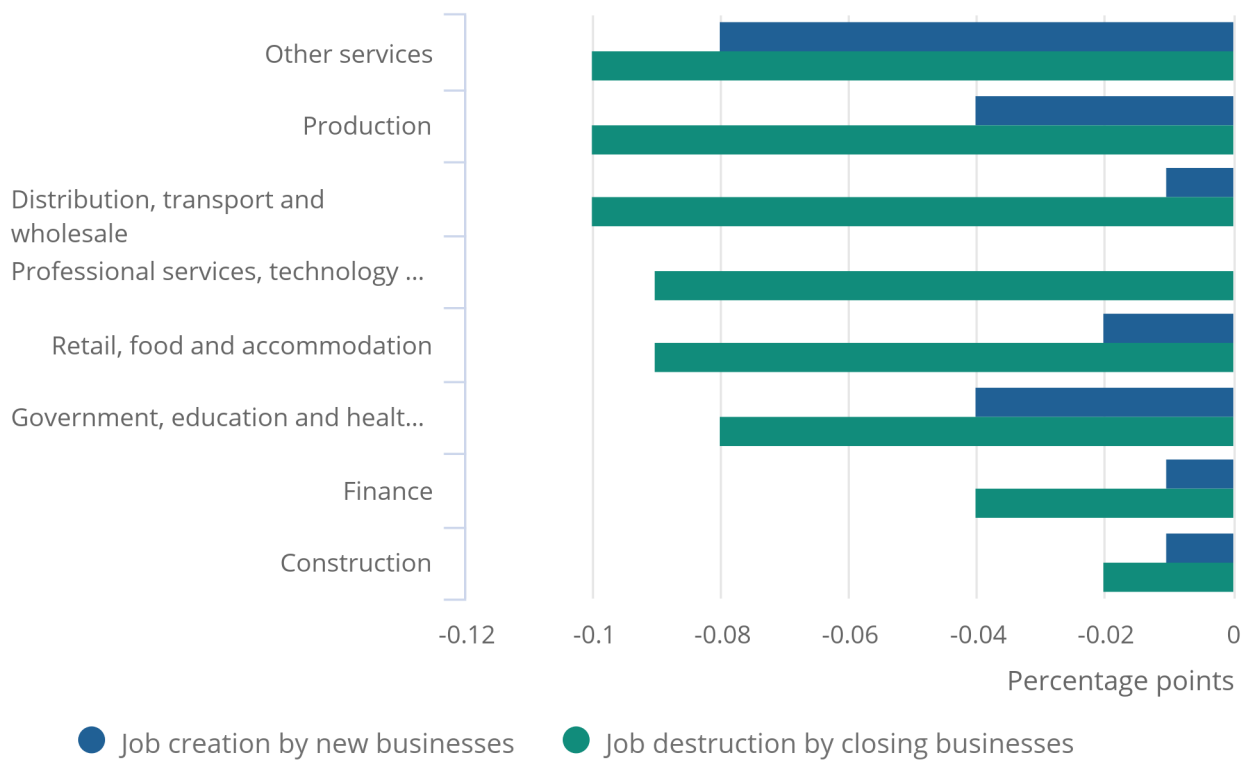
The rate of job destruction caused by business closure fell in every industry after the 2008 to 2009 economic downturn, most to a similar degree. In all industries this was accompanied by a fall in the job creation rate from new businesses. As such, the decline in business dynamism was widespread across the economy, not concentrated in any industries. The industry with the smallest fall in the two measures combined, indicating the smallest fall in the dynamism of new and closing businesses, is construction; the largest is the “other services” industry.

Figure 6: Job destruction by closing businesses has fallen across all industries since the 2008 to 2009 economic downturn

The change in job destruction by closing firms and job creation from new businesses, UK, from 1999 to 2007 and 2011 to 2019

Figure 6: Job destruction by closing businesses has fallen across all industries since the 2008 to 2009 economic downturn

The change in job destruction by closing firms and job creation from new businesses, UK, from 1999 to 2007 and 2011 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. Production (2-Digit SIC07 01-39); Construction (2-Digit SIC07 41-43); Distribution, transport and wholesale (2-Digit SIC07 45-46, 49-53); Retail, food and accommodation (2-Digit SIC07 47, 55-56); Professional services, technology and media (2-Digit SIC07 58-63, 68-75); Finance (2-Digit SIC07 64-66); Other Services (2-Digit SIC07 77-82, 90-99); Government, education and healthcare (2-Digit SIC07 84-88).

The destruction rate can also be disaggregated by age. While almost all young businesses (those less than a year old) are small, not all small businesses are young. Young businesses generally destroy more jobs than older businesses but were doing so at a slower rate after the 2008 to 2009 economic downturn than before. Young businesses face a greater probability of leaving the market from factors including competition from incumbents and uncertainty about costs – hence the greater destruction rate.

The reduction in business exit, particularly of young and/or small businesses, suggests that unproductive businesses could be surviving in the economy longer than they used to. This means that workers might not be moving onto more productive activities, suppressing aggregate productivity, and helping to explain low productivity growth rates in the past decade (the so-called “productivity puzzle”).

Notes for: Job destruction from business closure

1. [OECD: The framework for policy action on inclusive growth \(PDF, 4.8MB\)](#). See Figure 2.2.

5 . Job creation from new businesses

In [Section 3](#), we showed that the biggest change in business dynamism since the 2008 to 2009 economic downturn came from the decrease in job destruction from business closure. In this section, we analyse the changes in job creation from new businesses. Table 1 showed that around 25% of jobs created each calendar quarter come from new businesses, with the remaining 75% from growing incumbents. Both new and continuing businesses are adding fewer jobs each quarter on average since the economic downturn than before. Incumbents are discussed in more detail in [Section 7](#).

Most businesses entering the market would be expected to be small and have low employment. Indeed, that is the case in the data. However, some large businesses also “re-activate” after a period of not trading, while others come into existence with a considerable number of employees, potentially as a result of re-structuring of an existing large business. New large businesses are considered in [Section 6](#).

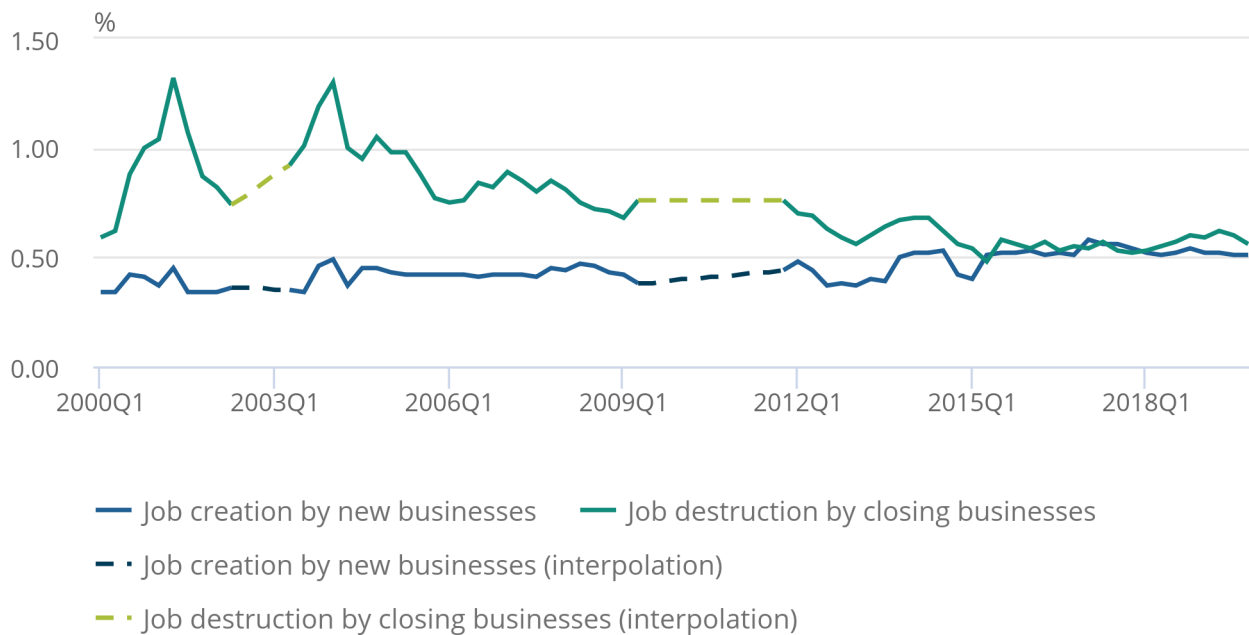
Job creation by new micro businesses has increased over time in the UK (Figure 7), with a persistent (but small) increase since the 2008 to 2009 economic downturn. This has reduced the gap between the job creation and destruction rates of entering and exiting micro businesses, such that these rates have been largely offsetting since 2015. However, with a few minor exceptions, the net effect on employment from micro firms is negative over the past 20 years (this is still true if we also consider the effect from incumbent micro businesses). This result is different to the popular opinion that micro businesses create the most private sector jobs.

Figure 7: The gap between the job creation and destruction rates fell among new and closing micro businesses

Employment contribution over total active IDBR workforce from closing and new micro businesses, quarter on quarter, UK, 1999 to 2019

Figure 7: The gap between the job creation and destruction rates fell among new and closing micro businesses

Employment contribution over total active IDBR workforce from closing and new micro businesses, quarter on quarter, UK, 1999 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. The data are presented as a quarterly average considering the last four quarters.
2. The dotted lines are a linear interpolation. Some changes in how employment data was recorded mean that quarterly rates cannot be produced for those two periods.

6 . Reallocation of labour within large firms

Figure 2 showed a large reduction in both the job creation and job destruction rates of large businesses (250 employees or more) since 2011. This is driven by changes in the number of large businesses entering and leaving the market, rather than from incumbents growing or shrinking more (incumbents are discussed in [Section 7](#)).

Large start-ups are rarely observed in practice, but the methodology implemented in this bulletin allows this to happen. If businesses stop operating or trading for one quarter or more, in the first quarter in which they operate again they are categorised as “new” regardless of their size and age. Thus, a new large business is likely to be a reactivation of an existing large business, or the formation of a new business from a previously operating business. This could be because of legal restructuring, mergers, or seasonality (non-operation during summer or winter, for instance).

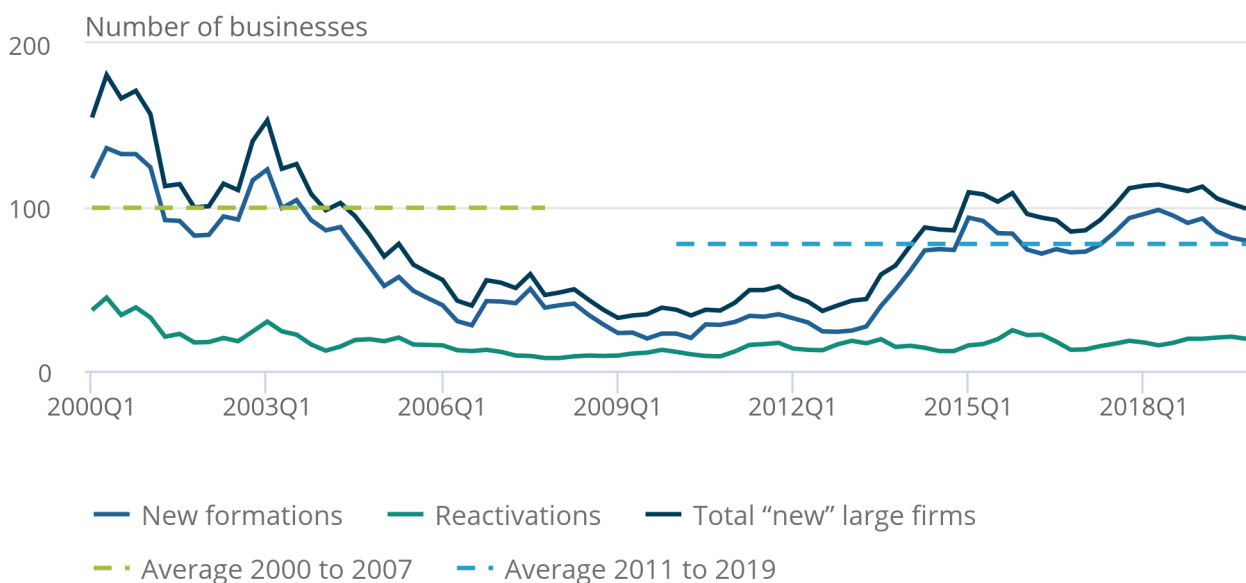
Figure 8 shows the total number of large businesses that are categorised as “new” under our definition – they could be either old businesses that are showing signs of activity after a disruption (reactivations) or brand-new formations. The number of new large businesses was substantially lower during the broader period of the economic downturn (2007 to 2011) and, after rebounding a little, remains at a lower level in recent years than in the early 2000s. This translates to less job creation by new large businesses and less job destruction by closing large businesses, although the net effect on employment is likely to be close to zero.

Figure 8: The number of new large businesses remains relatively low after the 2008 to 2009 economic downturn

Quarterly number of firms with more than 250 employees that are activating, UK, 1999 to 2019

Figure 8: The number of new large businesses remains relatively low after the 2008 to 2009 economic downturn

Quarterly number of firms with more than 250 employees that are activating, UK, 1999 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes:

1. The data are presented as a quarterly average considering the last four quarters.

Figure 2 showed that the change in job creation and job destruction by large businesses between the pre- and post-downturn periods was almost the same, thus the net effect on employment is almost zero. Hence, it is just a reallocation of the same labour from one entity to another and it has no impact on business dynamism. This could be related to corporate and public sector restructuring and mergers.

7 . Incumbent businesses

Incumbent businesses are important since they cover almost the entire economy's employment. Around 96% to 99% of the UK workforce remains in existing businesses that continue operating quarter to quarter. Table 2 shows that since the 2008 to 2009 downturn, incumbent businesses have created fewer jobs (by growing) and destroyed more (by shrinking), on average per quarter. This results in a substantial drop in their net contribution to employment.

Table 2: Incumbents are creating fewer jobs and destroying more jobs since the 2008 to 2009 economic downturn

Employment contributions over the active total IDBR workforce (including public sector), UK, 1999 to 2007 and 2011 to 2019

Employment contributions (%)

	1999 to 2007	2011 to 2019	Change
Job creation	5.12	4.82	-0.30
Entry	1.31	1.12	-0.19
Continuers, growing	3.81	3.70	-0.11
Job destruction	4.71	4.37	-0.34
Exit	1.36	0.74	-0.62
Continuers, shrinking	3.35	3.63	0.28
Net effect	0.41	0.45	0.04

Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Net job creation is now accounted for almost entirely by the balance of new and closing businesses (known formally as the extensive margin) while continuing businesses (known formally as the intensive margin) contribute relatively little. Before 2008, the reverse was true, and continuing businesses were the main driver of employment growth.

Put another way, between 1999 and 2007, incumbents created an average of 108,000 jobs per quarter in net terms; this fell to just 45,000 jobs on average per quarter since 2011. By contrast, the net effect of entering and exiting businesses has added 115,000 jobs per quarter on average since 2011. This result challenges the popular view that incumbents create the most jobs in the UK – this was true before the 2008 to 2009 downturn, but not thereafter.

It is worth reiterating that this change in fortunes is not driven by businesses entering the market creating more jobs than before; in fact, they are creating fewer. It is the dramatic fall in job destruction caused by closing businesses, as detailed in [Section 2](#), that explains the trend.

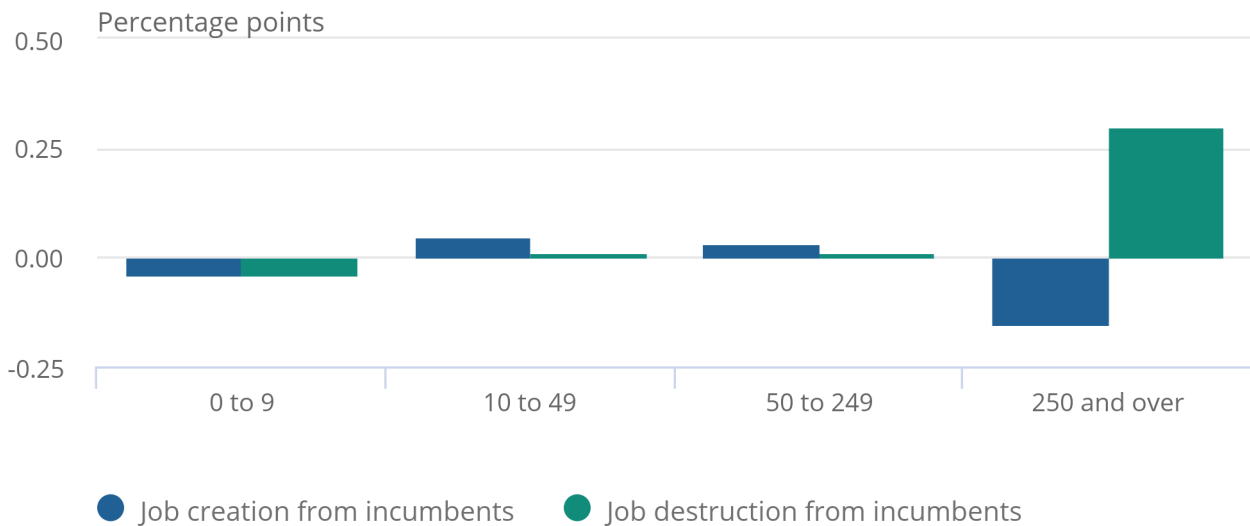
To understand this finding, Figure 10 disaggregates employment contributions of incumbent businesses by their size. Large firms (with 250 or more employees) account for the majority of employment in the UK, despite smaller firms being much more numerous. It is perhaps no surprise then that large firms drive the change in job creation and destruction rates pre- and post-downturn. In the 2011 to 2019 period, large incumbents were reducing their workforce more aggressively and creating fewer jobs compared with the pre-downturn period – on average, in the post-downturn period they added 113,000 fewer jobs (net) per quarter. This explains the decrease in the preponderance of large firms: they employed around 63% of the UK workforce in 1998, but only 59% in 2019.

Figure 9: Large incumbents underwent the largest changes in job destruction and creation since the 2008 to 2009 economic downturn

Change in quarterly average job creation and destruction rates by existing businesses, by size band, UK, 1999 to 2007 and 2011 to 2019

Figure 9: Large incumbents underwent the largest changes in job destruction and creation since the 2008 to 2009 economic downturn

Change in quarterly average job creation and destruction rates by existing businesses, by size band, UK, 1999 to 2007 and 2011 to 2019



Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Table 3 shows the rate of job creation and destruction of incumbent businesses by industry, and demonstrates three clear trends.

First, the incumbents in some industries are clearly much more dynamic than in others, with much higher rates of both job creation and destruction, over the past 20 years. Services industries tend to be more dynamic by this measure, especially business services, public sector, and consumer-facing services industries. Construction, transport and production industries are less dynamic throughout the period.

Second, some industries have become substantially more dynamic since the 2008 to 2009 economic downturn, which shows as an increase in both job creation and job destruction rates. These are some of the same industries as those noted previously as generally dynamic industries, along with the finance industry. By contrast, the production industry (including manufacturing) has become substantially less dynamic in the years since 2011.

Third, Table 3 highlights the employment growth of some industries, in line with observed trends from labour market data. The production industry (including manufacturing) has been on a long-term decline in the UK, and had a large net job loss in the eight-year period up to the 2008 to 2009 economic downturn. This decline halted thereafter, with no net job creation or destruction between 2011 and 2019. Government services industries saw strong growth in employment up to the 2008 to 2009 downturn, and much weaker growth thereafter (caused largely by reductions in public expenditure at that time) – this is borne out in Table 3. Growth industries like finance, professional services and other services industries have also seen less net job creation across the period.

Table 3: Among incumbents, finance, other services, and professional services, technology and media have become increasingly dynamic after the 2008 to 2009 economic downturn
 Job creation and destruction rates from incumbents by industry as a proportion of the active total IDBR workforce, UK, 1999 to 2007 and 2011 to 2019

Incumbents' employment contribution (%)		1999 to 2007	2011 to 2019	Change
Construction		0.01	0.00	-0.01
	Job creation	0.22	0.19	-0.03
	Job destruction	0.21	0.19	-0.02
Distribution, transport, wholesale		0.02	0.01	-0.01
	Job creation	0.35	0.28	-0.07
	Job destruction	0.33	0.27	-0.06
Finance		0.05	-0.02	-0.07
	Job creation	0.20	0.27	0.07
	Job destruction	0.15	0.29	0.14
Government, education, healthcare		0.22	0.04	-0.18
	Job creation	0.68	0.69	0.01
	Job destruction	0.46	0.65	0.19
Other services		0.13	0.04	-0.09
	Job creation	0.73	0.78	0.05
	Job destruction	0.60	0.74	0.14
Production		-0.09	0.00	0.09
	Job creation	0.46	0.31	-0.15
	Job destruction	0.55	0.31	-0.24
Professional services, technology, media		0.05	0.02	-0.03
	Job creation	0.49	0.56	0.07
	Job destruction	0.44	0.54	0.10
Retail, food, accommodation		0.07	-0.02	-0.09
	Job creation	0.68	0.62	-0.06
	Job destruction	0.61	0.64	0.03
Total		0.46	0.07	-0.39

Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

8 . The effect of age on business dynamism

As explained in [Section 4](#), micro businesses have become less dynamic over time: they are destroying far fewer jobs than before, with only a modest increase in job creation. This is particularly important since it challenges the popular view that small businesses are highly dynamic and one of the main job creators.

However, the business dynamism literature makes an important distinction between age and size, when it comes to driving employment. While most young businesses are small, not all small businesses are young. This section looks at the effect of age on business dynamism.

Table 4 shows that young businesses (less than one year old), consistent with the general view, are substantially more dynamic than older businesses. Given most employment is not in young firms, young firms are responsible for a relatively large share of job creation and destruction. This is an example of the “up or out” dynamic where many young businesses enter the market, create employment, but face a higher probability of exiting the market, and destroy jobs within the first year of operation.

Table 4: Young businesses are creating and destroying the most jobs over the last 20 years
Job creation rates from new businesses and job destruction rates from closing businesses by different age bands as a proportion of the active total IDBR workforce, UK, 1999 to 2007 and 2011 to 2019

Employment contribution (%)			
		1999 to 2007	2011 to 2019
0 to 1		0.75	0.76
	Job creation ¹	1.30	1.11
	Job destruction	0.55	0.35
2 to 4		-0.19	-0.11
	Job destruction	0.19	0.12
5 to 9		-0.24	-0.08
	Job destruction	0.25	0.08
10 to 14		-0.12	-0.05
	Job destruction	0.14	0.05
15 and over		-0.24	-0.15
	Job destruction	0.24	0.15

Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Notes

1. While technically we are calculating the reactivations of older firms as job creation from entrants, the effect is small and almost zero.

Considering the dynamism of young businesses, we would expect that an important part of the decline in job destruction from closing micro businesses would come from the youngest micro businesses. However, Table 5 shows that young micro businesses are not entirely responsible for the decrease in job destruction after the 2008 to 2009 economic downturn. There is also an important fall in the job destruction rate from older micro businesses that leave the market. This could indicate that some older micro businesses, that previously would have exited the market (perhaps because of their low productivity or lack of economic success), are now staying in the market. Since small businesses are also often less productive than larger businesses, this could help to explain the lower productivity since 2008 (the so-called “productivity puzzle”).

Table 5: Fewer young micro businesses are leaving the market after the 2008 to 2009 economic downturn
Job destruction rates from closing micro firms by age band from the active IDBR workforce, UK, 1999 to 2007
and 2011 to 2019

Job destruction rate (%)

Size	Age	1999 to 2007	2011 to 2019	Change
0 to 9		0.87	0.57	-0.3
	0 to 1	0.30	0.25	-0.05
	2 to 4	0.15	0.09	-0.06
	5 to 9	0.14	0.06	-0.08
	10 to 14	0.10	0.04	-0.06
	15 and over	0.18	0.13	-0.05

Source: Office for National Statistics – Inter-Departmental Business Register (IDBR)

Although young micro businesses are not mainly accountable for the fall in job destruction by exit, they are considerably dynamic. They exhibit high rates of job destruction and creation, which leads to small changes on the total level of employment. We initially showed that micro businesses negatively contributed towards overall employment, but when considering age, young micro businesses are creating jobs and are very dynamic. It illustrates the importance of age rather than size in terms of job creation and analysing business dynamism.

9 . Experimental IDBR data

[Business dynamism measures from the Inter-Departmental Business Register, UK](#)

Dataset | Released 15 October 2020

Experimental Statistics on business dynamism at the firm level using the Inter-Departmental Business Register (IDBR). The statistics include job creation and destruction rates, number of businesses, and employment by detailed combinations of firm characteristics.

10 . Glossary

Active IDBR workforce

Dataset built using two consecutive quarterly snapshots of the Inter-Departmental Business Register (IDBR) in order to show signs of activity and different employment and turnover figures at the beginning and the end of the quarter.

Business

A business in this article is an enterprise on the Inter-Departmental Business Register (IDBR).

Dynamic firm

Firm that presents high rates of job creation and destruction regardless of its net effect.

New businesses

Firms that appear in the Quarterly Active Business Population in T, which were not in the previous quarter T-1. These are new firms in a specific quarter, which could include reactivating firms too.

Closing business

These firms will not appear in the Quarterly Active Business Population in T+1. These are closing firms in a specific quarter, which does not necessarily translate to a permanent closure of the firm.

11 . Measuring the data

This bulletin uses a newly developed Longitudinal Business Database, using archive data from the Inter-Departmental Business Register (IDBR). The quarterly IDBR snapshots are archived up to 2019 and they have both administrative and survey data. The analysis is based on the enterprise and Pay As You Earn (PAYE) units. We use the archive from Quarter 4 (Oct to Dec) 1998 to Quarter 2 (Apr to June) 2020 to construct a quarterly population of active businesses for our analysis.

Signs of activity and transition status

To determine if a business has been active during a given quarter, we compare the values of employment, turnover and the number of administrative units of a business recorded in two consecutive quarterly snapshots. If the business shows signs of activity either at the beginning or the end of the quarter – or both – we consider it active for the entire quarter. This allows us to identify reactivations.

Once determined the signs of activity, we can talk about transition statuses from one reference quarter to another (Table 6). We define the transition status of a business by comparing three consecutive quarterly active business populations. The status depends on whether the business has been active throughout these three reference quarters.

Table 6: Transition statuses

Transition status	T-1	T	T+1
Activates	Inactive	Active	Active
	Inactive	Active	Inactive
Continuers	Active	Active	Active
Exit (Closing and deactivates)	Active	Active	Inactive
	Active	Inactive	Inactive

Source: Office for National Statistics

Age

Births and death dates have never been fully reliable since they do not account for complex cases. In this context, we have built an age measure that counts consecutive quarters with signs of activity, and it accounts for periods of disrupted activity. If a firm becomes inactive and then reactivates, it will have two different age measures at two different points in time. We count four consecutive quarters of inactivity to restart the counter. We assume a disruption in the activity of a business that lasts more than one year is reasonable enough to consider it as a “new” entity and hence we recalculate its age. Nonetheless, for businesses at the beginning of the period in Quarter 4 1998, we use age to that point from the recorded birth date, as there is no better alternative. This approach allows us to see old activating businesses – possibly indicating an unusual event – because our transition status will appear as activator, but the age will not be restarted if the period of inactivity was less than a year.

Employment measure

IDBR employment at the enterprise level is primarily derived from the Business Register Employment Survey (henceforth, BRES), and its predecessors. The PAYE scheme is used as the employment of the business on the IDBR if there are no other sources.

In this analysis we reverse the priority: we primarily use the PAYE employee data. We only use the IDBR sources if the PAYE scheme is not available. This means we have the number of employees at quarterly frequency with nearer population coverage at the enterprise level.

12 . Strengths and limitations

We create a novel firm-level dataset using previously unpublished archive Inter-Departmental Business Register (IDBR) data to examine business dynamics at quarterly frequency from 1999 to 2019. We construct a measure of business activity to create a “transition status” and age variable, based on the changes of the business linked over a few consecutive quarters. We reconstruct measures of change in employment at the firm level from the Income Tax data that feed into the IDBR to produce employment dynamics at a quarterly frequency, faster than many of the existing surveys that were the ultimate source for previous analysis. The use of data collected from an administrative source to analyse job creation and destruction demonstrates the potential of using administrative data for economic analysis.

Using Pay as You Earn (PAYE) employment as the main source mitigates frequency and coverage issues associated with the Business Register Employment Survey (BRES) as the primary source of employment of the IDBR. Because of the survey’s large sample size, it can produce good quality estimates for detailed breakdowns by industry and geography at a specific point in time. These same benefits lead to disadvantages for analysis of dynamics. The BRES comes in at low frequency, at a lag, and does not have complete coverage. The BRES sample covers all complex and large businesses each year – the sample of small- and medium-sized businesses will vary and be inconsistent for our purpose. All of these points considered, the sole use of the BRES is unsuitable to analyse changes in employment over different reference quarters.

There are some limitations in our employment measure despite using information from PAYE. The employment measure is headcount per enterprise rather than full-time equivalent, which is a common practice amongst Organisation for Economic Co-operation and Development (OECD) countries. It places a greater emphasis on part-time employment, showing greater employment dynamics.

A second limitation is that if we aggregate enterprise level employment, it does not represent the total number of individuals employed in the UK because some people have multiple jobs and we could be counting the same person twice. On the other hand, self-employed people could not be considered in this analysis if their businesses do not reach the minimum Value Added Tax (VAT) threshold to be included in the IDBR. We are only considering employees; we do not include working proprietors in our employment measure.

Finally, it is important to point out that we only observe net job creation at the enterprise level from our active enterprise population, but we do not observe gross changes at the enterprise level. For example, if an enterprise hires 100 workers, and sacks 50 workers, then we only observe a net creation of 50 jobs. While this will underestimate the true change in the workforce of an enterprise, we observe changes at quarterly frequency, at least limiting the bias versus comparing changes in employment at annual intervals.

13 . Related links

[Business demography UK: 2018](#)

Bulletin | Released 19 November 2019

Annual change in the number of UK business broken down by sector of the economy.

[Business demography, quarterly experimental statistics, UK: April to June 2020](#)

Bulletin | Released 6 August 2020

Experimental quarterly statistics on business creation or births and closures or deaths from the Inter-Departmental Business Register with high-level breakdowns by industry and region.

[Firm-level labour productivity measures from the Annual Business Survey, Great Britain: 1998 to 2018](#)

Article | Released 1 June 2020

Experimental Statistics on labour productivity at the firm level using the Annual Business Survey, by detailed combinations of firm characteristics.