Office for National Statistics

Article

UK foreign direct investment, trends and analysis: July 2019

This article provides new estimates for 2017 covering: foreign direct investment (FDI) presented by the ultimate controlling parent approach and insights on the contributions of FDI businesses to the UK economy.

Contact:
Andrew Jowett
fdi@ons.gov.uk
+44 (0)1633 455357

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1 . Main points

- Experimental statistics reporting foreign direct investment (FDI) by continent of the ultimate controlling parent company show that North American companies controlled the greatest share of the UK's inward investment position in 2017 compared with EU companies on an immediate basis.

- Ultimate parent companies in the US, Germany and France controlled the highest values of UK inward FDI in 2017 compared with the US, Netherlands and Luxembourg on an immediate basis.

- The value of inward FDI in the UK ultimately controlled by UK companies (known as round-tripping) has been relatively stable between 2014 and 2017; the highest value (£12.2 billion) of round-tripping in 2017 was from the US.

- US companies also ultimately controlled the largest share of UK immediate inward FDI from the Netherlands and Luxembourg in 2017.

- The number of companies with FDI links was relatively small, yet these businesses make a sizeable contribution to the UK economy; despite only 2.0% of UK businesses having any FDI link, they employed 29.8% of UK workers (8.5 million).

- Production industries had the greatest differences in terms of average employment and approximate gross value added (aGVA) between companies in receipt of FDI and businesses without any FDI link; however agricultural industries had the biggest difference in average productivity.

- EU companies accounted for a half of UK workers employed by businesses with inward FDI links; similarly, just above half of UK workers in UK companies with outward FDI links work in businesses with subsidiaries based in the EU.

- Companies with any type of FDI link with the EU tended to have a lower average productivity compared with the average productivity for all FDI businesses in 2017.

2 . Overview

Foreign direct investment (FDI) refers to cross-border investment made by residents and businesses from one country in to another, with the aim of establishing a lasting interest in the country receiving investment [1]. Outward FDI captures the net investments made by UK companies abroad, whereas inward FDI covers net investments in the UK made by foreign companies [2].

Statistics used in this analysis are presented using the directional principle. This is on the same basis as our Foreign direct investment involving UK companies statistical bulletin, published in December 2018. This principle is more useful when assessing the transactions of parent company cross-border investments and for data linking. Related statistics in the balance of payments, Pink Book and in our FDI involving UK companies (asset and liability): 2017 statistical bulletin present FDI statistics on an asset and liability basis. The differences between the calculations under these two approaches can be seen in Foreign direct investment measurement principles explained.

This article is part of our continued research on foreign direct investment (FDI) statistics. It first analyses UK FDI by the country of ultimate parent company, which adjusts the geographical composition of UK FDI to reflect ultimate control relationships. It then focuses on the characteristics of UK businesses involved in FDI relationships. This helps to understand the impact of FDI on the UK economy.

Notes for: Overview

1. A minimum of 10% of the voting power is the basic criterion used to distinguish FDI relationships from portfolio investment.

2. Inward investment is made in the UK by non-resident companies.

3 . Foreign direct investment by the country of the ultimate controlling parent

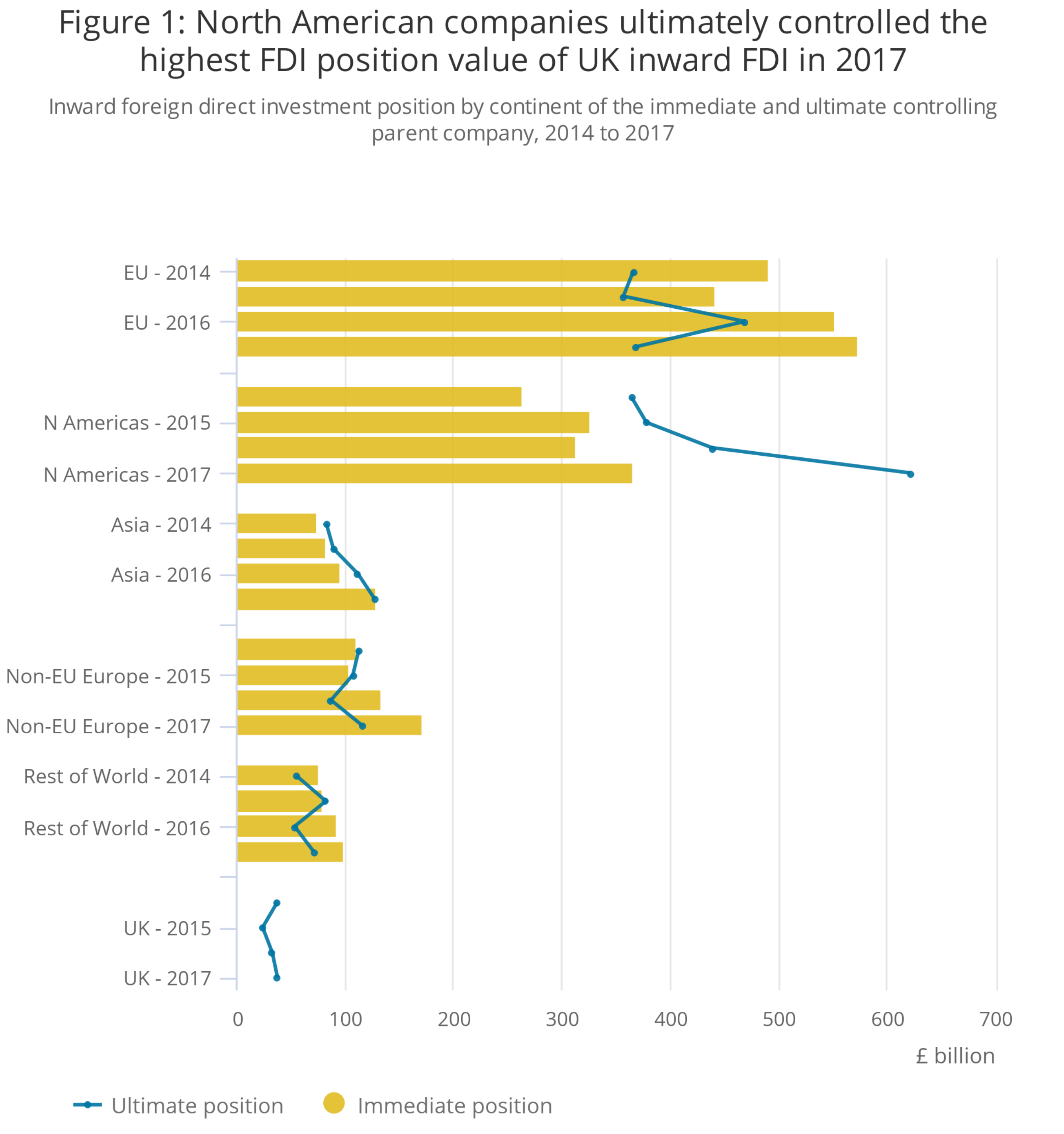
In line with international guidance, UK foreign direct investment (FDI) statistics in our statistical bulletins are presented on an immediate parent company basis; as such, geographical compositions reflect direct relationships between investing parties. However, the geographical composition can become distorted, as the increase in the complexity of multinationals' corporate structures often results in investment chains crossing many borders. Presenting FDI statistics on an ultimate parent company basis reveals the country where the ultimate risk-taker and beneficiary of the investment is based. While this affects the geographical composition of FDI, aggregate world figures will be the same whether shown on the ultimate or immediate parent company basis. Further information on how we estimate FDI statistics by country of the ultimate parent company can be found in Annex B.

North Americas was the region with the largest UK FDI inward position on an ultimate basis in contrast to the EU on an immediate basis

The continental distribution of the UK's inward FDI position shows different patterns when the immediate position is compared with the ultimate position. Companies from the European Union (EU) had immediate control of the highest value in 2017 of £573.1 billion, slightly higher than the 2016 position (£551.8 billion). However, the ultimate positions with the EU were both lower, by £205.3 billion in 2017 (to £367.8 billion) and £83.9 billion in 2016 (to £467.9 billion). This indicates that some UK inward investments from immediate parent companies located in the EU are ultimately controlled by businesses based outside the EU.

Figure 1: North American companies ultimately controlled the highest FDI position value of UK inward FDI in 2017

Inward foreign direct investment position by continent of the immediate and ultimate controlling parent company, 2014 to 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Totals might not match due to rounding.

By contrast with the EU, the UK's inward ultimate FDI position with North America was higher than the immediate position. North American companies ultimately controlled £620.3 billion of FDI in the UK in 2017 – £254.6 billion higher than the position on an immediate basis (£365.7 billion). Around half of the £182.8 billion increase for North America's ultimate position from 2016 to 2017 was driven by a few businesses. Though the ultimate position of North American companies has increased in every year since 2014, the latest was much larger than in previous years and has resulted in North America again becoming the subcontinent with the highest value of the UK inward position on an ultimate basis, as it was in 2015. The EU held the largest UK inward position on an ultimate basis in 2016, while the ultimate positions of the EU and North America were very close in 2014. This was in contrast with the immediate position, for which the EU accounted for the highest value in all four years presented in Figure 1.

The differences between the immediate and ultimate inward positions from the other continents presented were much smaller than those for the EU and North America. The ultimate position of Asian companies in the UK was higher than the immediate position in 2014, 2015 and 2016. However, the two values were very similar in 2017, with the immediate position of £127.8 billion slightly higher than the ultimate position of £126.6 billion. On the other hand, the ultimate position of non-EU European companies in the UK was higher than the immediate position in 2014 and 2015 before changing in 2016 and 2017. The immediate position for non-EU European companies in the UK was £170.9 billion in 2017, which was £56.0 billion higher than the ultimate position (£114.9 billion). This indicates that part of the UK's immediate inward FDI position from non-EU Europe is being ultimately controlled by parent companies based outside of non-EU Europe.

The values for the UK refer to FDI that enters the UK on an immediate basis from abroad that was ultimately controlled by parent companies based in the UK. This reflects "round-tripping", whereby British companies' foreign subsidiaries reinvest back into the domestic economy. The values have been largely stable between 2014 and 2017. UK companies ultimately controlled £36.9 billion of the UK's inward FDI immediate position in 2017. This was slightly higher than the £32.0 billion recorded in 2016 and similar to the ultimate value in 2014 of £36.7 billion.

The US remains the country that ultimately controls the highest value of the UK's inward FDI position, along with Germany and France

There were some notable changes when presenting FDI statistics by country of the ultimate controlling parent company. This identifies some of the main countries that are contributing to the differences between the UK's immediate and ultimate inward FDI positions by continent. On an immediate basis in 2017, the United States is the country that held the largest value of inward direct investment into the UK with £351.0 billion. This was followed by the Netherlands (£228.2 billion), Luxembourg (£116.3 billion) and Jersey (£104.4 billion). These four countries are the only ones that immediately controlled more than £100 billion of direct investment in the UK, as shown in Figure 2.

Figure 2: Germany and France ultimately controlled the second and third-highest FDI positions in the UK in 2017 after the US

Comparison between the top 20 countries with the largest inward UK foreign direct investment positions on an immediate and ultimate basis, 2017

Looking at the inward FDI position on an ultimate basis, US companies still accounted for the highest value of inward FDI in the UK, though the value for 2017 was £245.5 billion (69.9%) higher than the immediate position (from £351.0 billion to £596.5 billion). On an ultimate basis, the US was the only country with the value of UK FDI inward position higher than £100 billion. Germany and France were the second and third-largest ultimate investors in the UK respectively. German companies ultimately controlled £93.8 billion of UK inward FDI, £30.2 billion (47.5%) higher than its immediate position, and France ultimately controlled £87.0 billion, £29.4 billion (51.0%) higher than its immediate position.

There were also a number of countries for which the UK's ultimate position was lower than the immediate position, including the Netherlands, Luxembourg and Jersey in 2017. The UK's ultimate position with the Netherlands was £81.5 billion compared with an immediate position of £228.2 billion, showing that the Dutch ultimate FDI position in the UK was less than half the immediate position. Despite this, the Netherlands still accounted for the fourth-highest ultimate position in the UK. The ultimate position of Luxembourg companies (£27.3 billion) was also much lower than the immediate position (£116.3 billion), giving Luxembourg the eleventh-highest ultimate position in the UK. The ranking for Jersey changed by less, but still fell from fourth to sixth highest.

The role of financial centres can also be seen when comparing immediate with ultimate FDI positions. Although the Netherlands and Luxembourg are not officially classified as financial centres, as listed in Annex A, they are also places used by companies through which to channel their investments. Financial centres can host many "special purpose entities", which form part of corporate structures but have less activity within the host economy. This would imply that the ultimate position should be lower than the immediate position for these countries. However, it is possible for companies to be registered in financial centres as well. One example is Bermuda, which held a slightly higher ultimate compared with immediate position in the UK in 2017.

The 10 largest ultimate contributors by value of the UK inward FDI position have been relatively unchanged since 2014

There have also been relatively few changes to the countries holding the 10 highest values of ultimate FDI inward positions in the UK between 2014 and 2017. The United States ultimately controlled the highest value of the UK's inward FDI position for each of the four years presented in Figure 3. The value of the ultimate position also increased in every year. Likewise, the Netherlands, France and Germany held the next three largest ultimate positions in the UK in each year except 2016 when Belgium held the third-highest ultimate position. That was the only year for which Belgian companies were among the top 10 largest ultimate investors in the UK. These results also show that the UK has been among the top 10 ultimate investors in the UK (round-tripping) in each of the years between 2014 and 2017. UK companies held the eighth-largest ultimate position in 2014, ninth-largest in 2015 and 2017 and tenth-largest in 2016.

Figure 3: Only 13 countries have been included among the top ten highest-value ultimate investors between 2014 and 2017

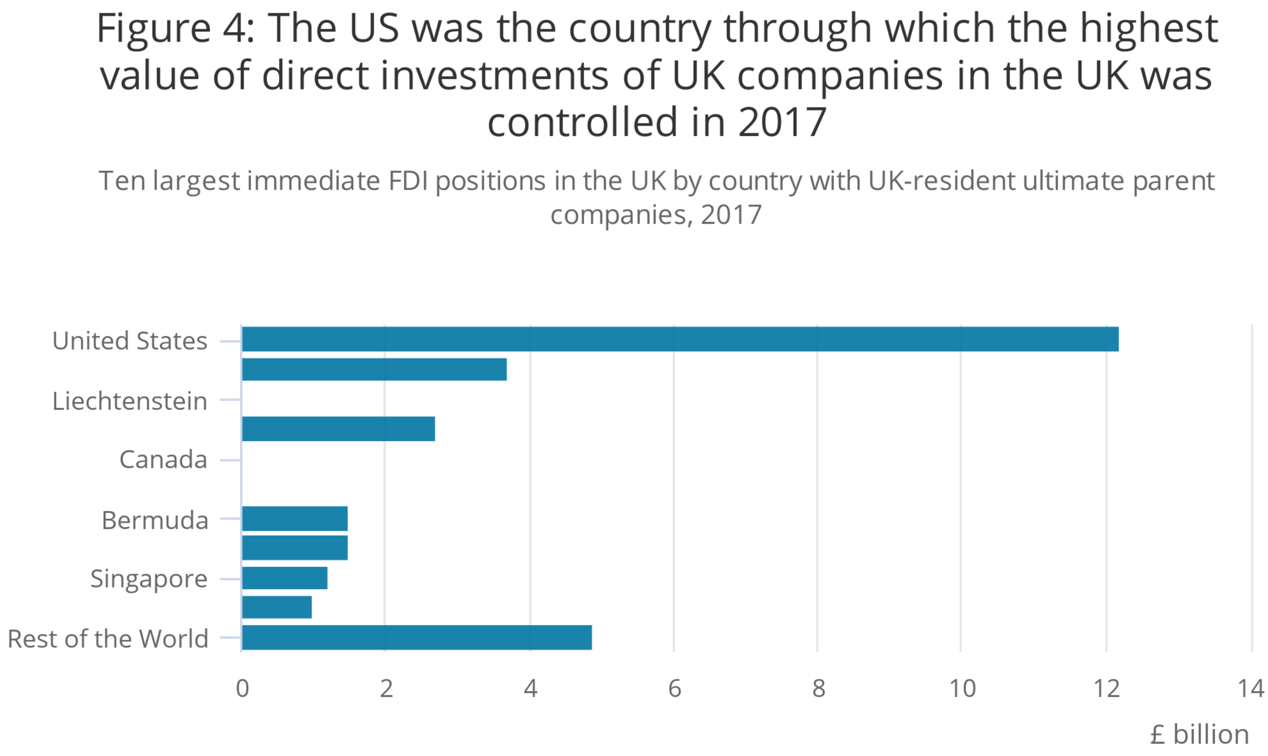
Top 10 countries with the largest ultimate inward foreign direct investment positions in the UK, 2014 to 2017

Only two EU countries were among the top 10 immediate countries involved with UK round-tripping in 2017

Our data-linking exercise can identify the countries through which UK parent companies are re-investing back in to the domestic economy. Figure 4 shows the largest 10 countries by value of the immediate UK FDI inward position in 2017, which ultimately was controlled by a parent company resident in the UK. The highest value was for the United States, which indicates that UK-based ultimate parent companies invested £12.2 billion in the UK through their US subsidiaries. This value was almost double the 2016 value (£6.4 billion). This was followed by FDI from Luxembourg and Liechtenstein that was ultimately controlled by UK-resident companies. Of those top 10 countries, half are recognised financial centres, while the Netherlands and Luxembourg were the only EU countries through which UK companies re-invested back in to the UK. These values reflect global corporate structures of UK parent companies and how their functions have been organised internationally.

Figure 4: The US was the country through which the highest value of direct investments of UK companies in the UK was controlled in 2017

Ten largest immediate FDI positions in the UK by country with UK-resident ultimate parent companies, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Totals might not match due to rounding.

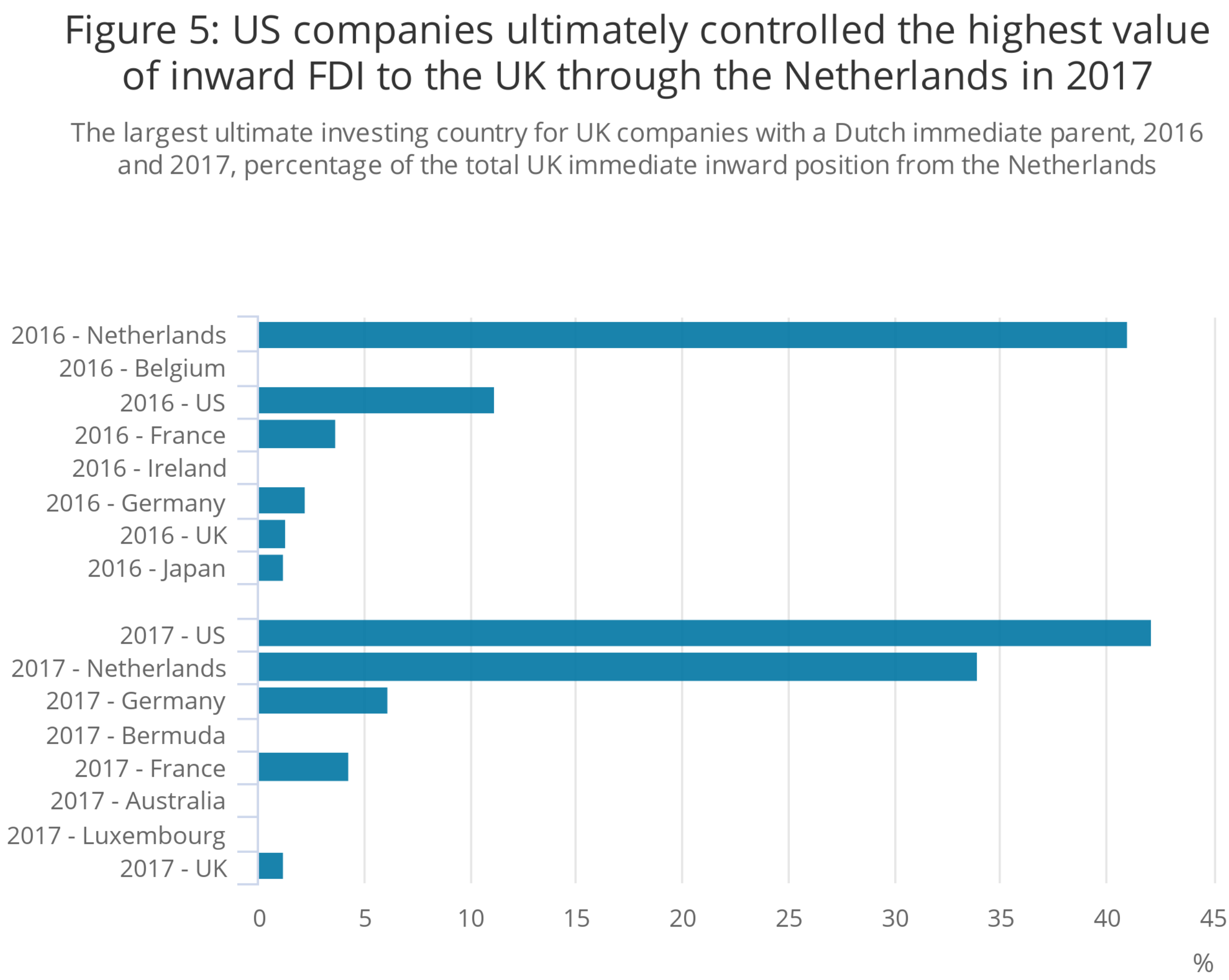
2. Some values have been suppressed to mitigate disclosure.

The highest value of inward investment held in the UK from the Netherlands and Luxembourg did not come from these economies in 2017

The highest value of the UK's immediate inward FDI position from the Netherlands came from companies ultimately based in the US in 2017. These businesses accounted for 42.1% of investments in the UK that were controlled through the Netherlands (Figure 5). This was a large increase on the 11.2% accounted for by US companies in 2016. Dutch companies ultimately controlled the second-highest proportion of Netherlands inward investments in the UK in 2017, with 33.9%. This was slightly lower than the 41.0% of FDI inward position in 2016. Finally, some UK-resident companies also re-invested back in the UK through their Dutch subsidiaries (round-tripping), which accounted for 1.2% of the immediate inward position from the Netherlands in 2017. This was similar to the proportion in 2016 (1.3%).

Figure 5: US companies ultimately controlled the highest value of inward FDI to the UK through the Netherlands in 2017

The largest ultimate investing country for UK companies with a Dutch immediate parent, 2016 and 2017, percentage of the total UK immediate inward position from the Netherlands



Source: Office for National Statistics – Foreign Direct Investment Survey

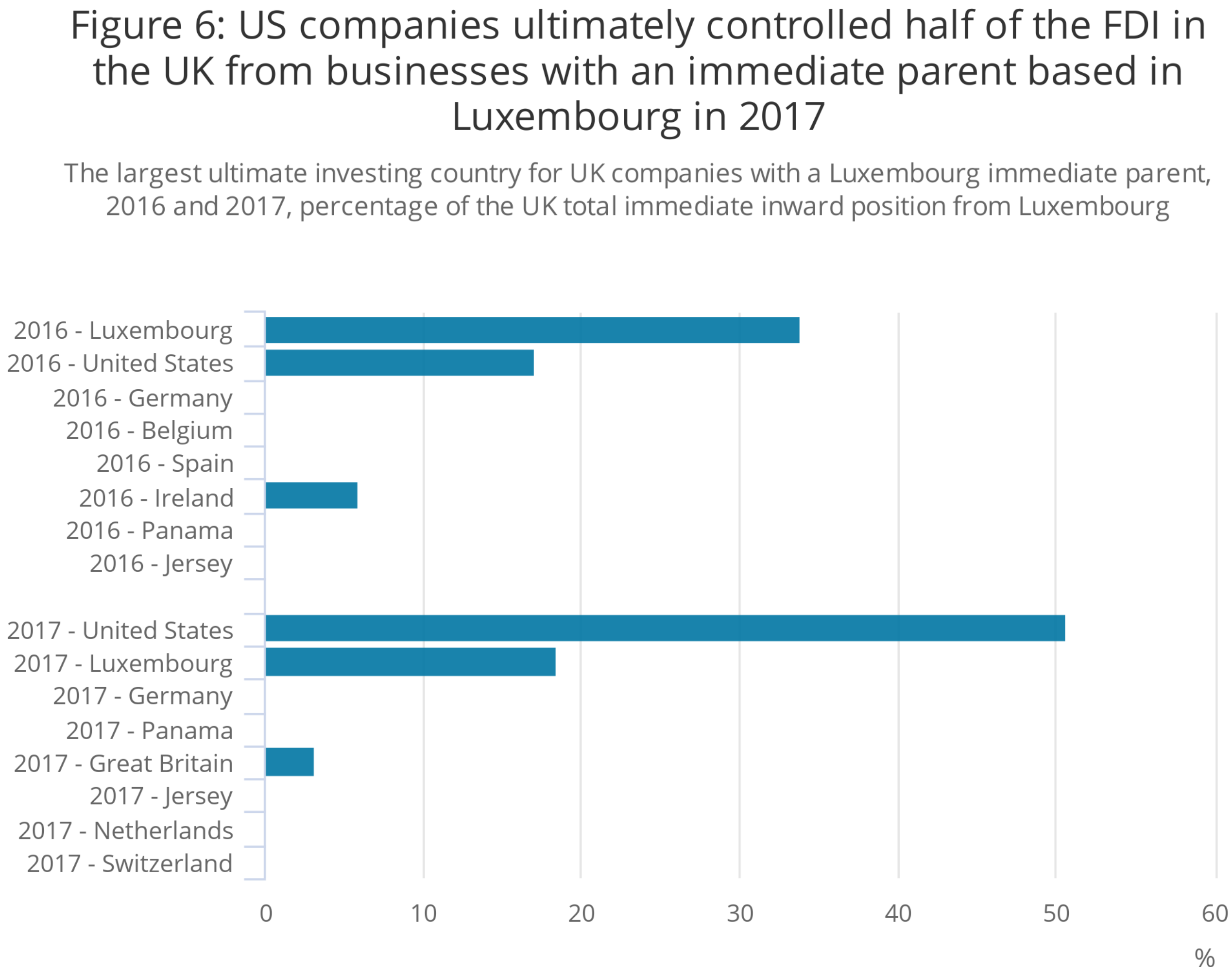
Notes:

1. Some values have been suppressed to mitigate disclosure.

US companies also accounted for the highest proportion of inward FDI in the UK of the Luxembourg immediate position, holding just over half of the total inward position (50.7%). This is more than from Luxembourg itself, which on an ultimate basis accounted for 18.4% of its immediate FDI position in the UK (Figure 6). As with the Netherlands, this also marks a change from 2016 where Luxembourg companies held the highest proportion of UK immediate inward investment (33.8%), with US companies accounting for 17.0%.

Figure 6: US companies ultimately controlled half of the FDI in the UK from businesses with an immediate parent based in Luxembourg in 2017

The largest ultimate investing country for UK companies with a Luxembourg immediate parent, 2016 and 2017, percentage of the UK total immediate inward position from Luxembourg



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Some values have been suppressed to mitigate disclosure.

Further analysis of the microdata of these Netherlands and Luxembourg companies indicates that the number of companies holding these positions in the UK were relatively similar in 2016 and 2017. Therefore, the changes that have been reported between these two years are more of a reflection of higher FDI position values for the same companies.

4 . Contributions of businesses engaged in foreign direct investment to the UK economy

The analysis in this section uses the results of linking foreign direct investment (FDI) microdata with both our main structural business survey, the Annual Business Survey (ABS), and the business register, the Inter-Departmental Business Register (IDBR)[1]. This enables us to compare the characteristics of companies with different FDI links (inward and outward) as well as those without such links. Our previous analysis has been updated to now include 2017. This section presents statistics on an immediate basis.

It is important to note a number of points when interpreting statistics presented in this section. First, the FDI survey is designed to collect consolidated accounts for business groups in the UK, while the ABS collects granular information on business units further down in the ownership structure. As such, the microdata linking exercise was conducted at a business group level, where all units within a business group were marked as having a “FDI relationship” if the group was identified as receiving FDI.

Second, in contrast to other authors’ microdata linking exercises[2], this analysis links the entire population of both the FDI and ABS and therefore includes both sampled returns and estimation. The approach has been used as it overcomes issues with grossing up to the whole economy where sampled businesses’ FDI statuses are assumed representative of entire non-sampled cells.

Third, these statistics cannot be used alone to determine the direction of causality between FDI and the real economy; for instance, while FDI-related companies are found to be more productive, these statistics cannot be used in isolation to deduce whether businesses in receipt of FDI become more productive or whether productive companies attract FDI.

Fourth, note that there are a number of industry groupings that are omitted from the analysis in this section – most notably financial services – due to the industry coverage of the ABS[3].

Annex C includes further details on the methods for this section.

UK-based companies involved in FDI relationships employed 8.5 million workers and produced £620.6 billion of aGVA in 2017

It is possible to separate UK companies based on the type of FDI links that these companies have. UK-based businesses that have an inward FDI link only are those that are directly controlled by foreign parent companies. UK companies with an outward FDI link only control subsidiaries abroad. UK businesses that have both an inward and an outward FDI link are companies that both control non-UK subsidiaries and receive investments from parent companies based abroad. Table 1 shows the contribution towards UK employment, approximate gross value added (aGVA)[4] and acquisition of capital expenditure for UK businesses that have FDI relationships and those without.

Table 1: Shares of UK business counts, employment, aGVA and acquisitions of capital expenditure attributable to firms based on foreign direct investment links and components, 2017

		UK businesses		Employment		aGVA		Acquisitions of capital expenditure	
		thousand	% total	million	% total	£ billion	% total	£ billion	% total
1) Any FDI link		48.2	2.0	8.5	29.8	620.6	39.9	98.3	42.6
of which:									
	only inward FDI link	23.6	1.0	1.8	6.2	133.2	8.6	22.2	9.6
	only outward FDI link	16.3	0.7	4.3	15.0	275.4	17.7	43.3	18.7
	both	8.3	0.3	2.4	8.6	212.0	13.6	32.8	14.2
2) No FDI link		2406.4	98.0	20.0	70.2	936.0	60.1	132.8	57.4

Source: Office for National Statistics

Notes

1. Employment figures presented in this section differ from those presented in the Annual Business Survey release as they are based on micro-data from the Inter-Departmental Business Register which uses a combination of business survey returns and administrative sources to populate employment estimates for every individual UK business. Back to table

2. aGVA statistics presented use 2017 market prices. Back to table

3. If one reporting unit from an enterprise group has any form of FDI link, then this status has been given to the whole enterprise group. Back to table

4. The sum of constituent items in tables may not always agree exactly with the totals shown due to rounding. Back to table

5. aGVA and acquisitions of capital expenditure variables are based on micro-data from the ABS. Back to table

The number of companies with FDI links was relatively small, yet these businesses make a sizeable contribution to the UK economy. Despite only 2.0% of UK businesses having any FDI link, they employed 29.8% of UK workers (8.5 million), while those without FDI links (98.0%) made up the remaining 70.2% of employment. Furthermore, UK companies with any FDI link accounted for around two-fifths of aGVA and acquisition of capital expenditure. These results were very similar to those for 2016, which showed a similar pattern across companies with and without FDI links.

It is noticeable how there were more UK businesses with an inward FDI link than the ones with an outward link in 2017. Yet the contribution towards employment, aGVA and acquisition of capital expenditure was always higher for the companies with only outward FDI links. This reflects how UK FDI statistics are collected. These focus on the UK-side of both outward and inward investments. A parent company in the UK is likely to have outward FDI links with a number of subsidiaries across the world, resulting in UK outward FDI being concentrated in a small number of the largest multi-nationals. In contrast, it is companies in receipt of investment in the UK that are identified as having an inward FDI link, as opposed to the foreign multi-national making the investment.

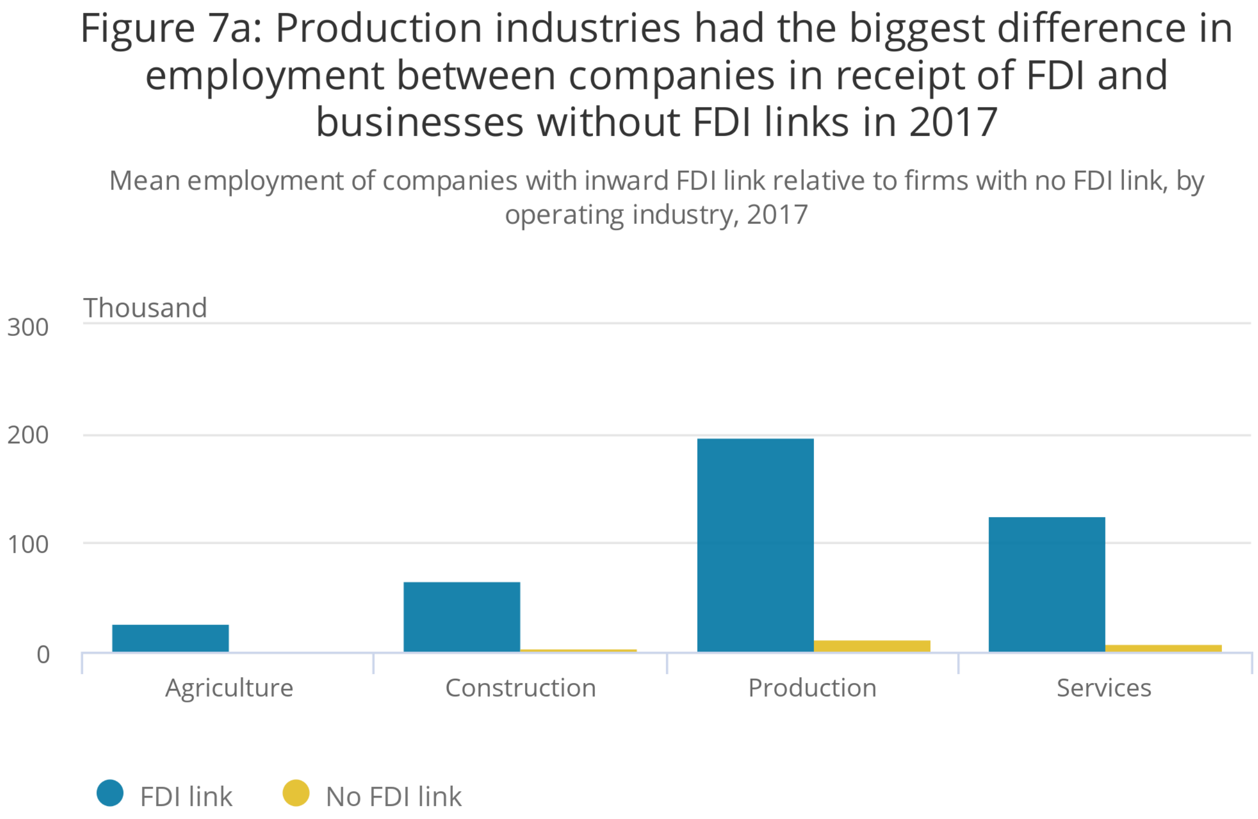
It is more likely that companies that receive investment from foreign-based multi-nationals are smaller in size than the UK companies that have an outward FDI link. This results in UK businesses having only an inward FDI link being more numerous than the UK businesses with only an outward FDI link, however with the latter accounting for a larger proportion of employment, aGVA and acquisition of capital expenditure. More information on the distribution of inward and outward FDI companies by investment positions can be found in UK foreign direct investment, trends and analysis: May 2019.

Production industries showed the biggest differences between companies with and without FDI links in 2017

The distribution of employment and aGVA is different across the industries of the UK. This too is also reflected in those values for companies with and without FDI links. Figure 7 compares the average (mean) employment and aGVA of UK-based companies with no FDI links with those that have just inward FDI links and companies that have both inward and outward FDI links. This shows that companies with inward FDI links had higher employment per business than those without FDI links irrespective of the industry in 2017. In both cases, production companies had the highest average employment, yet this was also the industry with the biggest difference. Production companies with inward FDI links employed 197 workers per company on average compared with 13 per company for those without FDI links. The difference for services industries was the second-largest on average, with 125 employees per company for those with inward FDI links compared with nine for those without such links. This implies that inward FDI production companies employed 57.6% more workers on average than those with FDI links in services industries.

Figure 7a: Production industries had the biggest difference in employment between companies in receipt of FDI and businesses without FDI links in 2017

Mean employment of companies with inward FDI link relative to firms with no FDI link, by operating industry, 2017



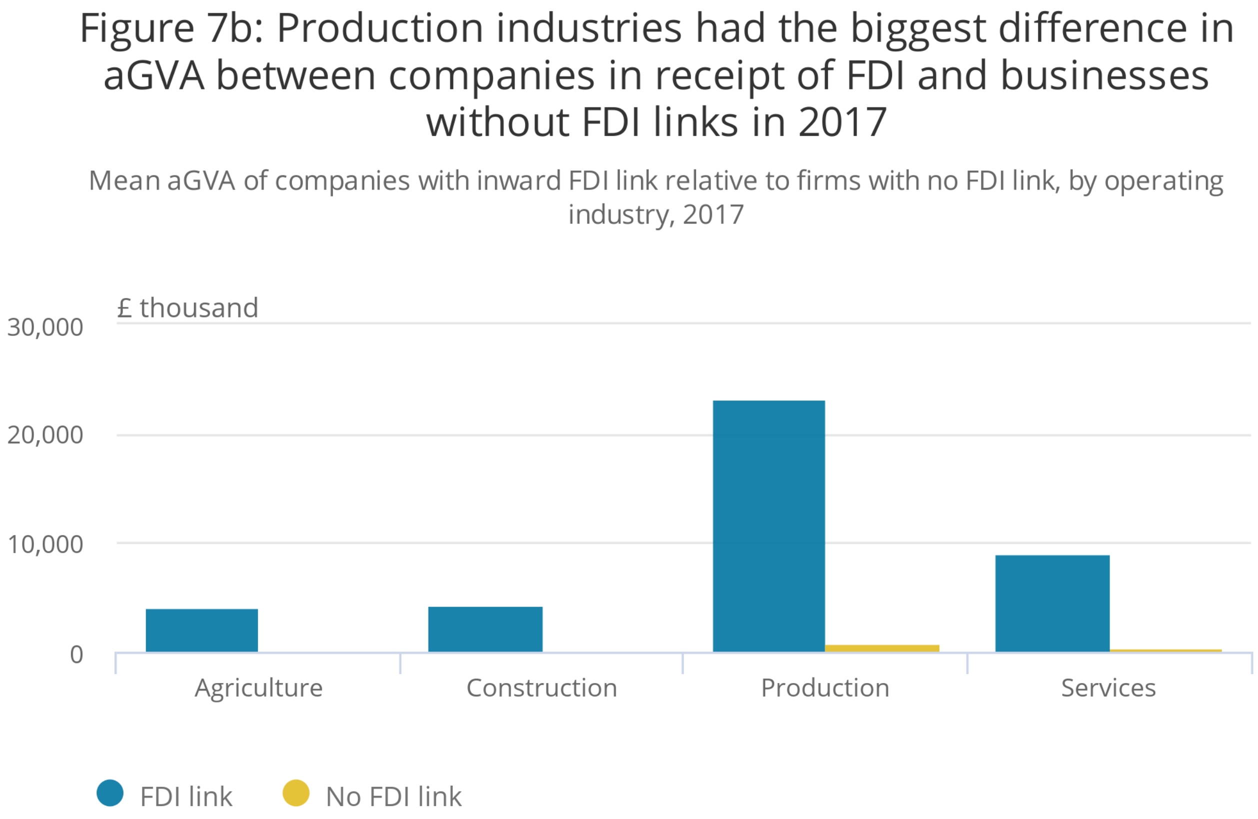
Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Employment figures presented in this section may differ from those presented in the Annual Business Survey release as they are based on microdata from the Inter-Departmental Business Register, which uses a combination of business survey returns and administrative sources to populate employment estimates for every individual UK business.

Figure 7b: Production industries had the biggest difference in aGVA between companies in receipt of FDI and businesses without FDI links in 2017

Mean aGVA of companies with inward FDI link relative to firms with no FDI link, by operating industry, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. aGVA statistics use 2017 market prices.

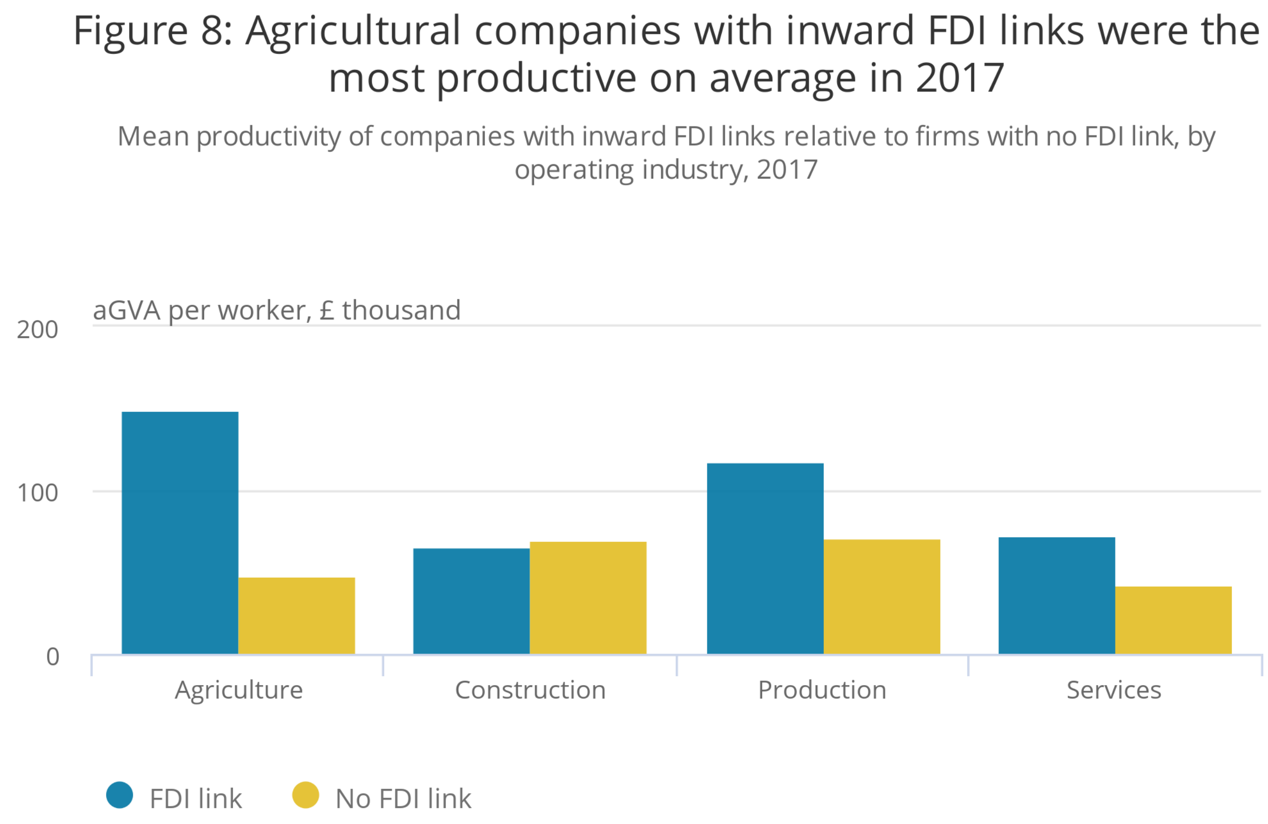
A similar pattern emerges for aGVA by industry. Production and services industries accounted for the first and second-highest average aGVA per company in 2017. For production companies, those with inward FDI links had £23,159,000 aGVA per business on average compared with £896,000 for those without FDI links. However, the difference to the aGVA of inward FDI companies in services industries was greater than that for employment. FDI companies in services industries had £9,128,000 aGVA per company, which was around two-fifths (39.4%) the average for production companies with FDI links. Furthermore, the average aGVA of agriculture and construction companies with FDI links were much closer than the difference between their average employment.

Productivity for FDI recipient businesses vary across industries to a greater extent than for those without FDI links

Average employment and aGVA per company enables us to estimate one measure of productivity for companies with and without FDI links by industry. This gives average aGVA per worker and shows how much aGVA each employee generates on average. For companies without FDI links, productivity was highest in production industries, yet it was highest among agriculture industries for companies with inward FDI links. The biggest difference between FDI link and non-FDI link companies was in agriculture, with £149,500 aGVA per worker for companies in receipt of FDI against £47,800 aGVA per worker for businesses that do not have any FDI link.

Figure 8: Agricultural companies with inward FDI links were the most productive on average in 2017

Mean productivity of companies with inward FDI links relative to firms with no FDI link, by operating industry, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Productivity refers to aGVA per worker.

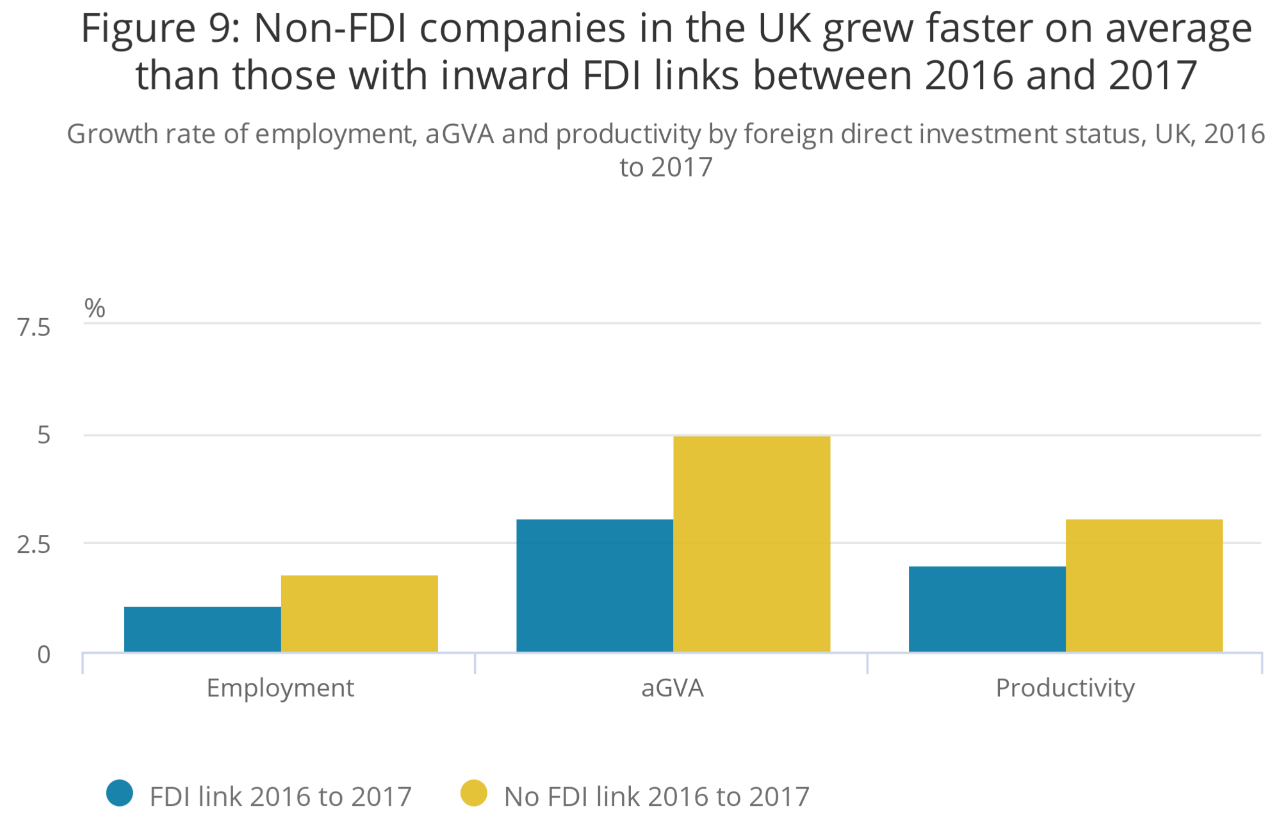
Furthermore, the productivity difference in production industries was much smaller than the differences in employment and aGVA. Those companies with inward FDI links (£117,800) were 65.4% more productive on average than those without FDI links (£71,200). These results also show that companies without any FDI link in the construction industry were on average £3,300 aGVA per worker (5.0%) more productive than UK-based businesses that receive FDI from abroad.

Companies without FDI links grew faster than those with inward FDI links in 2017 from 2016

It is also possible to look at the growth rates of employment, aGVA and productivity for companies with and without inward FDI links from 2016 to 2017. This uses information for businesses present in both years only. Companies without any FDI links had higher employment and aGVA growth on average compared with those with inward FDI links. UK businesses that do not have any FDI links grew on average by 1.8% in employment compared with the 1.1% growth for businesses in receipt of FDI. The aGVA for both types of business grew at a faster rate, with that for non-FDI companies being 5.0% higher in 2017 than in 2016 and for inward FDI companies was 3.1% higher over the same period. This implies that employment growth of inward FDI businesses was 0.7 percentage points lower than for companies without such links, while aGVA growth was 1.9 percentage points lower.

Figure 9: Non-FDI companies in the UK grew faster on average than those with inward FDI links between 2016 and 2017

Growth rate of employment, aGVA and productivity by foreign direct investment status, UK, 2016 to 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. The information used to produce this chart looks at companies that feature both in the 2016 FDI survey and in the 2017 FDI survey.

Productivity also increased in 2017 from 2016 for all companies. This stems from aGVA growing by more than employment on average. For businesses with inward FDI links, average productivity increased by 2.0% in 2017 from 2016. This was lower than the 3.1% increase in aGVA per worker among businesses without FDI links. This indicates that the differences between companies with inward FDI links and those with no FDI links in employment, aGVA and productivity narrowed in 2017 from 2016.

Companies with both inward and outward FDI links were the most productive on average in 2017 of all FDI companies

Our analysis of productivity can also be extended to consider the type of FDI link. This extends the analysis to include companies with outward FDI links as well. The results confirm that companies with any FDI link were more productive on average than companies without such links. However, it also highlights differences in productivity depending upon the type of FDI link. UK businesses with both inward and outward FDI links had the highest average productivity among all FDI businesses, with £86,700 aGVA per worker. This compares with aGVA per worker of £75,200 for inward FDI companies and £64,500 per worker for outward only companies. Thus, companies with both inward and outward FDI links were 15.3% more productive than companies with only inward FDI links and 34.4% more productive that businesses with only outward FDI links.

Table 2: Productivity of UK companies based on form of foreign direct investment link, aGVA (£ thousands) per employee, 2017

	Mean productivity of UK companies (aGVA per worker, £ thousands)
1) Firms with any FDI link	73.2
of which:	
only inward FDI link	75.2
only outward FDI link	64.5
both inward and outward FDI links	86.7
2) Firms with no FDI link	46.8

Source: Office for National Statistics

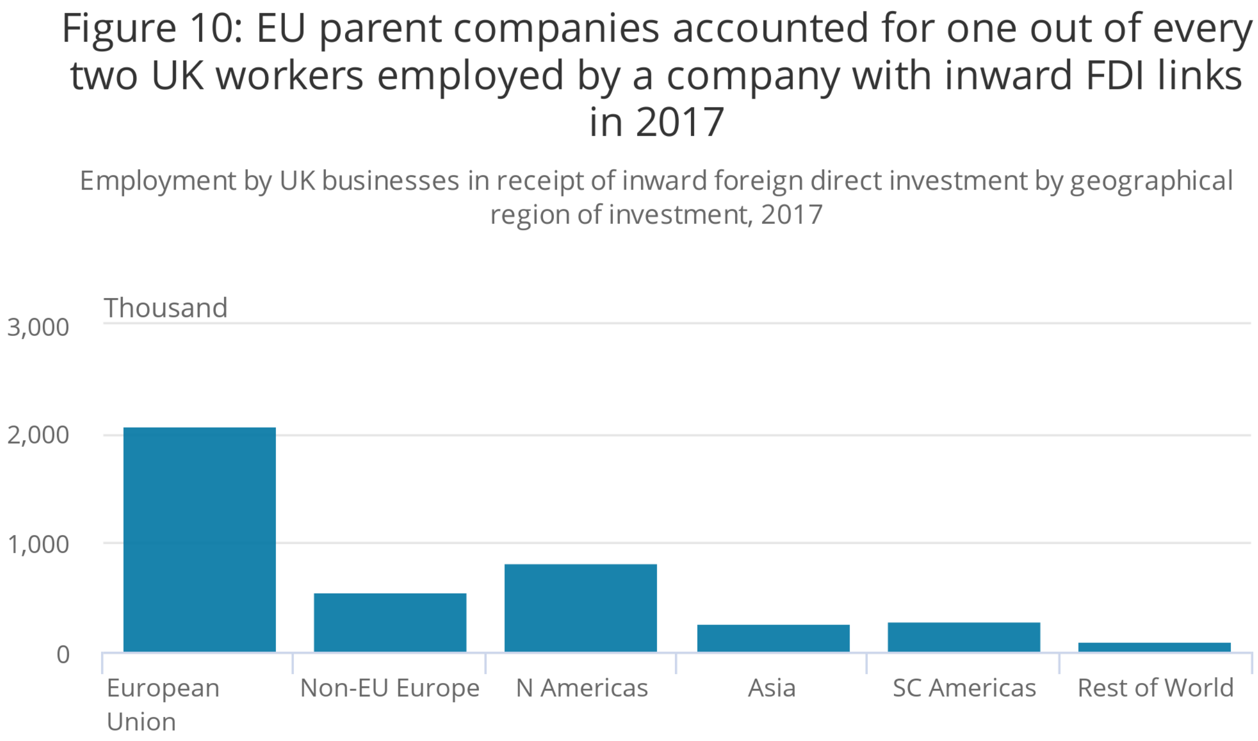
Referring back to Table 1 shows that outward FDI companies accounted for the highest number of employees and aGVA among those companies with FDI links. These companies employed 4.3 million workers and had aGVA of £275.4 billion in 2017. This compares with 2.4 million employees and £212.0 billion aGVA for companies with both inward and outward FDI links. While outward only FDI companies had 79.2% more employment than companies with both inward and outward links, their aGVA was only 29.9% higher. This makes companies with both types of links more productive on average and is likely to reflect the position in the supply chain of companies with both inward and outward FDI links compared with those with links in just one direction.

UK companies that had inward FDI links with the EU employed as many workers as the other continents combined in 2017

UK-based companies that had foreign immediate parent companies employed just over four million workers in 2017. This employment can be analysed by the continent of the immediate parent company, as shown in Figure 10. The UK subsidiaries of EU parent companies employed 2.1 million people in the UK, which was more than double the 0.8 million employed by companies with North American immediate parents. The Netherlands (483,000), Luxembourg (401,000), France (333,000) and Germany (280,000) were the four countries with the highest UK employment among businesses in receipt of FDI from the EU. Non-EU European parent companies accounted for the third-highest amount of employment (0.6 million) in the UK. The employment levels of Asian and South and Central (SC) American companies in the UK were also similar. Finally, added together, employment across all of the other continents equalled that for employment with EU-owned companies in the UK.

Figure 10: EU parent companies accounted for one out of every two UK workers employed by a company with inward FDI links in 2017

Employment by UK businesses in receipt of inward foreign direct investment by geographical region of investment, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

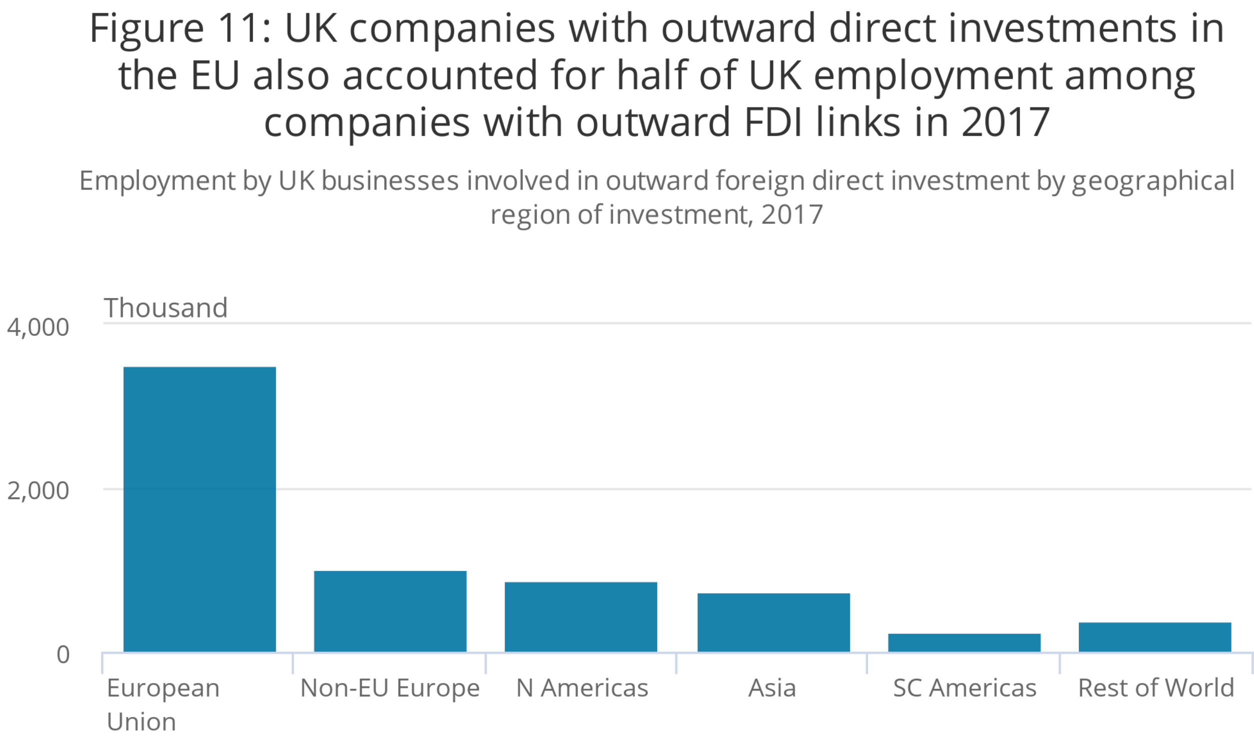
Notes:

1. Employment figures presented in this section differ from those presented in the Annual Business Survey release as they are based on microdata from the Inter-Departmental Business Register, which uses a combination of business survey returns and administrative sources to populate employment estimates for every individual UK business.

The same analysis can be conducted for companies with outward FDI links. This includes companies that have only outward FDI links as well as those with both inward and outward links. Businesses that controlled a stock of direct investment in the European Union employed 3.5 million workers in the UK, which was 51.6% of total employment in companies that had outward FDI links in 2017. Ireland (1,011,000), the Netherlands (733,000), Germany (378,000) and Spain (276,000) were the four countries accounting for the highest number of UK employment among businesses directing FDI to the EU. The second-highest employment value was for those companies with links in non-EU Europe, which accounted for a further 1.0 million employees. This differs from businesses with inward FDI links, where North America had the second-highest amount of employment among the continents.

Figure 11: UK companies with outward direct investments in the EU also accounted for half of UK employment among companies with outward FDI links in 2017

Employment by UK businesses involved in outward foreign direct investment by geographical region of investment, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Employment figures presented in this section differ from those presented in the Annual Business Survey release as they are based on microdata from the Inter-Departmental Business Register, which uses a combination of business survey returns and administrative sources to populate employment estimates for every individual UK business.

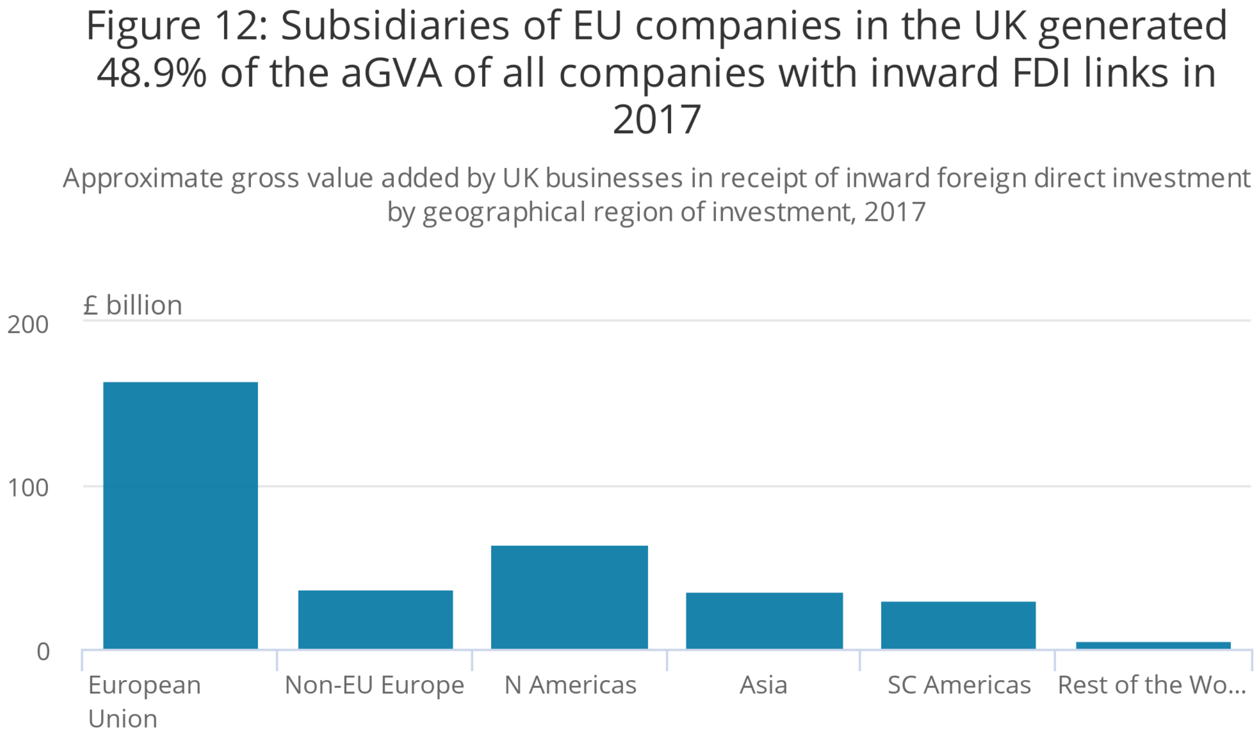
The number of employees working in companies with outward FDI links in North America was similar to the number working in companies with inward links. For outward FDI, 0.9 million employees worked in those companies compared with 0.8 million for inward FDI businesses. South and Central America was the only continent where employment in outward FDI companies (0.2 million) was lower than the employment for companies with inward FDI links (0.3 million), which led to South and Central America having lower employment than the Rest of the World – Australasia and Oceania, and Africa combined – in 2017. Furthermore, Asia, South and Central America and Rest of the World altogether accounted for around 1.4 million workers employed, which was 20.4% of total employment in businesses with an outward FDI link. This was also a larger proportion of employment in FDI companies with outward links among those three regions than FDI businesses with inward links (15.8%).

The distribution of approximate gross value added by continent of the inward or outward FDI link was similar to the respective distributions of employment

UK-based companies with inward FDI links produced around £337.1 billion of aGVA in 2017. The continent breakdown presented in Figure 12 shows that inward investments immediately controlled by EU companies generated £164.8 billion of that total in 2017, or 48.9%. The Netherlands (£44.8 billion), Luxembourg (£27.7 billion), France (£26.4 billion) and Germany (£20.8 billion) once again produced the highest amounts of aGVA for businesses with inward FDI relationships from the EU in 2017. UK businesses in receipt of FDI from North America had £64.9 billion aGVA in 2017, while the ones that received investment from non-EU Europe had £37.2 billion aGVA. Asia, South and Central America and Rest of the World together accounted for £70.2 billion (or 20.8%) of total aGVA in FDI recipient businesses. This resembles the inward FDI continental distribution for employment.

Figure 12: Subsidiaries of EU companies in the UK generated 48.9% of the aGVA of all companies with inward FDI links in 2017

Approximate gross value added by UK businesses in receipt of inward foreign direct investment by geographical region of investment, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

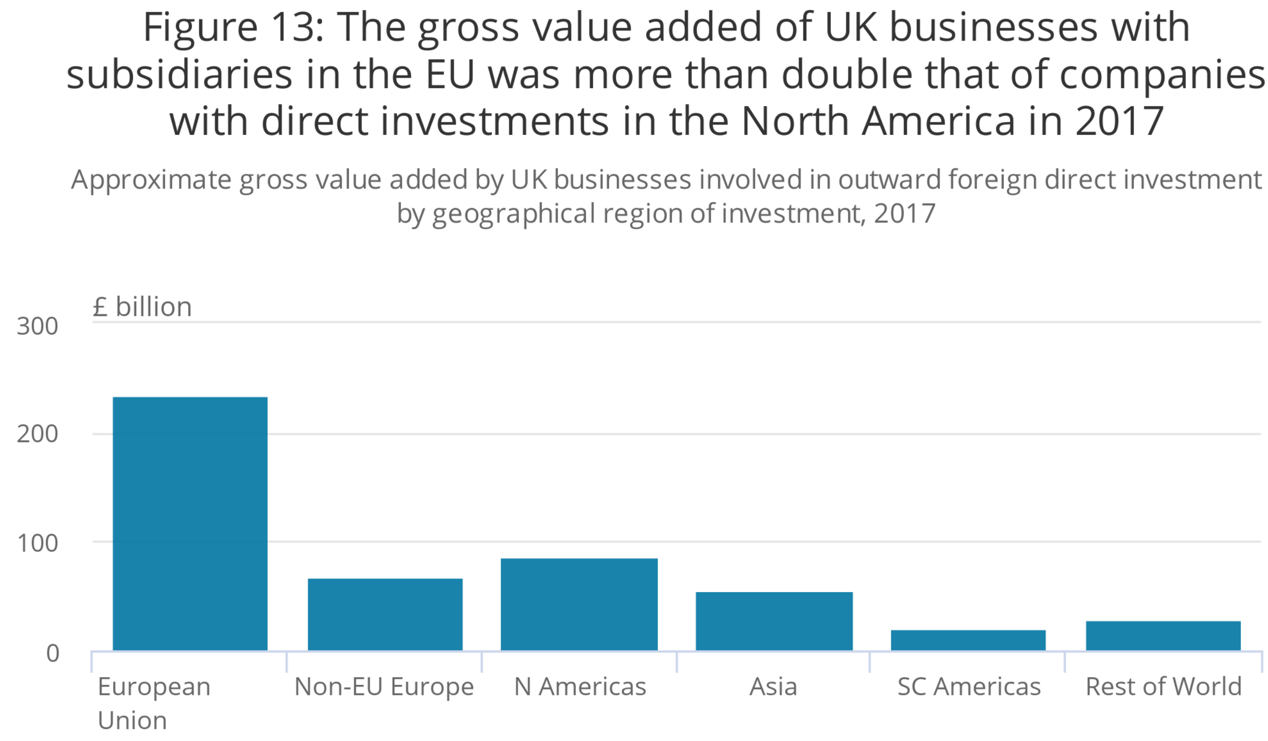
Notes:

1. aGVA statistics presented use 2017 market prices.

Likewise, the distribution of aGVA for companies with outward FDI links also resembles the respective continental distribution of employment. The main difference was that FDI companies with links in North America accounted for the second highest value of aGVA but the third-highest amount of employment. Companies with direct investments in the EU still had the largest value of aGVA in 2017 with £233.9 billion, which was 47.5% of the total. Ireland (£63.8 billion), the Netherlands (£41.9 billion), Germany (£28.1 billion) and France (£16.3 billion) produced the largest amounts of aGVA for businesses with outward FDI relationships to the EU in 2017. UK businesses investing in North America generated £86.3 billion aGVA, followed by those investing in Non-EU Europe with £66.9 billion. Asia, South and Central America and Rest of the World together accounted for £105.6 billion aGVA, which was 21.4% of the total.

Figure 13: The gross value added of UK businesses with subsidiaries in the EU was more than double that of companies with direct investments in the North America in 2017

Approximate gross value added by UK businesses involved in outward foreign direct investment by geographical region of investment, 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

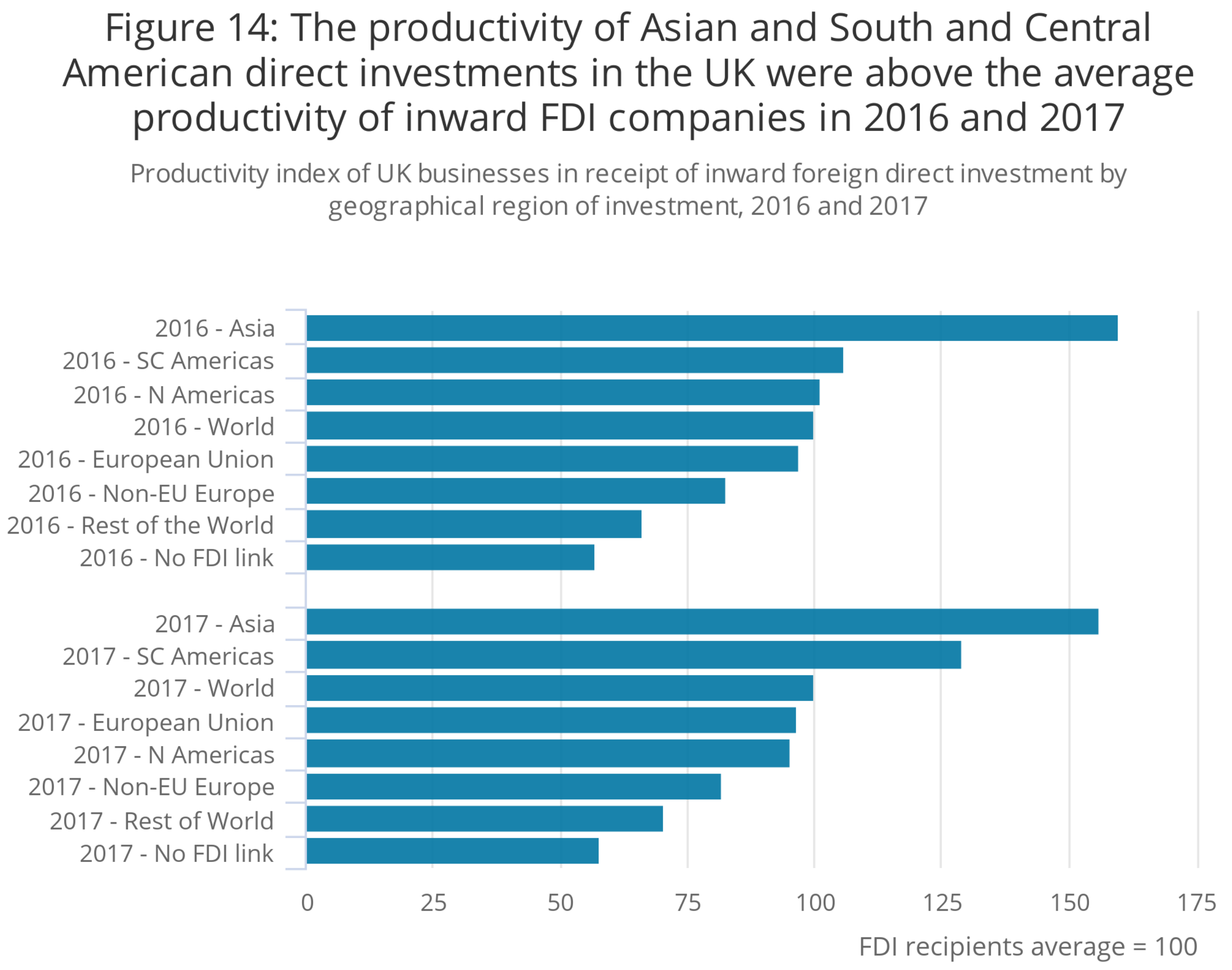
1. aGVA statistics presented use 2017 market prices.

The most productive FDI companies had links with Asia for inward and with North America for outward FDI in 2017

Despite links with the EU accounting for the highest amount of employment and aGVA among UK companies with foreign immediate parent companies, the productivity of those companies was below the average of all companies with inward FDI links. This is shown in Figure 14, where productivity values have been indexed to the world average productivity of FDI companies in each year. Any value below 100 indicates lower productivity on average than all FDI companies with inward links. For the EU, this index was 96.7 in 2017, which was very similar to the 96.9 for EU-controlled inward investments in 2016.

Figure 14: The productivity of Asian and South and Central American direct investments in the UK were above the average productivity of inward FDI companies in 2016 and 2017

Productivity index of UK businesses in receipt of inward foreign direct investment by geographical region of investment, 2016 and 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Productivity refers to aGVA per worker.

The most productive inward direct investments in the UK were from Asia, with an index value of 156.1 in 2017. This implies that those businesses were 56.1% more productive than the average of inward FDI companies, while FDI from South and Central America was the second-most productive inward direct investors, being 29.0% more productive. The main change in productivity between 2016 and 2017 has been for North American companies, which went from being close to the 2016 average (101.0) to below the 2017 average (95.4), and less productive than inward FDI from the EU in 2017.

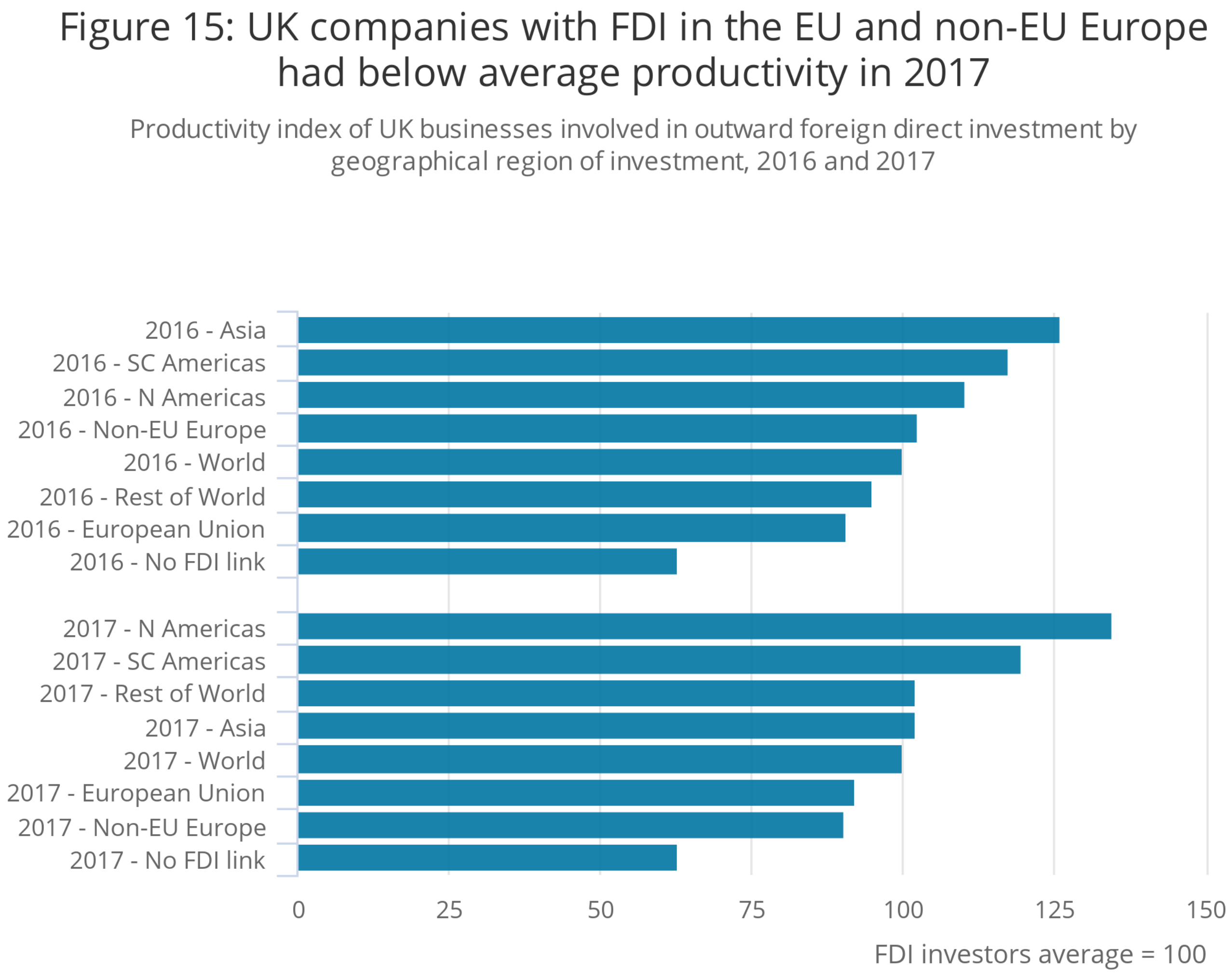
One main reason that UK firms that receive FDI from Asia are notably more productive in relative terms than from any other region is led by a few countries. In 2017, UK firms that received FDI from Japan, South Korea and India were twice as productive as UK firms that received FDI from the US, on average.

In both years, the productivity of companies with FDI from all continents was above that of UK companies without FDI links. UK companies with no FDI links were 42.2% less productive than the average of companies with inward FDI links. The UK businesses with no FDI links had an index value of 57.8 in 2017, which was close to but slightly higher than the 57.0 in 2016.

There were more continents with above average productivity among outward investors than there were below in 2017. The productivity of outward investors with subsidiaries in the EU and non-EU Europe were very similar, with indices of 92.1 and 90.2 respectively, as shown in Figure 15. For the EU, this was a slight increase in productivity compared with the 2016 average (90.8), whereas that for non-EU Europe was lower (102.5).

Figure 15: UK companies with FDI in the EU and non-EU Europe had below average productivity in 2017

Productivity index of UK businesses involved in outward foreign direct investment by geographical region of investment, 2016 and 2017



Source: Office for National Statistics – Foreign Direct Investment Survey

Notes:

1. Productivity refers to aGVA per worker.

UK outward investments in North America were the most productive on average in 2017. These were 34.7% more productive than the UK's world average outward investments. This was an increase of more than 20 percentage points for North American companies relative to the 2016 average. Businesses with outward FDI links in Asia were the most productive in 2016 (126.2), but decreased to 102.0 in 2017. Despite having the lowest amount of employment, companies with outward FDI links with South and Central America were more productive than the average outward FDI investments, and increased from 117.6 in 2016 to 119.7 in 2017 relative to the respective averages.

Once again, outward FDI companies for all continents were more productive on average than those companies with no FDI links. However, this difference narrowed in 2017, with an index value of 63.0 compared with 62.7 in 2016. Therefore, UK companies with no outward links were 37.0% less productive in 2017 compared with being 37.3% less productive in 2016.

Notes for: Contributions of businesses engaged in foreign direct investment to the UK economy

1. Further information on the structure of the IDBR can be found in Evans and Welpton (PDF, 219KB).
2. For more information on other authors' microdata linking exercises, see UK trade in goods and productivity: new findings.
3. Further information on the ABS can be found in the ABS Quality and Methodology Information (QMI) report.
4. Approximate gross value added (aGVA) measures the value of goods and services produced and is closely linked to gross domestic product (GDP), although GDP includes taxes minus subsidies in production.

5 . Acknowledgments

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The authors would like to acknowledge the contributions from Liam Bradley and Lee Mallett.

6 . Quality and Methodology

The Foreign direct investment Quality and Methodology Information report contains important information on:

- the strengths and limitations of these data and how they compare with related data
- uses and users of these data
- how the output was created
- the quality of the output including the accuracy of these data

7 . Annex A: Financial Centres by continent

Asia

Bahrain, Hong Kong, Lebanon, Philippines, Singapore.

EU Europe

None.

Non-EU Europe

Andorra, Gibraltar, Guernsey, Isle of Man, Jersey, Liechtenstein.

North America

None.

Central and South America

Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Cayman Islands, Curacao, Dominica, Grenada, Montserrat, Panama, Saint Lucia, Sint Maarten, St Kitts and Nevis, St Vincent and the Grenadines, Turks and Caicos Islands, British Virgin Islands, US Virgin Islands.

Rest of the World

Cook Islands, Liberia, Marshall Islands, Mauritius, Nauru, Niue, Samoa, Seychelles, Vanuatu.

Source: Eurostat

8 . Annex B: Ultimate parent company analysis methods

To present foreign direct investment (FDI) statistics by the ultimate controlling parent, a data-linking project was undertaken that involved matching company microdata from the Inter-Departmental Business Register (IDBR) and Foreign Direct Investment (FDI) survey.

The IDBR contains business-specific information such as the ultimate parent company obtained through survey data and procured from Dun and Bradstreet (D&B) – a commercial data source. The FDI survey contains information on companies' cross-border investment positions, financial flows and income flows on an immediate parent basis. By linking the two files, the project aims to establish from where inward FDI ultimately originates. This annex outlines how IDBR data were linked to the FDI population.

The Inter-Departmental Business Register

The Inter-Departmental Business Register (IDBR) is a comprehensive list of UK businesses used by government for statistical purposes. It is fully compliant with the EU regulation on harmonisation of business registers for statistical purposes (EC No 177/2008).

The IDBR provides the main sampling frame for surveys of businesses carried out by Office for National Statistics (ONS) and other government departments. It is also an important data source for analyses of business activities.

The IDBR covers 2.6 million businesses in all parts of the UK economy, other than the very small businesses (those without employees and with turnover below the tax threshold) and some non-profit making organisations.

The two main sources of input are the Value Added Tax (VAT) system and Pay As You Earn (PAYE income tax) from HM Revenue and Customs (HMRC). Additional input comes from Companies House, Dun and Bradstreet, our business surveys and contact with the largest multinational businesses through profiling.

All data on the IDBR are treated as Official Sensitive and are protected by the Code of Practice for Statistics and by specific legislation.

The Foreign Direct Investment (FDI) Survey population

The FDI population is produced from four sources. Data from the IDBR and Dun and Bradstreet (D&B) are combined to identify the target population and sampling frame for the FDI survey. Auxiliary variables, such as the number of affiliates, are not used to produce FDI estimates directly, but are used by ONS to stratify the outward survey sample. The D&B inputs are sourced from D&B's Who-owns-Whom database of world linkages of companies. An annual data extract is procured at the start of the calendar year. These are then adapted and matched to the IDBR. The resulting data extract provides information on majority share ownership only (more than 50% of ordinary shares).

We also maintain a separate database for enterprises that have previously been identified to be engaged in FDI either through the FDI or Mergers and Acquisitions surveys. This database includes minority share relationships (between 10% and 49% of ordinary shares) that are not included in the IDBR and D&B extract but are relevant for FDI statistics.

The FDI population is also updated regularly using information from the ONS Mergers and Acquisitions Survey, which is conducted on a quarterly basis and collects information on domestic and cross-border acquisitions and disposals involving UK companies.

Throughout the year our Business Profiling Team (BPT) investigate the largest multinational businesses to ensure the correct structure for all ONS surveys; there is a pool of 2,000 businesses for the profilers to maintain. A sub-section of BPT also maintains the linkages between businesses throughout the year. This information is obtained from ONS surveys, Companies House and data from HMRC.

In contrast to most ONS business surveys, where sampled returns are weighted to estimate for the non-sampled population, FDI estimation methods predict values for all non-sampled businesses, allowing for aggregate estimates to be derived simply by summing over the domains of interest. While uncommon in ONS, this method is not unique and has a sound, academic basis. This approach provides a rich microdata set for the whole population, with returned and estimated values for each company.

Linking the IDBR to the FDI population

Data linking was carried out in SAS by binding the IDBR extract to the FDI population. The IDBR extract included the country code of the ultimate parent. As the IDBR holds information only on majority share ownership (above 50%) while FDI includes minority share ownership (between 10% and 49%) information as well, there are some gaps in the provided IDBR extract.

Moreover, our FDI survey is supplemented by data on Monetary Financial Institutions (MFIs), bank holding companies, public corporations and property data, which are collected from other sources such as the Bank of England and the Balance of Payments team in ONS. These do not contain business identifiers that can be linked to IDBR data (contributing to the gaps in the IDBR extract). These gaps were replaced with the immediate country code information from the FDI survey. This affected only 12.1% of the total FDI positions.

There is a limitation within this methodology as the IDBR collects information only on the majority shareholder of a company, which can lead to some country estimates being either overestimated or underestimated. As it is not possible to unpick every corporate structure, this is a limitation agreed and accepted internationally and it requires some caution when interpreting the results of this analysis.

Method for better estimating round-tripping

Estimates for round-tripping (whereby UK companies use different parts of their overseas company structures to invest in the domestic economy) first published in 2017 were likely to overestimate the value of such activity. This overestimation arose as it is sometimes the case that a UK subsidiary can have two ultimate controlling parents, with one based in the UK and another based abroad.

As the IDBR only contains information on the ultimate parent country for majority shareholders, information will not be available for any minority shareholders (even if they are an ultimate controlling parent of that minority stake). Therefore, if a UK company had a UK-resident majority shareholder (even if they only held 51% of voting power) and an overseas-based minority shareholder (holding less than 50% of the voting power), the previous methodology would allocate the entire value of the FDI stock to the country of the majority shareholder. In this example, that would be classed as the UK and would be categorised as round-tripping.

Attempting to resolve this overestimation, validation of the largest of such examples by FDI stock was carried out using additional data sources. Where companies were shown to have a marginal UK-resident majority shareholder relationship, and signs of significant voting power from foreign parents were evident, the ultimate controlling country was allocated to be the country of the immediate parent.

This methodology has helped to provide a better estimate of UK round-tripping from 2014 to 2017.

9 . Annex C: Linking foreign direct investment with Annual Business Survey methods

Overview

This data-linking project involves matching company microdata from the Annual Business Survey (ABS) and Foreign Direct Investment (FDI) Survey. The ABS collects information on business characteristics such as turnover, employment and gross operating surplus; while the FDI survey contains information on companies' cross-border investment positions, financial flows and income.

By linking the two files, the project aims to develop understanding of the characteristics of businesses engaged in FDI relationships and answer some important questions such as:

- are UK companies that have FDI links more productive?
- are they more likely to trade internationally?
- do they invest more in fixed capital within the UK?
- are UK companies that receive investment more productive than UK companies that invest abroad?

This annex outlines how the ABS sample was expanded to the Inter-Departmental Business Register (IDBR) before linking to the FDI population.

The Annual Business Survey population

Following the collection and processing of the ABS results, these data are held as two separate files: a “universe” or population dataset, consisting of 2.1 million reporting units within the ABS sample frame; and the “contributor” or respondent dataset, which contains survey returns from the 56,000 reporting units who responded to the business surveys.

We collect data for Great Britain, which are combined with survey data from the Northern Ireland Statistics and Research Agency (NISRA) Annual Business Inquiry (ABI) to create a UK-wide measure. Each reporting unit is given a unique identifier so it is possible to link the two datasets.

The population file is extracted from the IDBR – which is the source for all Office for National Statistics (ONS) business surveys. It contains a small number of variables on the business’ core attributes, including the type of industry, regional location, employment and turnover measured at a point in time.

The industry, region (whether England and Wales, Scotland, or Northern Ireland) and size of the business are used to create the cells from which the ABS and Annual Business Inquiry (ABI) samples are selected. They are selected using a stratified random sample design; large businesses (with employment of 250 or more) are selected each year as they are dominant contributors to the estimated total values. Further information on our sample selection and ABS methodology can be found in the ABS Technical Report.

The respondent file contains nearly 2,000 variables extracted or derived from the completed survey forms. Each business has a design weight that reflects the business’ probability of selection and a calibration factor to correct for any potential bias in the sample. To produce aggregated totals, a business’s response is scaled by the design weight and calibration factor.

The respondent file contains nearly 2,000 variables extracted or derived from the completed survey forms. Each business has a design weight that reflects the business’ probability of selection and a calibration factor to correct for any potential bias in the sample. To produce aggregated totals, a business’s response is scaled by the design weight and calibration factor.

For continuous variables, to expand the ABS population file to include value data for all businesses in the sample universe, the aggregated totals for each variable has to be distributed across the non-sampled businesses in the ABS universe, at a cell level. Where a business provided a response to the survey, their unweighted values are removed from the aggregated totals. The difference is then distributed across the non-sampled businesses in the cell, based on employment held for the business. This employment, extracted from the IDBR ahead of the ABS sample selection, provides an indication of each business’ relationship to other businesses within their sample cell.

Where the variable is a discrete or logical variable, the value for each non-sampled business has been based on a probability function. For example, if we had a cell with 20 businesses with five respondents, the ratio of the actual responses to a yes or no question could be three to two. In this instance, the probability of any of the non-sampled businesses being yes is 0.6. Using a uniform random number function for each non-sampled business, if the random number for the business is less than 0.6, the estimated variable is recorded as a yes. This differs from the methodology used for the Annual Business Survey: Great Britain non-financial business economy exporters and importers release, which sums the weighted values of any business with a yes response, therefore assuming that the estimated response from all of the unsampled businesses that the respondent represents is “yes”.

The Foreign Direct Investment (FDI) Survey population

The FDI population is produced from four sources. Data from the IDBR and Dun and Bradstreet (D&B) are combined to identify the target population and sampling frame for the FDI survey. Auxiliary variables, such as the number of affiliates, are not used to produce FDI estimates directly, but are used by ONS to stratify the outward survey sample. The D&B inputs are sourced from D&B's Who-owns-Whom database of world linkages of companies. An annual data extract is procured at the start of the calendar year. These are then adapted and matched to the IDBR. The resulting data extract provides information on majority share ownership only (more than 50% of ordinary shares).

We also maintain a separate database for enterprises that have previously been identified to be engaged in FDI either through the FDI or Mergers and Acquisitions surveys. This database includes minority share relationships (between 10% and 49% of ordinary shares) that are not included in the IDBR and D&B extract but are relevant for FDI.

The FDI population is also updated regularly using information from the ONS Mergers and Acquisitions Survey, which is conducted on a quarterly basis and collects information on domestic and cross-border acquisitions and disposals involving UK companies.

Throughout the year our Business Profiling Team (BPT) investigate the largest multinational businesses to ensure the correct structure for all ONS surveys; there is a pool of 2,000 businesses for the profilers to maintain. A sub-section of BPT also maintains the linkages between businesses throughout the year. This information is obtained from ONS surveys, Companies House and data from HM Revenue and Customs (HMRC).

In contrast to the ABS and most ONS business surveys, where sampled returns are weighted to estimate for the non-sampled population, FDI estimation methods predict values for all non-sampled businesses, allowing for aggregate estimates to be derived simply by summing over the domains of interest. While uncommon in ONS, this method is not unique and has a sound, academic basis. This approach provides a rich microdata set for the whole population, with returned and estimated values for each company.

Linking the ABS and IDBR population to the FDI population

Data linking was carried out in SAS by merging the expanded ABS and IDBR population to the FDI population. The FDI population used for the linking included only four variables – the Who-owns-Whom reference (wowent), the business unit reference number (ruref), the FDI position, and the Standard Industrial Classifications 2007 (SIC 2007) industry. Multiple enterprise reference numbers can exist in the FDI population, which reflect an enterprise having more than one FDI investor.

Prior to data linking, businesses in the FDI population that were recorded as Monetary Financial Institutions (MFIs), bank holding companies, public corporations and property were removed. Data on these are collected from other data sources, such as the Bank of England and the Balance of Payments team in ONS, and do not contain business identifiers to allow linking with the ABS.

To overcome differences in which enterprise units return surveys for respective sampled businesses (FDI tends to sample the parent enterprise, while the ABS samples lower reporting units in the UK ownership tree), values relating to the subsidiaries of the same enterprise group are summed in the FDI population to make them unique (and therefore represent the inward investment relationship of the entire enterprise group).

The two files were then merged using the enterprise reference number. In instances where there were multiple subsidiaries with the same enterprise reference numbers on the ABS population, the investment relationship of the overall enterprise group is replicated for each reporting unit on the ABS; therefore, the FDI relationship on the final dataset represents the FDI relationship for the enterprise rather than that specific reporting unit.

The merged file was then separated into two – a dataset containing businesses that have been linked between the expanded ABS and IDBR population and FDI population, and a dataset containing businesses on the expanded ABS and IDBR population that do not have FDI links.

Further merging exercises were undertaken between the unmatched FDI businesses to the unmatched expanded ABS and IDBR population, which involved using identifiers relating to unique reporting units lower down in the UK ownership tree.

Finally, the matched ABS and FDI file on an enterprise and reporting unit basis and the unmatched businesses were combined into one dataset, which provides the entire expanded ABS and IDBR population along with matched FDI values where relevant. The merging exercise successfully matched a range of between 70% to 80% of the approximately 30,000 enterprises in the FDI population to the expended ABS and IDBR population over the time series.

There are some unmatched FDI businesses, which can be due to factors such as differences in the industry coverage of both surveys. The ABS excludes: finance and insurance, public administration and defence, public provision of education, public provision of health and all medical and dental practice activities; while FDI excludes: MFIs, public corporations, bank holding companies and property data.