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THE ECONOMIC AND SOCIAL IMPACT OF THE UNIVERSITY OF SUSSEX

NOVEMBER 2017

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EXECUTIVE SUMMARY

The University of Sussex makes an important economic and social contribution to Brighton and Hove, Sussex and the wider region. This report outlines the economic impact the University and its subsidiary the Sussex Innovation Centre, its students, and the visitors it attracts have on the local area. The economic effect is measured in terms of the number of jobs supported, value added created, and tax revenues generated. It goes on to examine the wider economic and social benefits the University delivers.

The University of Sussex supported 5,180 jobs in Brighton and Hove, East Sussex and West Sussex in 2015/16—equivalent to one in every 161 jobs in the area. The University itself employed 2,390 of these people. Another 2,800 jobs were supported off campus at local businesses. The majority of these, some 1,830 jobs, were stimulated by students' subsistence spending.

The University made a substantial contribution to the economic output of the area— in 2015/16 this amounted to a £343 million gross value added contribution to GDP. This was almost one percent of the total GDP of Brighton and Hove, East Sussex and West Sussex. Some £150 million of this contribution was created by the University itself, with £62 million stimulated through supply chain and wage spending. The spending of students and visitors supported further contributions of £129 million and a £2.3 million to GDP, respectively.

All this activity raises funds for the Exchequer—in 2015/16, the University, its students and visitors' spending in the local area generated £74.9 million in tax revenues. This sizeable fiscal contribution would have been enough to pay for the running costs of the East Sussex Fire Authority for almost two years.

While the University makes the largest contribution to the economy of Brighton and Hove, East Sussex and West Sussex, its economic footprint covers the length and breadth of the UK. In 2015/16, the University, its students and visitors were responsible for a £407 million gross value added contribution to UK GDP. Their additional expenditure also supported more than 6,200 jobs across the country, and generated a £100 million in tax receipts.

The University's graduates enhance the skilled talent pool available to employers in Brighton and Hove, East Sussex and West Sussex, and across the rest of the South East and the UK. Some 39 percent of the 2015/16 graduates whose whereabouts is known were working in the local area six months after graduating. Of these, 33 percent of those were employed in 'socially significant' roles, including as teachers, social workers, and doctors.

The University also attracts a great deal of research funding, driving widespread economic and social benefits. In 2015/16, the University received £35.6 million in funding for research, across many disciplines—from life sciences, to economics, to engineering. This spending generates long-term benefits for society at large. In the year 2015/16, its R&D activities are estimated to have delivered a future stream of private and social benefits equivalent to £155 million, or £114 per person in Brighton and Hove, East Sussex and West Sussex.

By developing new and improved products and processes, the University's research activities foster innovation. In 2015/16, the University was granted five new patents, taking its stock of patents to 92. It undertook 260 pieces of contract research worth £12.3 million and 63 pieces of consultancy worth another £0.5 million in the same year.

Its subsidiary, the Sussex Innovation Centre, helps firms with new products, notable market potential and entrepreneurial ambition. In 2015/16, the Centre offered more than 11,900 hours of support. The majority of this was provided by the Centre's Catalyst Intern Team and its Accounts Team.

The University's international alumni continue to boost the local economy. Some 63 percent had returned to visit since graduating, their expenditure benefitting the accommodation, food and beverage serving, transport and other industries in the locality. They also serve as powerful ambassadors for the local area. Some 81 percent of international alumni report that they have recommended visiting Brighton and Hove, East Sussex and West Sussex to friends and family back home, and 90 percent of those say that at least one person has visited on their recommendation, bringing additional spending into the local economy.

The University has a strong commitment to widening participation to students from disadvantaged and underrepresented backgrounds. In 2015/16, the University's widening participation team ran almost 400 outreach events, targeting those less likely to apply for higher education. In that year, through workshops, presentations and summer schools, the University engaged with more than 20,000 pupils and parents—providing advice, guidance and support for potential applicants. The University also continues to support disadvantaged students during and after their studies. In 2015/16, it spent £4.1 million providing financial support to students, as well as £2.1 million on efforts to ensure disadvantaged students finish their degrees and excel thereafter.

The University of Sussex's staff are highly embedded in their local communities—87 percent live in Brighton and Hove, East Sussex and West Sussex. Their commitment to the local area is reflected in the amount of civic engagement and volunteering opportunities that they take up. In a staff survey run in July 2017, some 93 percent of staff report that they have devoted time to volunteering in the previous 12 months, while 23 percent have been involved in citizen governance in some way, for example by sitting on a school board or tenant body.

The University of Sussex itself is also closely engaged with the local community. It runs regular modern language courses and free teacher conferences for local people. The University also donated important archives to world-class archive centre The Keep, which the community can visit free of charge.

1. INTRODUCTION

The University of Sussex makes a significant economic and social contribution to Brighton and Hove, East Sussex and West Sussex. The University itself is an important source of employment and economic activity for the area. But its procurement, payment of wages, and the expenditure undertaken by the students it attracts or retains in the area, and their visitors stimulates more economic activity and jobs throughout the area.

The economic contribution that the University of Sussex makes to the area goes far beyond its expenditure impacts. By equipping students with skills and knowledge, the University supplies employers in Brighton and Hove, East Sussex and West Sussex, as well as the wider UK economy, with a talent pool of skilled labour. It further boosts efficiency and productivity through its world-leading and internationally excellent academic research, and through collaboration with local, innovative business.

The University also plays an important role in raising the international profile of Brighton and Hove, East Sussex and West Sussex. Not only does the University attract students, staff, and funding from abroad, it also has formal links with international education and research organisations. It international alumni act as informal ambassadors, promoting the local area across the world.

The University of Sussex's importance to Brighton and Hove, East Sussex and West Sussex is underpinned by its community-focussed activities. The University undertakes a range of widening participation programmes to foster access to education for local people who traditionally would not have applied to university. Students and staff volunteering and other civic participation enhances the local area's cultural, environmental, social, and sporting offer, while the University itself supplies local residents and businesses with facilities and learning opportunities.

The remainder of this report discusses the different ways the University contributes to the local economy:

- Chapter 2 examines the economic impact generated by the expenditure of the University, its students, and visitors.
- Chapter 3 investigates the University's wider economic impact, including its contribution of highly skilled graduates to the local talent pool, its research and development activities which foster innovation, and role as a global gateway.
- Chapter 4 sets out the University's social impact, exploring its commitment to widening participation, the value of staff and student volunteering and civic engagement, and the benefits to the local community of the University's facilities, open courses, and conferences.
- Chapter 5 concludes.

AN INTRODUCTION TO ECONOMIC IMPACT ANALYSIS

This study quantifies the economic contribution the University of Sussex makes to the combined area of Brighton and Hove, East Sussex and West Sussex, using an analytical method called an Economic Impact Assessment. The results presented are for the academic year 2015/16.

To assess the University's contribution, this report examines three channels of expenditure which stimulate economic activity in the local area (Fig. 1):

- The University's **direct impact** is the economic activity generated by the University itself, and in the businesses supplying goods and services where students and their visitors spend their money.
- The **indirect impact** of the University is the economic activity generated through supplier purchases made in order to fulfil university, student and their visitors' orders.
- The **induced impact** arises as the University, its suppliers and those serving students and visitors pay wages to their staff, which are onward spent in the local consumer economy.

The total economic impact of the University of Sussex is the sum of these three channels. The scale of the University's impact is measured using three metrics:

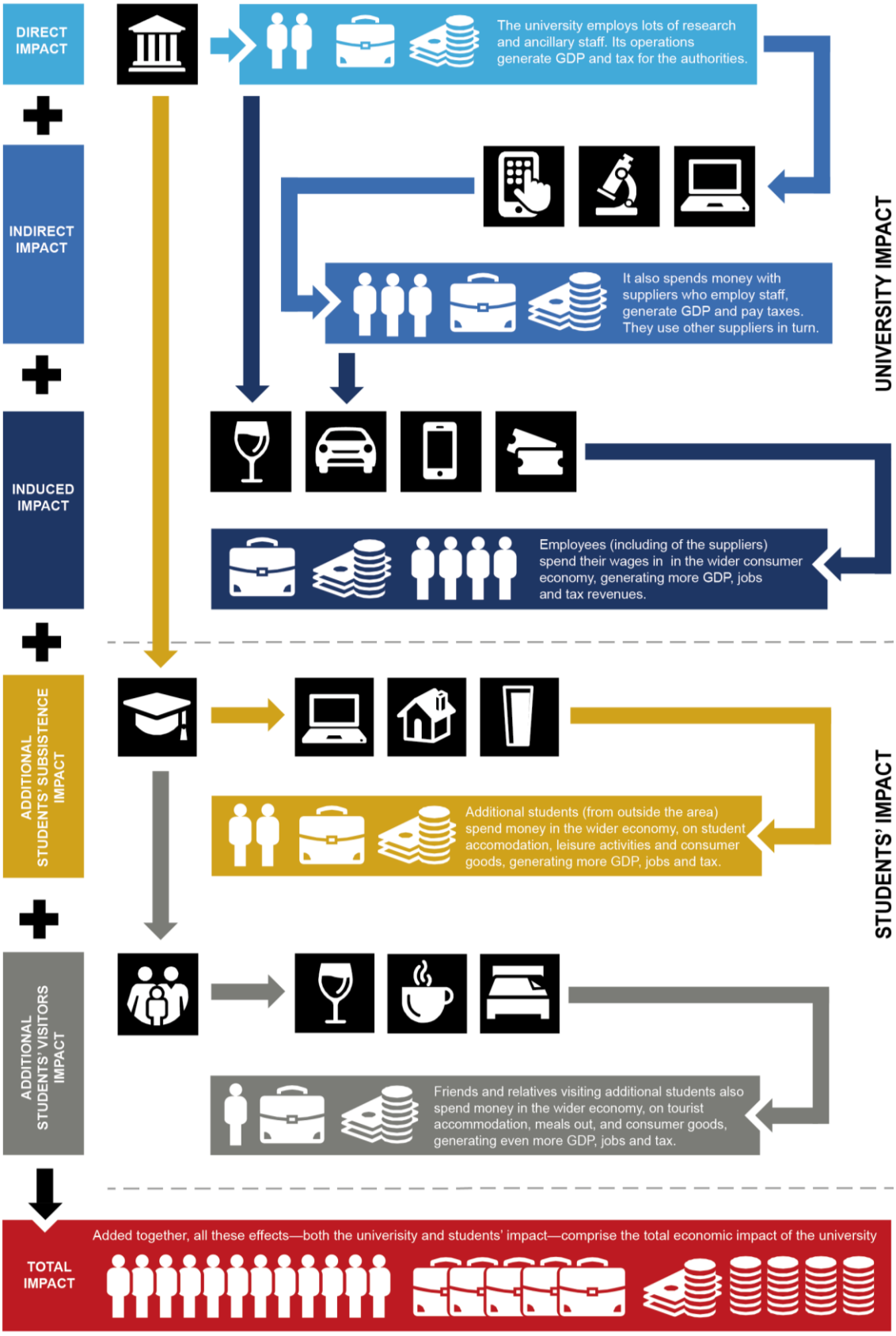
- **Gross value added** is the contribution an institution or company makes to Gross Domestic Product (GDP). It is most simply viewed as the value of its output minus the cost of the inputs of goods and services used up in its production. It is the measure the Office for National Statistics (ONS) use to quantify the contribution to the economy of each individual producer, industry or sector.[1]
- **Employment,** measured on a headcount basis to facilitate comparison with ONS employment data.
- **Tax revenue,** including all income taxes, National Insurance Contributions (NICs), corporation taxes, and other indirect taxes (such as VAT) attributable to the University's activities.

The results are presented on a gross rather than net basis.[2] This means the study measures the economic 'footprint' of the University of Sussex in Brighton and Hove, East Sussex and West Sussex, as it stood in during the year. It does not attempt to estimate what economic benefits could arise if the labour and capital resources employed by the University were put to alternative uses, as it is impossible to know what they would have produced if they were employed in their next most productive use. Nor does it address the activity that the University displaced from other institutions or sectors.

[1] Gross value added (plus net taxes on products) is aggregated to form the basis of GDP, the main measure of the total level of economic activity in a country.

[2] This is a standard procedure in the analysis of the economic impact of individual industries or businesses.

Fig. 1. **The channels of economic impact**



2. ECONOMIC CONTRIBUTION OF THE UNIVERSITY OF SUSSEX

This chapter explores the economic contribution that the University of Sussex makes to Brighton and Hove, East Sussex and West Sussex, and the rest of the UK. It explores the three types of expenditure—the University's own spending, subsistence spending by its students, and spending by those visiting students, open days and graduation ceremonies.

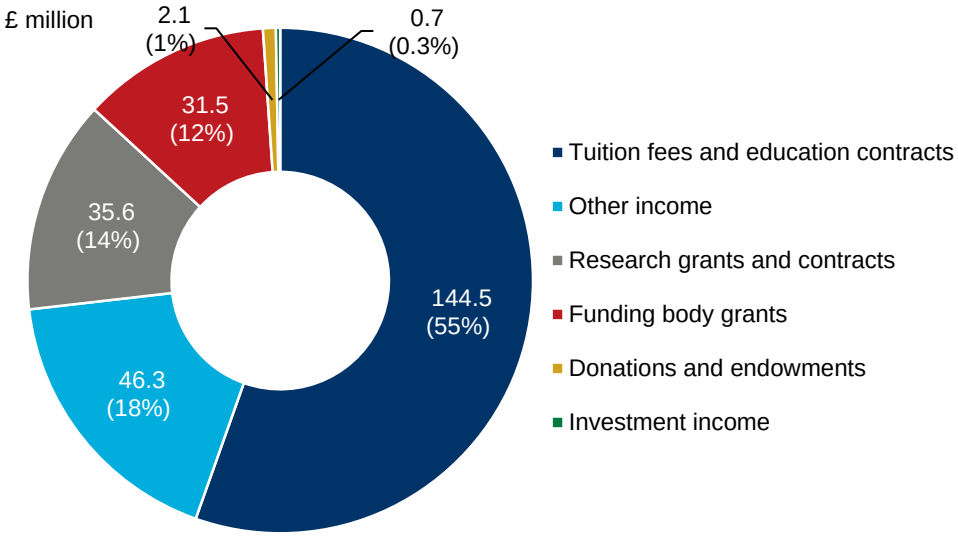
2.1 THE ECONOMIC IMPACT OF THE UNIVERSITY

The University of Sussex's own economic contribution is made up of three channels: direct, which is the economic activity at the campus; indirect, which is the economic activity supported by the University's spending with local suppliers; and induced, which is the economic activity sustained by the University and the firms in its supply chain payment of wages to staff, who spend part of their income in the consumer economy.

2.1.1 The University of Sussex's direct impact

In 2015/16, the University of Sussex earned £261 million in income for Brighton and Hove, East Sussex and West Sussex. Most of this—87 percent—was paid to the University for its teaching and research. The University also earns revenue providing other services, including accommodation and catering (Fig. 2).

Fig. 2. **The University's income by activity, 2015/16**



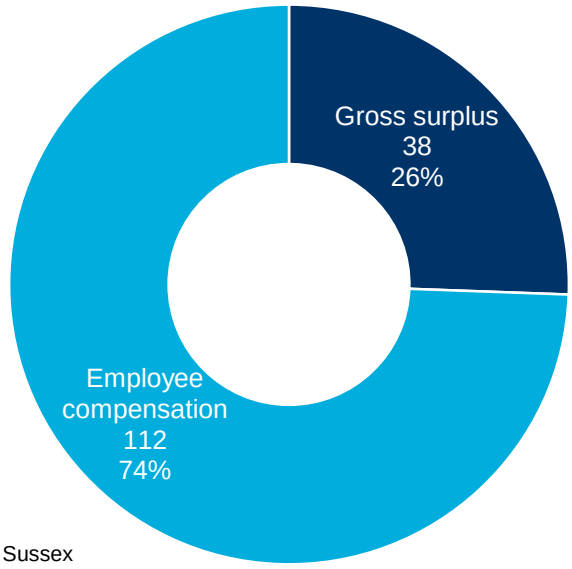
Source: University of Sussex

On these earnings, the University of Sussex made a direct gross value added contribution of £150 million to the GDP in 2015/16. This is equivalent to 0.4 percent of the total economic output of Brighton and Hove, East Sussex and West Sussex. To give a sense of scale, this contribution is almost as large as the gross value added contribution made by the entire manufacturing sector

in Brighton and Hove.[3] Some £112 million of this contribution was comprised of employee compensation, accounting for 74 percent. The remaining 26 percent was made up of the University's gross surplus (Fig. 3).

Fig. 3. **University of Sussex's gross value added contribution to GDP, 2015/16**

£ million



Source: University of Sussex

The University of Sussex employed more than 2,390 people in 2015/16.[4] This means that 0.3 percent of all employment in Brighton and Hove, East Sussex and West Sussex was at the University.

The University employs people across the skills spectrum. Around 48 percent of staff were working in academic roles, with a further 37 percent working in management, administration, and specialist functions. The remaining 16 percent of staff were employed in technical and other roles.

Through this employment, the University generated some £31 million in tax receipts. This contribution is sufficient to pay the annual wages of 480 doctors in the South East.[5] This tax contribution is made up of income tax, and employers' and employees' National Insurance Contributions. Due to its charitable status, the University does not pay corporation tax.

2.1.2 The University's indirect impact

To deliver its teaching, research, and other services, the University of Sussex purchases millions of pounds of inputs from suppliers, many of whom are based in Brighton and Hove, East Sussex and West Sussex. This expenditure

[3] The manufacturing sector made an estimated £176 million gross value added contribution in 2015/16, based on Oxford Economics' regional macroeconomic data.

[4] Employment is measured on a headcount basis to facilitate comparison to official national statistics. Employment on a full-time equivalent basis was 2,463 in 2015/16 (University of Sussex's Financial Statements 2015-16).

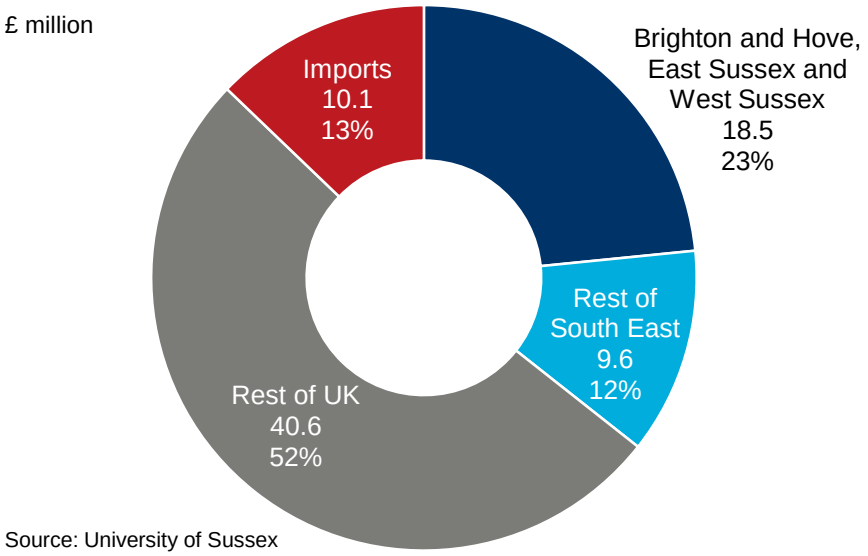
[5] ONS, *Annual Survey of Hours and Earnings; Region by occupation (4 digit SOC) - ASHE: Table 15*, 26 October 2017.

stimulates economic activity along the length of the University's local and national supply chains.

The University's spending can be broadly split into two categories. First, operational expenditure, which is the purchase of goods and services that are inputs into the day-to-day operations of the University, such books and academic journals, computer equipment and utilities. Second, capital expenditure, in which the University purchases and develops longer-term assets to support operations over a number of years. This includes investment into the construction of new facilities.

In 2015/16, the University of Sussex spent £18.5 million on operational inputs from around 900 suppliers in Brighton and Hove, East Sussex and West Sussex. This is 23 percent of the University's total operational spend of £78.9 million (Fig. 4).[6] A further £9.6 million, 12 percent, was spent with suppliers in the rest of the South East. Some £40.6 million, 52 percent, of the University's expenditure was with suppliers in the rest of the UK, and £10.1 million, 13 percent, was comprised of imports.

Fig. 4. **University of Sussex's operational spending by location, 2015/16**



Source: University of Sussex

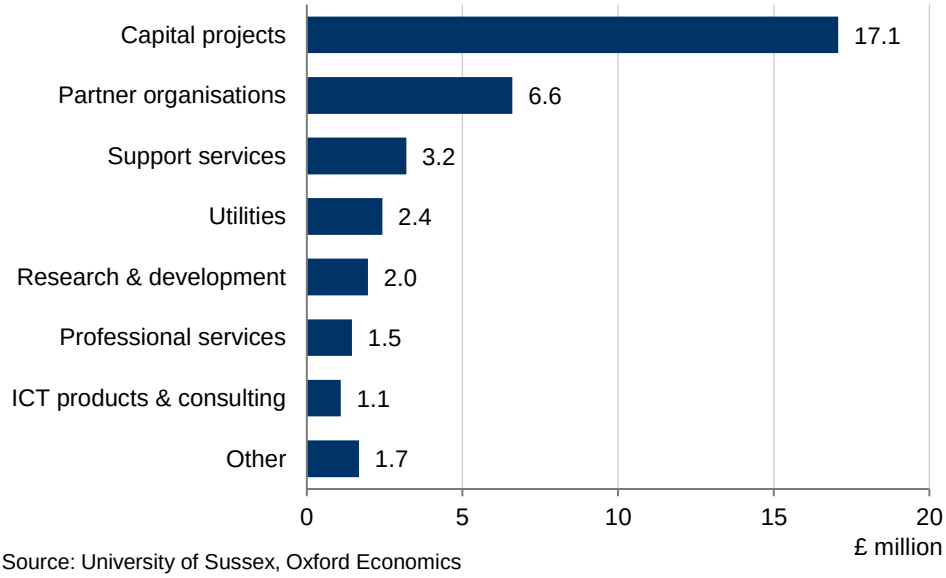
The University of Sussex invested £17.5 million into capital projects to improve its facilities in 2015/16. These include investment into teaching and research facilities, student accommodation, and equipment. This spending also stimulates economic activity, along firms' local supply chains. Of this, some £17.1 million was spent at the University's campus, and £410,000 was spent at the part of the Sussex Innovation Centre located in Croydon.

Focussing on Brighton and Hove, East Sussex and West Sussex, the University spent £35.5 million with local suppliers in 2015/16. This spending benefits a wide range of industries in the local area. Investment in capital projects made up the largest share, accounting for 48 percent of total

[6] This operational spend figure excludes payments of scholarships, bursaries and prizes, and a foreign exchange gain. Including these items, the University spent £98.5 million in 2015/16 (University of Sussex's Financial Statements 2015-16).

spend (Fig. 5). Spending with partner organisations and on support services, including office administration and security ranked second and third, accounting for a further 19 percent and 9 percent, respectively.

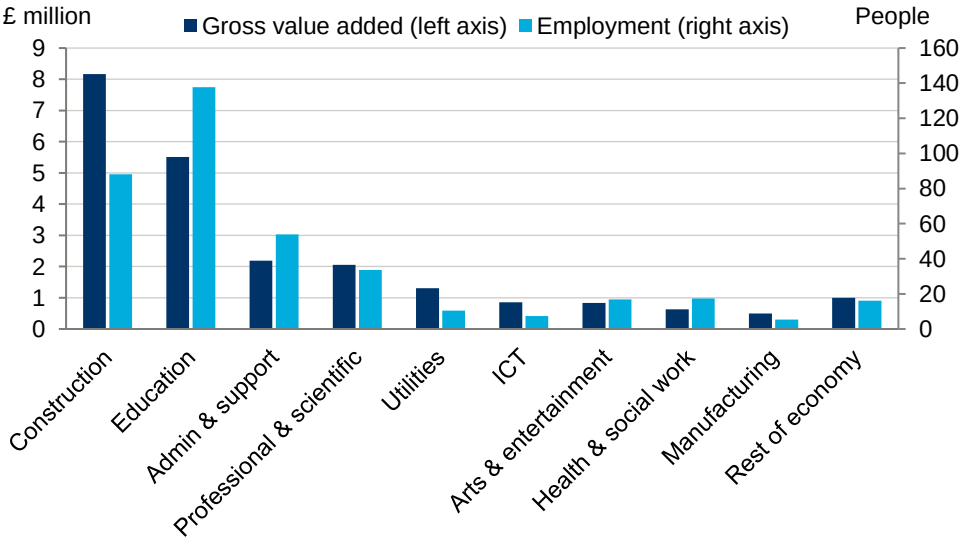
Fig. 5. **University of Sussex's operational and capital spending in Brighton and Hove, East Sussex and West Sussex by category, 2015/16**



Source: University of Sussex, Oxford Economics

This expenditure stimulated a £23.1 million estimated gross value added contribution to GDP at local suppliers. The largest share of this contribution, 35 percent, was generated by the construction sector (Fig. 6). The education sector, and administrative and support services sector generated a further 24 percent and 10 percent of the total, respectively.

Fig. 6. **University of Sussex's indirect impact in Brighton and Hove, East Sussex and West Sussex, 2015/16**



Source: Oxford Economics

The University's procurement sustained almost 390 local jobs in 2015/16. The education sector and construction sector enjoyed the largest employment

boosts, making up 36 percent and 23 percent of the total supported employment, respectively.

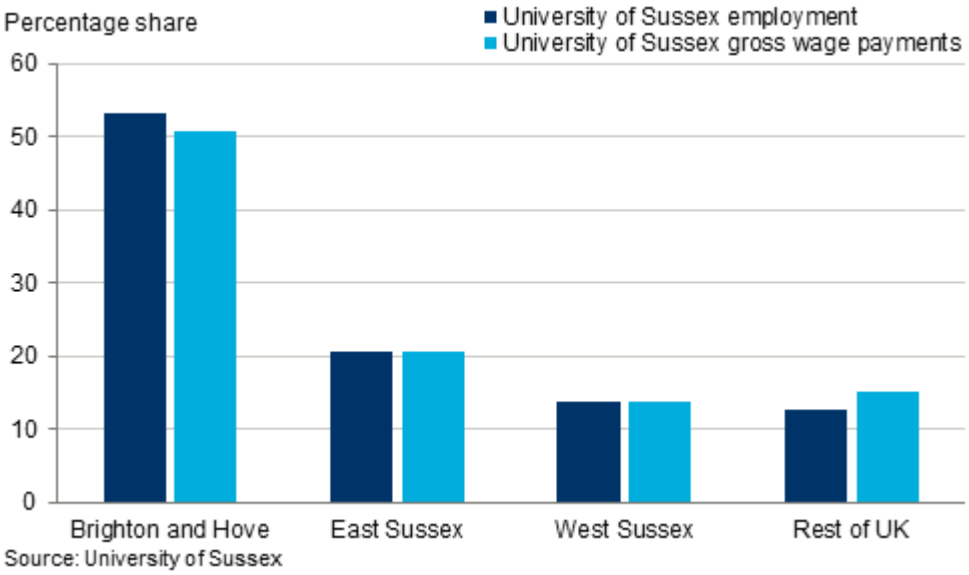
The University's procurement generated £5.1 million in tax receipts along its Brighton and Hove, East Sussex and West Sussex supply chain in 2015/16. This includes corporation tax, income taxes, and taxes on consumption and production.

In addition to supporting many local businesses, the University's expenditure stimulates economic activity across the rest of the UK. Tracing its total operational and capital spending along the length of its national supply chain, including the local impact discussed above, the University supported a £75 million gross value added contribution to UK GDP, 1,290 jobs throughout the country, and generated £15.7 million in tax receipts.

2.1.3 The University's induced impact

In 2015/16, the University of Sussex paid £81.5 million in gross wages to its 2,090 staff living in Brighton and Hove, East Sussex and West Sussex (Fig. 7). These comprised 0.4 percent of all the wages paid to residents living in this area in the year. After income tax and National Insurance Contributions, some £58.2 million was potentially available to local staff to spend.

Fig. 7. **The University of Sussex payment of wages and staff numbers by home address, 2015/16**



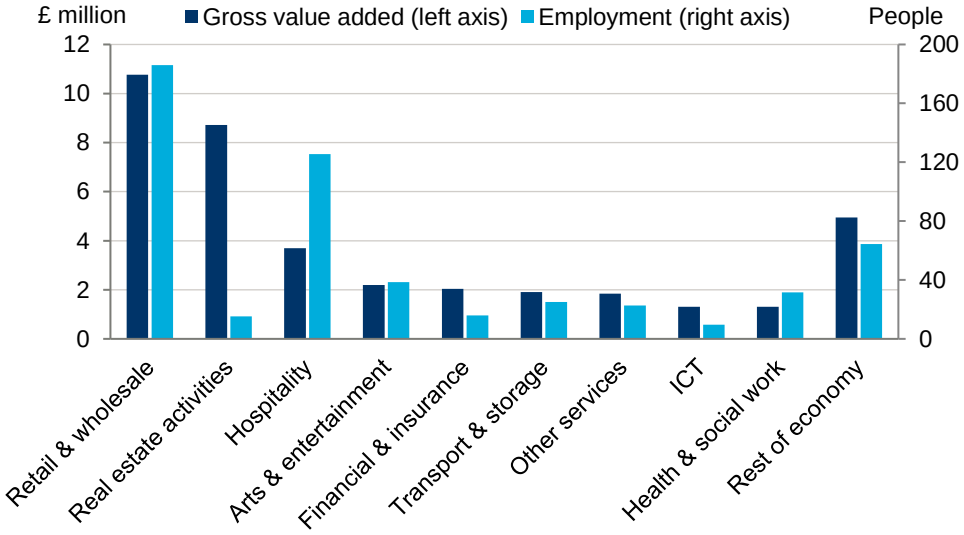
Source: University of Sussex

The 390 people who are directly employed in the University's local supply chain were also paid wages. Based on the average salary paid in the industries in which they work, they are estimated to receive a total of £12.1 million in gross wages in 2015/16.

The wage-financed consumption of both sets of local staff is estimated to stimulate a £38.7 million gross value added contribution to GDP in Brighton and Hove, East Sussex and West Sussex. Analysing this contribution by sector, the largest share of £10.8 million, was generated by the retail sector, accounting for 28 percent of the total (Fig. 8). The real estate

sector and hospitality sector generated 23 percent and 10 percent of the total, respectively.

Fig. 8. **University of Sussex induced impact in Brighton and Hove, East Sussex and West Sussex, 2015/16**



Source: Oxford Economics

This wage-financed spending stimulated 530 local jobs. Some 190 jobs (or 35 percent) of these jobs were in the retail sector. A further 130 jobs (or 23 percent) were generated in the hospitality sector.

The economic activity stimulated by the University and firms in its local supply chain payment of wages also created tax revenue for the Exchequer. In 2015/16, this wage-financed consumption is estimated to support £10.5 million in tax revenues.

These estimates only consider the spending of staff who live in Brighton and Hove, East Sussex and West Sussex. This is likely an underestimate of the total wage-financed consumption impact in the area, as other staff who commute into the area will likely spend money at local restaurants, shops, and other outlets during lunchbreaks, and before and after work.

Some 12 percent of the University's staff live elsewhere in the UK. The University pays them an additional £9.8 million in gross wages. It therefore paid £91.3 million in gross wages and salaries in 2015/16.

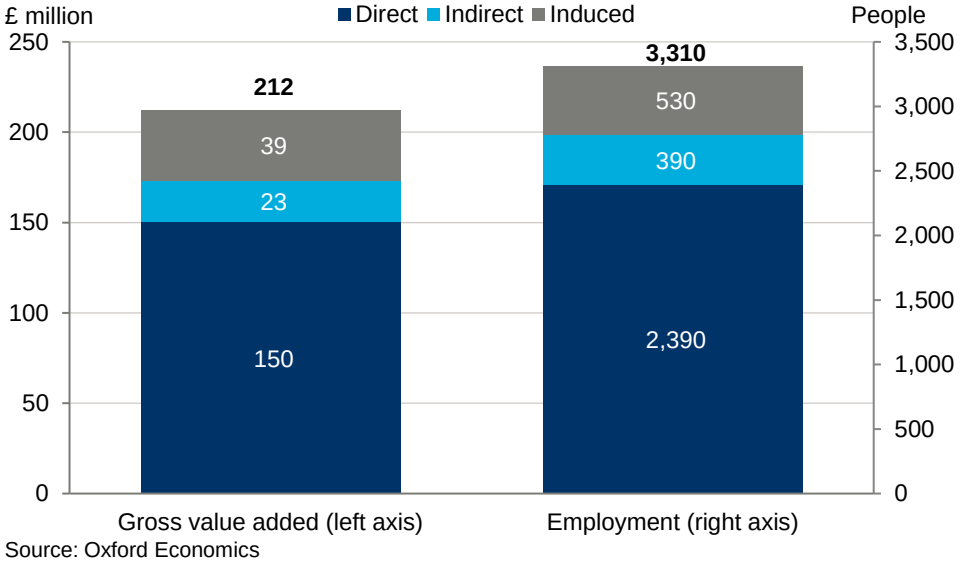
The University and the firms in its supply chain payment of wages stimulated a £117 million gross value added contribution to UK GDP in 2015/16. This economic activity sustained almost 1,550 jobs throughout the UK, and generated £32.9 million in tax receipts.

2.1.4 The University's total impact

Taking the three channels of impact together, the University of Sussex supported a total gross value added contribution to GDP of £212 million in Brighton and Hove, East Sussex and West Sussex in 2015/16. This was 0.5 percent of the total economic output produced in the area in 2015/16.

The largest share of this contribution, 74 percent, was generated by the University itself (Fig. 9). This means that the University has a GDP multiplier of 1.41; for every £1 million gross value added generated by the University itself, a further £410,000 is supported throughout the local economy by the University's procurement and payment of wages.

Fig. 9. **University of Sussex's total GDP impact in Brighton and Hove, East Sussex and West Sussex, 2015/16**

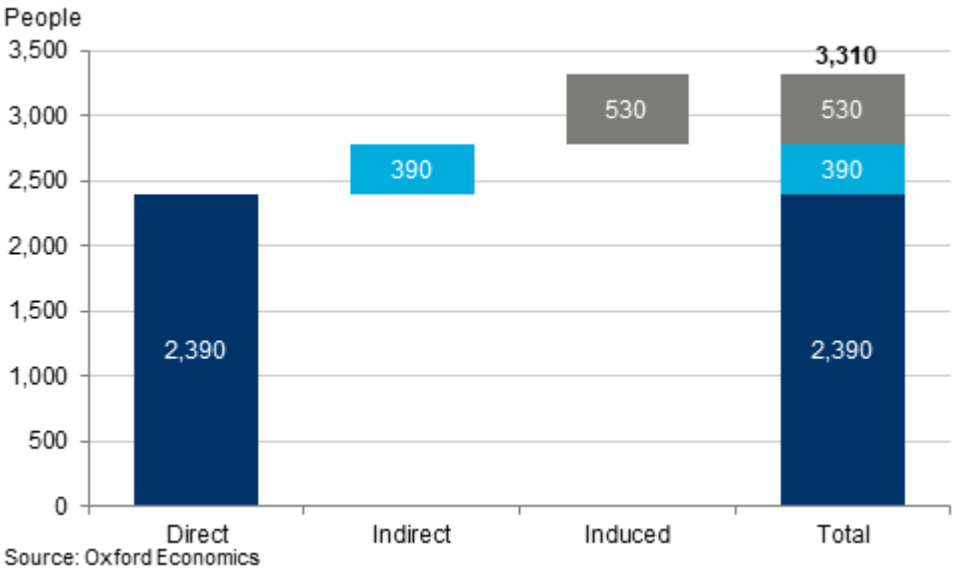


Source: Oxford Economics

The University of Sussex's operational expenditure, procurement and payment of wages is estimated to sustain more than 3,310 local jobs in 2015/16. This means that one in every 252 jobs in Brighton and Hove, East Sussex and West Sussex was in some way dependent on the University's expenditure.

Some 70 percent of these workers were employed at the University itself (Fig. 10). The University's employment multiplier of 1.39 means that for 100 people employed at the University, a further 39 jobs are supported elsewhere in the local economy.

Fig. 10. **University of Sussex's employment impact in Brighton and Hove, East Sussex and West Sussex, 2015/16**



Source: Oxford Economics

The University of Sussex's expenditure generated a £44.8 million tax contribution to the Exchequer in 2015/16. These tax revenues are sufficient to pay the wages of 1,400 secondary school teachers in the South East for one year.[7]

Examining the University's impact on the UK as a whole, its operational expenditure, procurement, and wage payments stimulated a £342 million gross value added contribution to UK GDP. The University's UK GDP multiplier was 2.3, meaning that for every £1 million of gross value added generated by the University, a further £1.3 million is supported elsewhere in the economy. The higher national multiplier reflects size of the University's spending with suppliers outside of the local area.

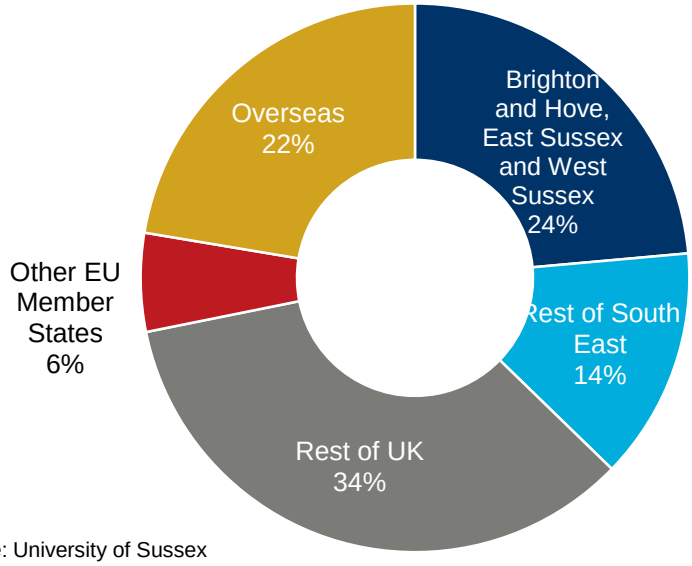
The University's expenditure supported an estimated 5,230 jobs throughout the UK in 2015/16. The economic activity sustained by the University's spending also generated some £79.5 million in tax receipts for the Exchequer.

2.2 THE ECONOMIC IMPACT OF STUDENTS' SUBSISTENCE SPENDING

The University of Sussex attracted students from more than 150 countries around the world in 2015/16. It also draws students from the rest of the UK to Brighton and Hove, East Sussex and West Sussex, and retains local students who might otherwise go elsewhere to study (Fig. 11).

[7] ONS, *Annual Survey of Hours and Earnings; Region by occupation (4 digit SOC) - ASHE: Table* 15, 26 October 2017.

Fig. 11. **University of Sussex's students by place of origin, 2015/16**



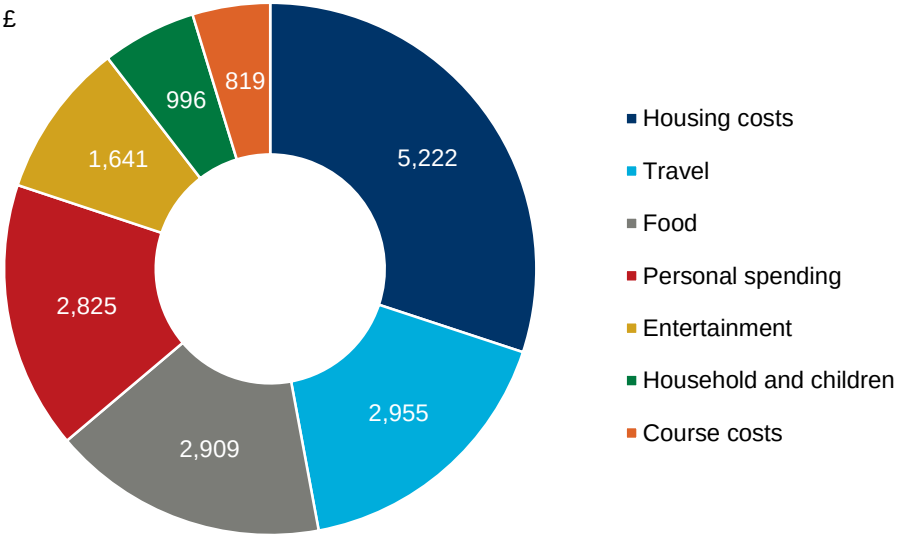
Source: University of Sussex

An estimated 13,000 of the University of Sussex's students were estimated to be 'additional', having moved to the local area or stayed specifically to study at the University. These 'additional' students make up around 84 percent of the total student body. This includes more than 5,800 students who moved from other parts of the UK, 3,800 students who came from overseas, and almost 3,400 students from the local area, who would otherwise have moved away to pursue their education. Full details of the methodology used to calculate the number of additional students can be found in the Methodological appendix.

Additional students are estimated to have spent £201 million off campus in 2015/16, boosting economic activity at local businesses. This includes all expenditure on housing, food, personal items, entertainment, transport, and other items (Fig. 12).[8]

[8] It excludes all payments to the University (including tuition fees and for accommodation), so as not to double count given these are include in the University revenue in Section 2.1.1.

Fig. 12. **Average University of Sussex student's subsistence spending, 2015/16**

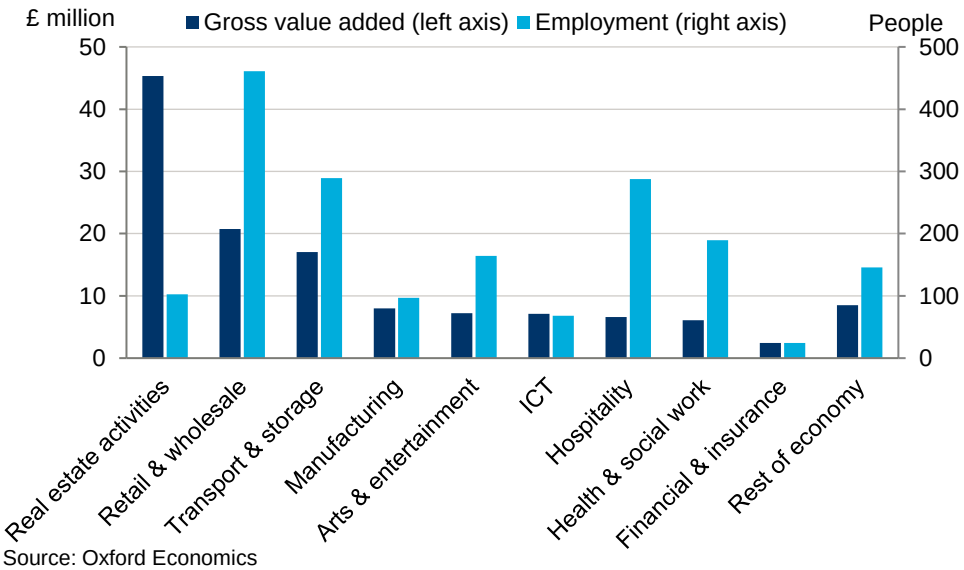


Source: BIS, Oxford Economics

Additional students' off campus expenditure stimulated a £129 million gross value added contribution to GDP in Brighton and Hove, East Sussex and West Sussex in 2015/16. This contribution was around 0.2 percent of the area's total GDP. It captures not only the value added generated by local businesses supplying goods and services to students, but also that created throughout their local supply chains, and supported by the wage-financed consumption of their staff.

Additional students' subsistence spending boosted economic activity in the real estate sector the most, their expenditure on rent and housing transactions raised that sector's gross value added by £45.3 million, or 35 percent of the total (Fig. 13). The retail and transport sectors' gross value added also increased by £20.8 million and £17 million, making up 16 percent and 13 percent of the total, respectively.

Fig. 13. **Impact of additional students' subsistence spending in Brighton and Hove, East Sussex and West Sussex, 2015/16**



Source: Oxford Economics

Additional students' off campus subsistence spending also supported some 1,830 jobs locally. Some 25 percent of this employment impact, 460 jobs, was in the retail sector. Student spending supported 290 jobs in each of the transport and hospitality sectors, accounting for a combined 32 percent of the total impact.

The sales, profits, and employment supported by additional students' spending generated £27.1 million in tax revenues in 2015/16. This includes corporation taxes, income tax, VAT, and other business taxes.

It should be noted that only the spending of students living in Brighton and Hove, East Sussex and West Sussex has been analysed. This means that these estimates are conservative. Students who travel in to the local area to study but live outside of the considered districts will also likely spend money in the local area, on transport to travel in or on food and other items before, in between, and after lectures and classes.

To estimate the impact of the University's students on the UK, only the subsistence spending of international students has been examined. This is because only students moving from overseas to study at the University can be considered 'additional' to the UK population.

In 2015/16, the University's 3,800 international student spent an estimated £58.1 million off-campus, in 2015/16. This spending stimulated economic activity across a range of industries throughout the UK. In total, international students' subsistence spending supported a £62 million gross value added contribution to UK GDP, some 930 jobs, and £19.9 million in tax receipts.

2.3 THE ECONOMIC IMPACT OF VISITORS

The University of Sussex attracts visitors from across the UK, and overseas, to Brighton and Hove, East Sussex and West Sussex. Their spending with local businesses while visiting can also be considered a part of the University's total economic contribution to the local area. In this section, we consider the impact

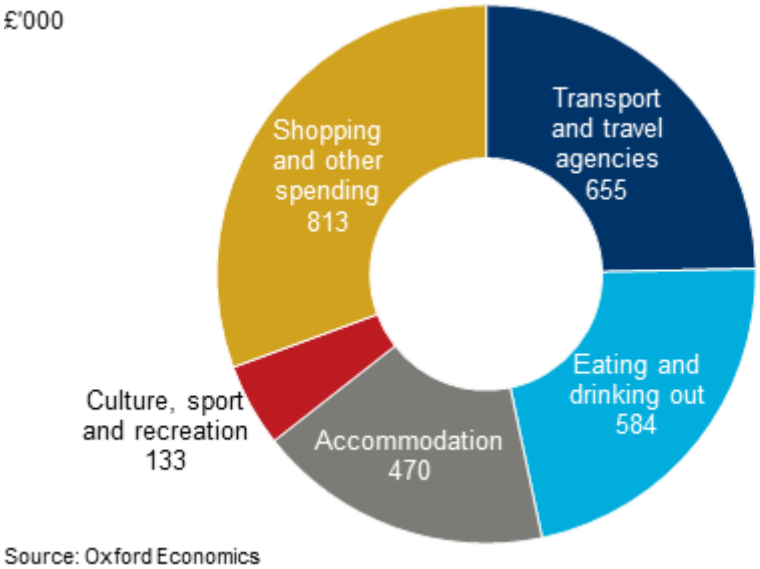
of spending by visitors to students, the spending of people attending graduation ceremonies, and the spending of prospective students and their relatives attending an open day.

2.3.1 Visitors to students

The University of Sussex's students attract visitors to Brighton and Hove, East Sussex and West Sussex. Friends and relatives from the rest of the UK, and overseas, will travel to the local area to help students move in and out of their accommodation, and for visits during the students' stay. These visitors spend money in the area during their stay, stimulating economic activity and employment at local businesses, and throughout their supply chains.

In 2015/16, visitors to students who moved from the elsewhere in the UK or abroad to study at the University of Sussex spent an estimated £2.7 million. Most of this expenditure will have occurred locally, on goods and services including transport, accommodation, hospitality, buying incidental items, and visiting cultural, recreational and sport attractions (Fig. 14).

Fig. 14. **Visitor spending by type, 2015/16**



Source: Oxford Economics

The spending of friends and family visiting students supported a £1.5 million gross value added contribution to GDP in Brighton and Hove, East Sussex and West Sussex. Their spending further sustained an estimated 30 jobs in the local area. The sales, profits and wages they supported generated some £367,000 in tax receipts for the Exchequer.

The national impact of the spending by visitors to students has been estimated on the basis of overseas visitors only, similarly to the calculations for the impact of students' subsistence spending on the UK. International students' visitors from abroad spent an estimated £1.8 million in the UK in 2015/16.

The spending of overseas visitors to students supported a £1.7 million gross value added contribution to UK GDP in 2015/16. This economic activity sustained around 30 jobs nationally, and generated £451,000 in tax receipts.

2.3.2 Graduation ceremonies attendees and open day visitors

In 2016, 3,727 graduates attended one of the University of Sussex's summer and winter graduation ceremonies, bringing 11,305 guests. Many of these guests will have travelled to attend the ceremonies, including from overseas. Graduates and their guests will spend money in the local area, on accommodation, transport, and in the hospitality industry.

We estimate that graduates and their guests spent £1.2 million while attending the ceremonies, mostly in Brighton and Hove, East Sussex and West Sussex. This spending supported value added, jobs, and tax revenues in local businesses and their supply chains throughout the local area.

The University of Sussex holds two undergraduate open days and one postgraduate open day per year. Thousands of prospective students, and their families and friends, attend one of these days. These visitors come from the local area, the rest of the UK and even overseas. Those travelling to an open day often spend money locally, on transport, food and accommodation, etc.

In 2015/16, 4,582 prospective students attended one of the University's open days. We estimate that these prospective students and their families spent £236,000 in East Sussex. West Sussex. and Brighton and Hove.

Taking these two streams of expenditure together, graduation ceremony and open day attendees supported an estimated £850,000 gross value added contribution in the area. Spending by these visitors also sustained almost 20 local jobs and £205,000 in tax revenue.

Examining just attendees travelling from outside of the UK, overseas visitors to open days and graduation ceremonies spent around £904,000 in the UK in 2015/16. This expenditure supported an estimated £916,000 gross value added contribution to UK GDP, at businesses throughout the country as well as in Brighton and Hove, East Sussex and West Sussex. This economic activity sustained almost 20 jobs nationally, and generated tax revenues of £231,000.

2.4 THE UNIVERSITY OF SUSSEX'S TOTAL ECONOMIC CONTRIBUTION

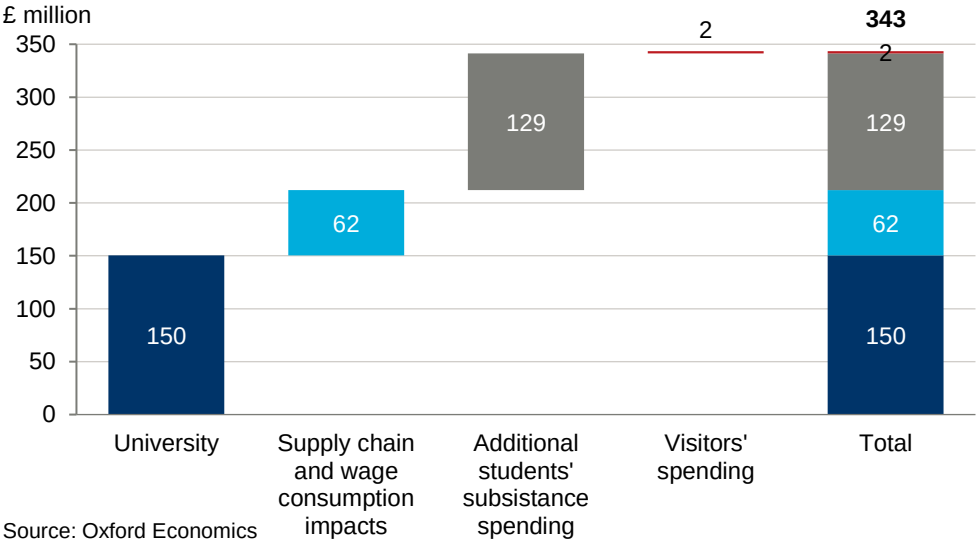
The total economic contribution that the University of Sussex makes to Brighton and Hove, East Sussex and West Sussex is the sum of all the streams of expenditure it supports; the University's own expenditure, its procurement and payments of wages, the spending of additional students, and the expenditure of visitors to students, graduation ceremonies and open days.

The University of Sussex made an estimated £343 million gross value added contribution to GDP in Brighton and Hove, East Sussex and West Sussex in 2015/16. This means that 0.9 percent of the area's total economic output was supported by the expenditure of the University, its students and visitors. This is equivalent to 19 percent of the total GDP of Lewes in the same year.

The University itself was responsible for the largest share of this contribution, generating almost 44 percent of the total (Fig. 15). Additional students' spending stimulated a further 37 percent of the total gross value added. The

remainder was comprised of the University's expenditure impacts, contributing 18 percent, and the impact of visitors' spending, including students' visitors, and graduation ceremony and open day attendees, supporting one percent of the total.

Fig. 15. **GDP impact of the University of Sussex, its students and visitors in Brighton and Hove, East Sussex and West Sussex, 2015/16**

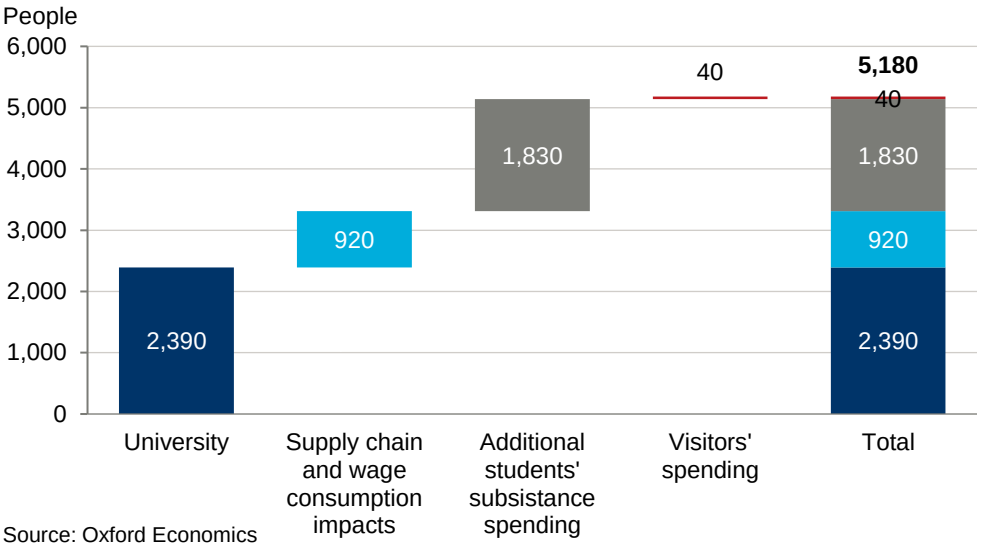


Source: Oxford Economics

In 2015/16, an estimated 5,180 jobs in the local area were sustained by the spending of the University of Sussex, its students and visitors. This means that one in every 161 jobs in Brighton and Hove, East Sussex and West Sussex are in some way dependent on the University. The total employment the University supports is equivalent to 13 percent of the employment in Hastings.

Some 46 percent of the employment impact is made up of jobs at the University itself (Fig. 16). The remaining 54 percent are stimulated elsewhere in the local economy. The two largest off campus impacts are from additional students' subsistence spending and the impact of the University's procurement and wage payments on its local supply chain which support 35 and 18 percent of the employment boost, respectively.

Fig. 16. **Employment impact of the University of Sussex, its students and visitors in Brighton and Hove, East Sussex and West Sussex, 2015/16**

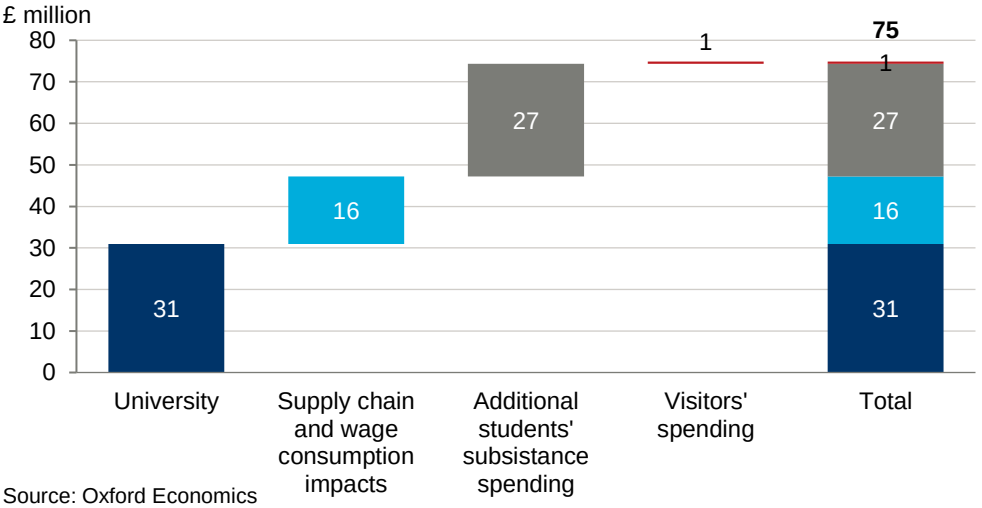


Source: Oxford Economics

The University of Sussex's, its students' and their visitors' expenditure also stimulated an estimated 74.9 million in tax receipts. These tax revenues would be sufficient to fund the East Sussex Fire Authority for almost two years.[9]

The University itself generated a smaller share of tax revenues relative to its gross value added contribution and employment, of 41 percent, due to its not-for-profit charitable status (Fig. 17). Students' spending supported 36 percent of taxes, the University's expenditure a further 22 percent, and visitors' spending 1 percent.

Fig. 17. **Tax impact of the University of Sussex, its students and visitors in Brighton and Hove, East Sussex and West Sussex, 2015/16**



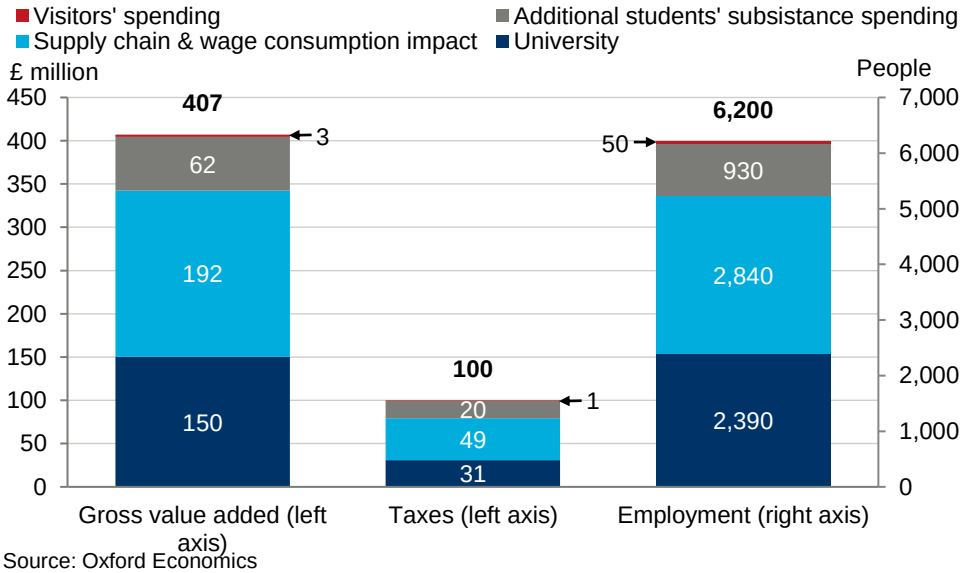
Source: Oxford Economics

[9] East Sussex Fire Authority operating costs from the 2015-16 Accounts

In the UK as a whole, the University of Sussex together with its international students and overseas visitors supported a £407 million gross value added contribution to GDP (Fig. 18). The supply chain and wage consumption impacts are larger at a national level than a local level, as the whole of the University's national supply chain is captured. On the other hand, the impact of students' subsistence spending is smaller, as only international students' spending is 'additional' to the UK economy.

This contribution equates to an estimated £31,200 gross value added contribution per student in 2015/16. This is higher than the equivalent UK university average of £23,700.[10] This higher contribution reflects the University's larger than average spending per student on operational expenditure, and employee compensation, as well as its higher income.

Fig. 18. **The total impact of the University of Sussex, its students and visitors in the UK, 2015/16**



Source: Oxford Economics

The expenditure undertaken by the University, its students and their visitors stimulated more than 6,200 jobs across the UK. Some 39 percent of these are at the University, with the remaining 61 percent elsewhere in the economy. The largest share of the employment, 46 percent, was sustained by the University's expenditure on goods, services, and payment of wages part of which will be spent in the consumer economy.

This equates to almost 0.5 jobs supported per student in 2015/16. This is a larger employment impact per student than the UK university average, which is estimated to be just over 0.4 jobs per student.

The economic activity stimulated throughout the UK by the University's spending, and that of its students and visitors generated significant tax revenues. In 2015/16, this economic activity generated £100 million in tax receipts.

[10] Estimated from Oxford Economics' study of the economic impact of UK Universities in 2014/15 on behalf of Universities UK, adjusted to 2015/16 prices.

3. THE UNIVERSITY OF SUSSEX'S WIDER ECONOMIC IMPACT

The previous chapter measured the core economic contribution that the University of Sussex makes to Brighton and Hove, East Sussex and West Sussex. However, the University delivers significant wider benefits to the local area's economy and society. These wider benefits are more difficult to quantify, but are an important part of the University's contribution to the local area.

3.1 GRADUATE TALENT

The University of Sussex provides students with a high-quality education, equipping them with the knowledge and skills required to go on to employment, further study or research. As many of the University's graduates stay in the local area following graduation, it boosts the supply of skilled labour available to local employers. Some of the University's students go on to work in socially significant roles, as such doctors and teachers, for example.

3.1.1 The University as a supplier of skilled labour

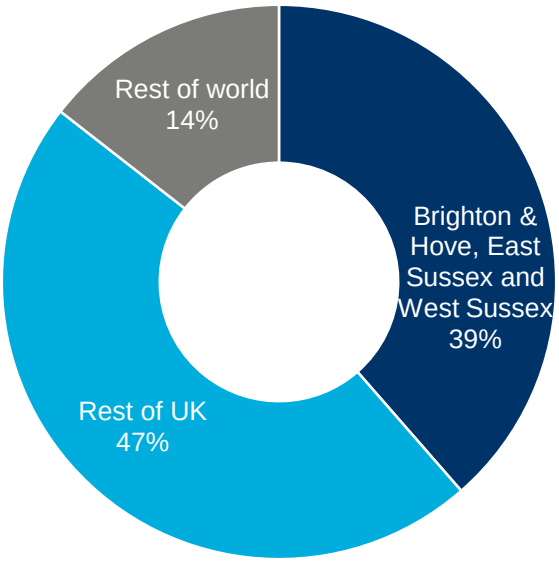
In 2015/16, almost 5,150 students graduated from the University of Sussex. Some 56 percent, 2,870 students, of these graduated from undergraduate degrees. The remaining 44 percent—2,280 students—completed a postgraduate degree. Most of these—90 percent—were studying for a taught postgraduate degree, while 10 percent were on a research programme.

Data collected for the 2015/16 Destinations of Leavers from Higher Education survey shows that University's graduates are highly employable. Almost 96 percent of graduates reported being in work or further study six months after graduation. This is slightly above the national average of 95 percent.[11] The University of Sussex also outperforms the sector nationally in terms of the proportion of graduates working in professional employment. Some 84 percent of graduates employed in the UK six months after graduating were working in professional or managerial occupations, compared to 71 percent of graduates nationally.

Many of the University of Sussex's graduates enter the local labour market. The Destinations of Leavers from Higher Education survey for 2015/16 indicates that some 39 percent of the University's 2015/16 in-work graduates were employed in Brighton and Hove, East Sussex and West Sussex six months after graduation (Fig. 19). The University's information on alumni indicates that many graduates continue to work in the area for a long time after graduating; some 18 percent of contactable alumni in 2017 are employed in East and West Sussex.

[11] Higher Education Statistics Agency, *Destinations of leavers from higher education in the United Kingdom for the academic year 2015/16*, 2017.

Fig. 19. **In-work 2015/16 University of Sussex graduates' employment location six months after graduation**

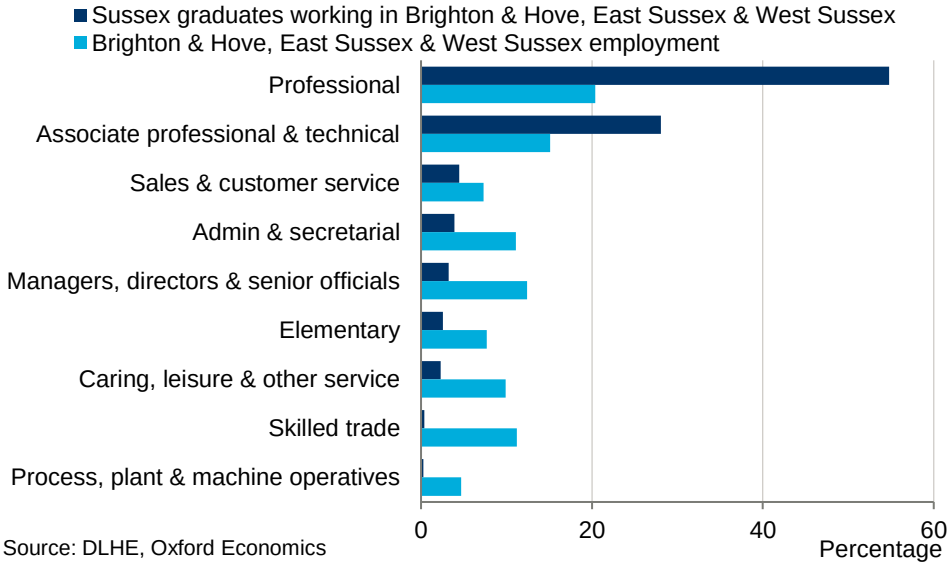


Source: DLHE

Many of the University's graduates go into high value positions, driving forward local industry, public service provision and charities' actions. Some 55 percent of 2015/16 graduates working in Brighton and Hove, East Sussex and West Sussex were employed in professional occupations in fields including science, research and engineering, teaching, and healthcare (Fig. 20). This is a substantial proportion when compared with local employment; just over 20 percent of all workers were employed in professional occupations in the year.[12] A further 28 percent of the University's graduates working locally were employed as associate professionals and in technical occupation, compared with 15 percent of the total local workforce.

[12] Employment by occupation by local authority district, Annual Population Survey 2017

Fig. 20. **University of Sussex 2015/16 in-work graduates and Brighton and Hove, East Sussex and West Sussex employment by occupation**



Source: DLHE, Oxford Economics

3.1.2 Graduates in key worker roles

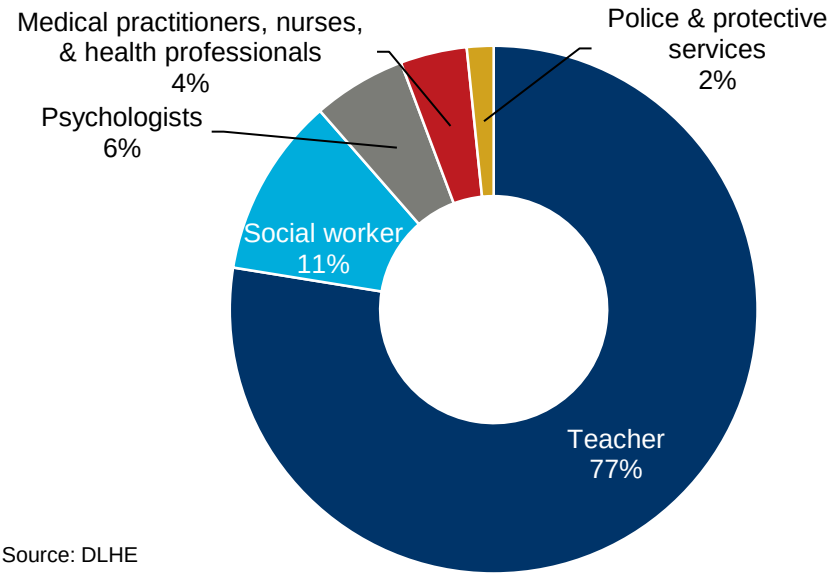
Some of the roles University of Sussex graduates take on after graduating are important for their 'social significance'. This study draws upon the UK Government's definition of key workers to assess how many graduates go into 'socially significant' occupations, including:[13]

- doctors and other medical professionals;
- nurses and midwives;
- physiotherapists;
- psychologists;
- social workers;
- speech and language therapists; and
- teachers.

Analysis of the University's DLHE return indicates that 33 percent of 2015/16 graduates working in Brighton and Hove, East Sussex and West Sussex are employed in one of these 'socially significant' roles. Teachers made up the largest share of these, accounting for 77 percent of the total (Fig. 21). A further 11 percent were working as social workers, and 6 percent as psychologists. The rest reported working locally as nurses, doctors and other health professionals, and in the police force.

[13] As applied under the former Key Worker Living scheme.

Fig. 21. **Composition of 'socially significant' roles by University of Sussex graduates in Brighton and Hove, East Sussex and West Sussex, 2015/16**



Source: DLHE

These findings are not only true in the short term; the University's records indicate that some 28 percent of alumni working locally do so in education, public services, and health and social care.

3.2 INNOVATION AND RESEARCH

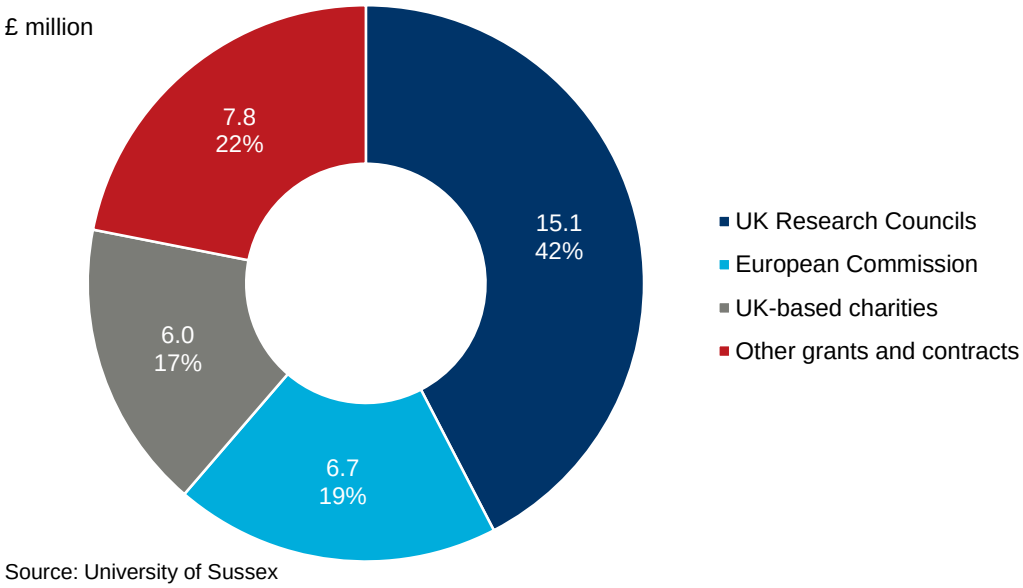
The University of Sussex is globally recognised for its research activity, with more than 75 percent of the University's research outputs ranked as world leading or internationally excellent by the Reference Excellence Framework (2014).[14] Research stimulates innovation, leading to new products, processes, and technologies that improve efficiency and productivity. Innovation in socially important fields can have wider benefits, such as improving healthcare and public policy. Through its work with local businesses and other organisations, the University ensures that many of these benefits are felt locally.

3.2.1 Research inputs

The University of Sussex received £35.6 million of research funding in 2015/16. This funding comes from a wide range of sources (Fig. 22). The largest share, 42 percent, was from UK Research Councils. Other UK government funding and UK charities made up 7 percent and 19 percent of the total. A further 8 percent came from other UK private sources, including industry. International sources make up an increasingly important share of funding, with EU sources making up 19 percent of funding, and other overseas sources 5 percent.

[14] REF2014, *Research Excellence Framework 2014: The results*, December 2014

Fig. 22. **University of Sussex's research grants and contracts, 2015/16**

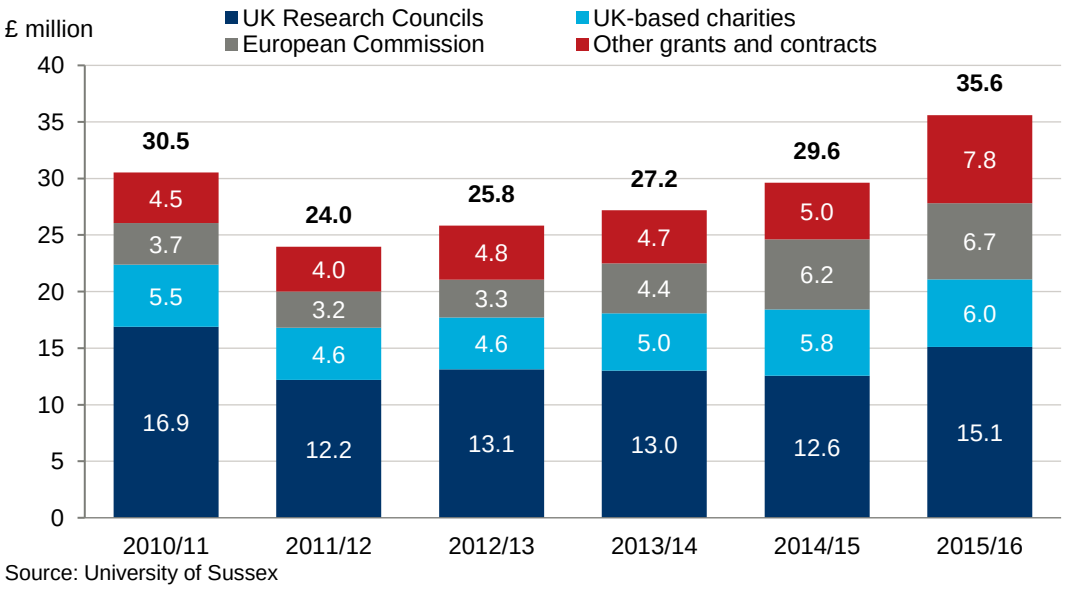


Source: University of Sussex

The University's research funding has increased by 17 percent in nominal terms since 2010/11. Taking account of inflation, funding has grown by 9 percent over the last five years. While the amount of funding received from almost all sources has increased, the composition of the University's funding has changed considerably (Fig. 23).

The share of total funding received from the UK Research Councils has fallen considerably over the previous five years. In 2015/16, around 42 percent of funding came from Research Councils, down from 55 percent in 2010/11. It is the only source of funding that has fallen over the period, by 17 percent in real terms, although Research Council funding did grow by 20 percent between 2014/15 and 2015/16.

Fig. 23. **University of Sussex research funding by source, 2010/12 to 2015/16**



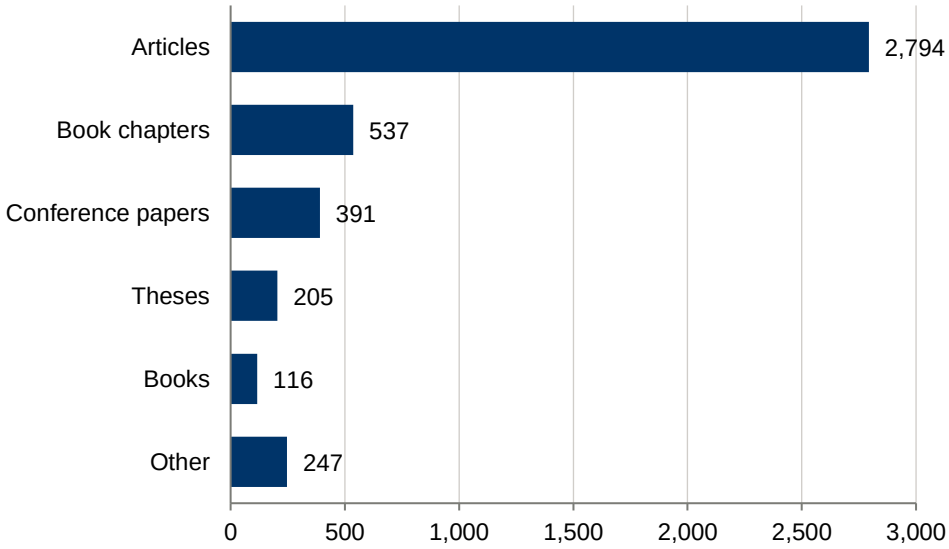
Source: University of Sussex

All other sources of research funding grew over the period. The largest increase was in funding from the European Commission, which grew by 72 percent between 2010/11 and 2015/16. This means that the share of funding coming from the European Commission also rose, from 12 percent of the total to 19 percent. Funding from other sources including overseas and UK industry also grew considerably, by 63 percent in real terms over the last five years. This source accounted for 22 percent of total research funding in 2015/16, up from 15 percent in 2010/11.

3.2.2 Research outputs

The University of Sussex produced 4,290 research outputs in 2015/16. The largest component of this was the 2,794 articles published, making up 65 percent of the total (Fig. 24). Some 537 book chapters and 391 conference papers accounted for a further 13 percent and 9 percent, with theses, books, and other sources each making up between three and six percent. The Business, Management, and Economics School submitted the largest number of items, 898, followed by the Brighton and Sussex Medical School, which submitted 593.

Fig. 24. **University of Sussex research outputs, 2015/16**

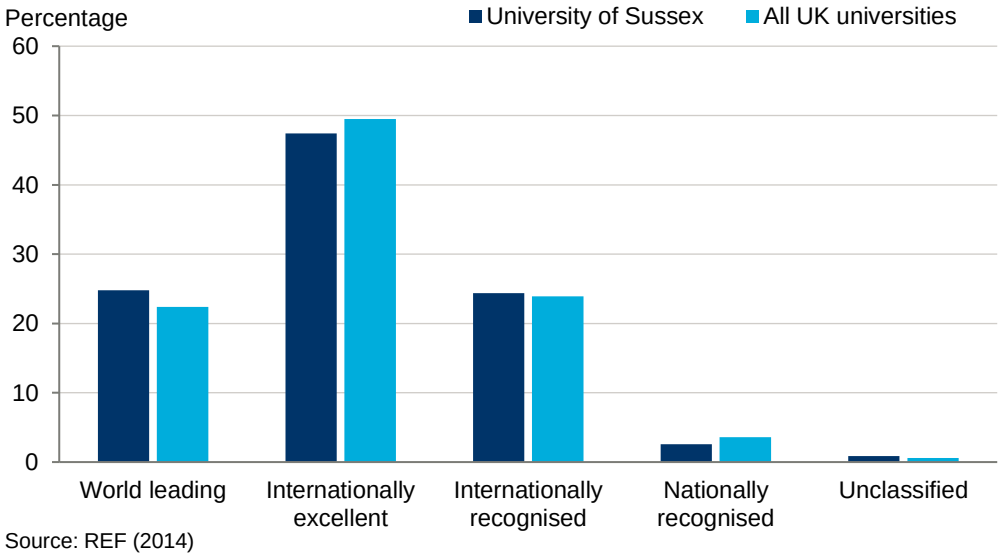


Source: University of Sussex

Looking back over the last 10 years, the University of Sussex's students and staff have produced more than 42,100 research outputs, including 26,800 journal articles. Some 8,900 of these are available free of charge as open access pieces. This includes 6,300 journal articles and 1,500 theses.

The most recent assessment of research quality was undertaken by the Research Excellence Framework (REF) in 2014. Almost 97 percent of the University of Sussex's research outputs were rated as internationally recognised, with 25 percent rated world-leading and a further 47 percent internationally excellent (Fig. 25). This demonstrates the global importance of the University's research, when compared to the 22 percent of all UK universities' research outputs entered into the REF which were rated as world-leading.

Fig. 25. **The University of Sussex's REF (2014) research outputs ratings versus all UK universities**



Source: REF (2014)

3.2.3 Research impact

The University of Sussex delivers high-quality research that benefits and enriches society. The University's research, both academic and in collaboration with business, boosts the UK economy through the development of new technology, processes, and products that enhance efficiency and productivity, and can have wider social benefits.

There is no single agreed upon methodology for calculating the returns to research and development, although a number of techniques have been developed.[15] Drawing upon various literature sources, the return to the University of Sussex's research and development activity was estimated following an input-based approach.

The findings are sensitive to assumptions, and therefore a range of estimates are presented (Fig. 26). The central estimate assumes that 75 percent of the University's research is additional, a six year lag between investment occurring and the realisation of benefits, a depreciation rate of two percent a year and returns to university research of 30 percent.[16]

On this basis, the research performed by the University of Sussex in 2015/16 is estimated to deliver a stream of benefits into the future equating to £154 million in gross value added, discounted into net present value.[17] This is equivalent to £114 per person living in Brighton and Hove, East Sussex and West Sussex.

[15] Most notably, an investigation of the returns to public science funding in the UK: Jonathon Haskel, Alan Hughes and Elif Bascavusolgu-Moreau, *The economic significance of the UK science base*, UK-Innovation Research Centre, 2014.

[16] Additionality assumption based on an evaluation of the Science and Research Investment Fund 2008-08 (PACEC, 2012).

[17] The net present value calculation discounts the value of the future stream of benefits from research to give their value in 2015/16 terms. It acknowledges societies' time preferences, recognising people prefer money now rather than the same amount promised in the future.

Approximately half of this return is private and half social, benefitting the wider community.

Fig. 26. **Assumptions for calculating the impact of the University of Sussex's research in 2015/16**

	Depreciation Rate	Additionality	Returns to HE Sector R&D	NPV University of Sussex R&D
Low	20%	75%	20%	£102m
Central assumptions	**2%**	**75%**	**30%**	**£154m**
High	0%	100%	40%	£273m

The University actively encourages the commercialisation of research results, and helps with the commercial exploitation of the intellectual property through advertising and marketing. Patents are a formal channel of dissemination of knowledge, processes, and products, as they encourage innovation, and the publication of any invention. The University was granted five new patents in 2015/16, bringing its total number to 92. This intellectual property earnt £115,000 in income for the University in the year.[18]

The University of Sussex often works together with businesses to solve problems, and create new products and processes. One way in which businesses can benefit from the University's innovative activity is commissioning research that they do not have the capacity to undertake themselves. In 2015/16, the University undertook 260 pieces of contract research on behalf of businesses and other organisations (excluding publicly funded research). This research activity earnt the University some £12.3 million in income.

The University also collaborates with businesses—even developing postgraduate courses in consultation with local companies. The University's Postgraduate Certificate in E-Learning Design was developed in collaboration with the Brighton e-Learning Alliance Group of Companies and the University of Brighton, and a Postgraduate Certificate in Web Development has been designed with the input of the local digital media sector.

The University further collaborates with businesses on an ad-hoc basis, to solve individual problems or develop ideas. In 2015/16, the University was involved in seven industrial collaborations and 34 students were on its CASE studentship program. CASE studentships are research training grants that enable PhD students in a science or engineering discipline to gain experience undertaking research at a private or public organisation, away from an academic environment.

[18] The University of Sussex, *Research income performance report for financial year 2015-14; (as @ July 2016*), 2016.

The Sussex Innovation Centre

Local high-growth potential businesses benefit from the facilities at the Sussex Innovation Centre, a wholly owned subsidiary of the University. Located on the University campus in Falmer and in Croydon, the Innovation Centre helps individual entrepreneurs, academics, start-up and established businesses, students and graduates acquire the skills and resources to evaluate ideas, assess the market, gain customer insight, and understand scalability.

There are currently 63 firms based at the Innovation Centre, all of which have been selected for having a new product, notable market potential, and entrepreneurial ambition. Of these, 43 are based in the Centre in Falmer, employing 250 staff on site. Another 20 are tenants in the Croydon offices, employing 130 people on site. Collectively, the firms are estimated to have an annual turnover of an estimated £35 million.

A further 103 firms access the Innovation Centre's facilities as virtual tenants or network members. Of these, 57 are members in Falmer, with the remainder members in Croydon. Local firms who are not members are also able to take advantage of the Centre's expertise. Some 31 non-member firms used the Centre's services in the year, 68 percent of whom were businesses based in Brighton and Hove, East Sussex and West Sussex.

The Innovation Centre's support teams provide more than 11,900 hours of support per year. The most popular service is the Catalyst Intern Team, which provided over 8,348 hours of support to 60 firms in Falmer and 30 firms in Croydon (Fig. 27). Made up of University of Sussex graduates, the team delivers a range of business projects under the supervision of the senior management team. This service not only helps fuel the growth of innovative businesses based at the centre, but also provides unique work experience for the University's students and graduates. The Accounts Team was the other popular service, providing 2,593 hours of help on book-keeping and payroll, mostly in Falmer.

Fig. 27. **Number of firms accessing the Sussex Innovation Centre's advice service services and hours of support given by type**

Service	Number of businesses accessing support		Average annual support hours		
	Falmer	Croydon	Falmer	Croydon	Total
Accountancy	43	9	2,311	282	2,593
Business support	30	9	240	151	391
Catalyst interns	60	30	4,343	4,005	8,348
Marketing/Sales	32	7	197	63	260
Market insight	12	12	47	79	126
PR/Communications	16	5	144	44	188

Source: The University of Sussex

The Innovation Centre has a strong track record in assisting research based-start-ups, scale-ups and corporate innovation projects. It assists in gaining access to external finance firms need to grow. To date, Sussex Innovation Centre companies have secured more than £38 million in grant funding and £66.7 million in investment. It also helps them protect their intellectual property. Some 30 percent of tenant companies hold some form of patented intellectual property. Likewise, of the academic research commercialisation ventures, approximately 50 percent have some form of intellectual property protection.

Innovative businesses in Brighton and Hove, East Sussex and West Sussex benefit from the University's facilities. The University provides consultancy services and access to facilities to a diverse range of companies, including many local businesses. In 2015/16, the University earnt £483,000 providing consultancy services for 63 contracts, and a further £243,000 from businesses' use of facilities, equipment, and other services.[19]

3.3 THE UNIVERSITY'S GLOBAL REACH

As well as directly benefitting the local and UK economies, the University of Sussex acts as an international gateway for Brighton and Hove, East Sussex and West Sussex. The University attracts investment from overseas, particularly for research funding, and export earnings, by attracting international students who pay tuition fees and spend money in the local economy.

The University of Sussex has a number of formal international links: institutional partnerships with universities in China, the USA, Ghana, Hong Kong, and Thailand, with options for students to spend time in country as part of the Global Excellence Summer Programme; international research partnerships funded by the University's International Partnership Development Fund; visiting and exchange partnerships; and an International Summer School.

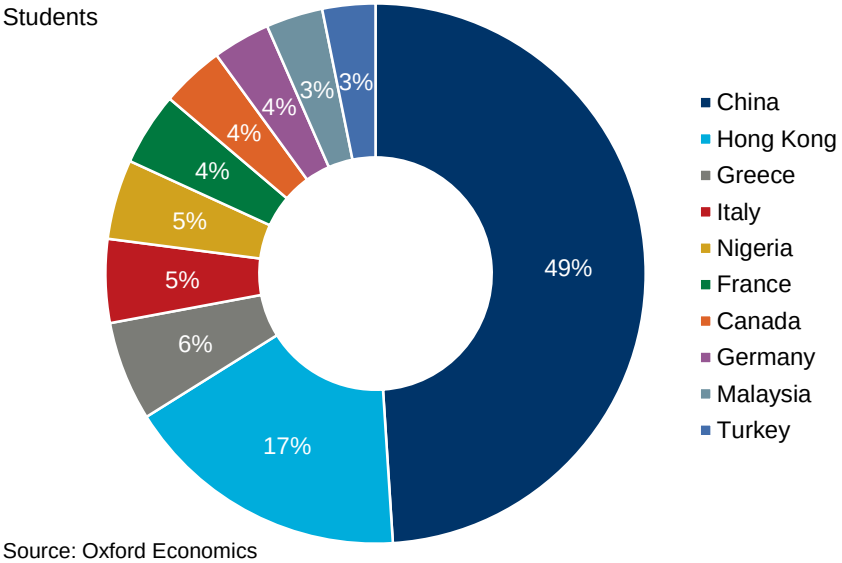
3.3.1 International students

The University promotes Brighton and Hove, East Sussex and West Sussex informally through its international students and staff. In 2015/16, there were more than 4,300 international students and hundreds of staff from overseas at the University. Students, staff, and alumni act as ambassadors for the local area, developing business links, attracting visitors, and recommending the University and the wider area to friends and family.

The University of Sussex attracts students from more than 150 countries around the world. The largest share of international students is attracted from China; making up a total of 49 percent in 2015/16 (Fig. 28). Students from Hong Kong and Greece make up a further 17 percent and 6 percent of international students.

[19] The University of Sussex, *Research income performance report for financial year 2015-14; (as @ July 2016)*, 2016.

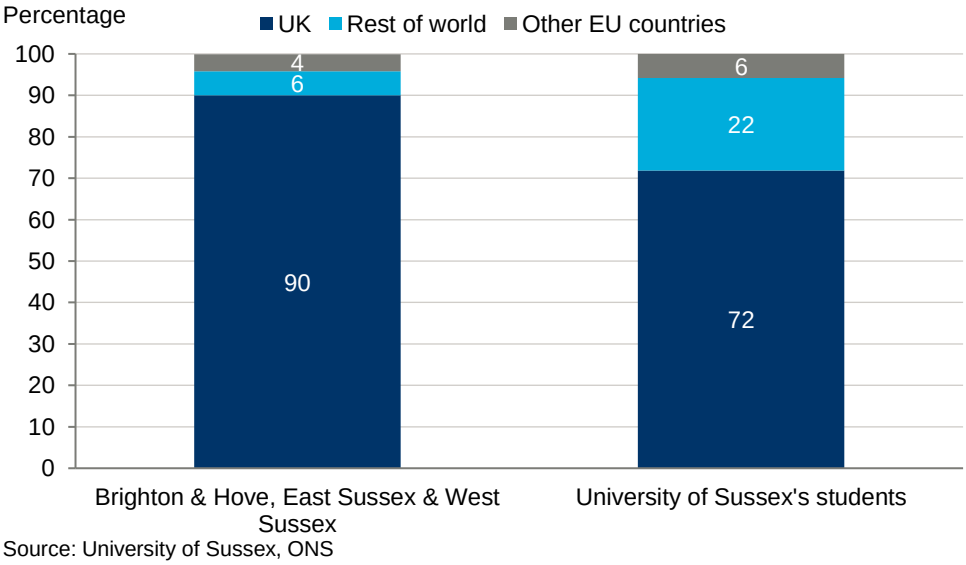
Fig. 28. **University of Sussex students from the ten largest sending countries**



Source: Oxford Economics

By attracting international students, the University contributes to the vibrancy and diversity of the area's culture. The University has a large share of students born outside of the UK, when compared to the population of Brighton and Hove, East Sussex and West Sussex; 28 percent compared to 10 percent (Fig. 29).

Fig. 29. **Population by country of birth, 2015/16**[20]



Source: University of Sussex, ONS

3.3.2 International alumni visits and recommendations

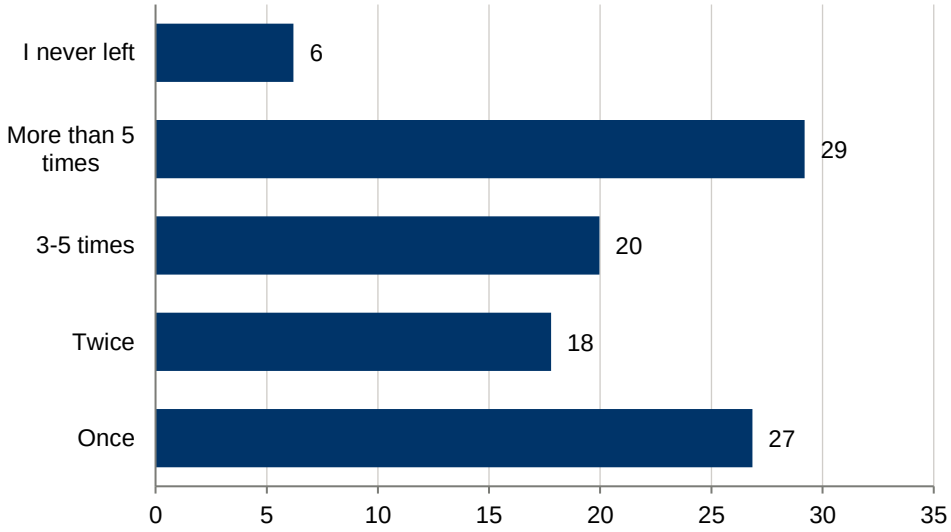
The University's international alumni continue to boost the economy of Brighton and Hove, East Sussex and West Sussex long after graduating by returning to visit and recommending the area as a tourist destination. To investigate the

[20] The data for Brighton and Hove, East Sussex and West Sussex is for 2015.

extent of these impacts, the University, together with Oxford Economics, surveyed almost 1,000 graduates and postgraduates registered on the University's databases as living abroad.

Some 63 percent of the international alumni surveyed reported having visited Brighton and Hove, East Sussex and West Sussex since graduating. The largest share, 29 percent, had returned more than five times, with their expenditure boosting the local accommodation, food and beverage services, passenger transport, and recreational and conference services industries (Fig. 30).

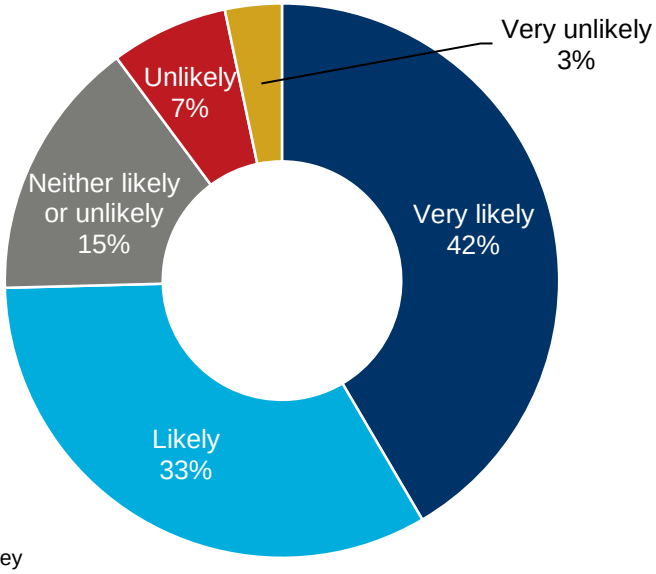
Fig. 30. **Number of times international alumni have visited Brighton and Hove, East Sussex and West Sussex since graduating**



Source: Alumni survey

The majority of international alumni responding to the survey, some 75 percent, said that they are likely to return to Brighton and Hove, East Sussex and West Sussex in the future. Of these, 42 percent reported that they are very likely to visit in the future (Fig. 31).

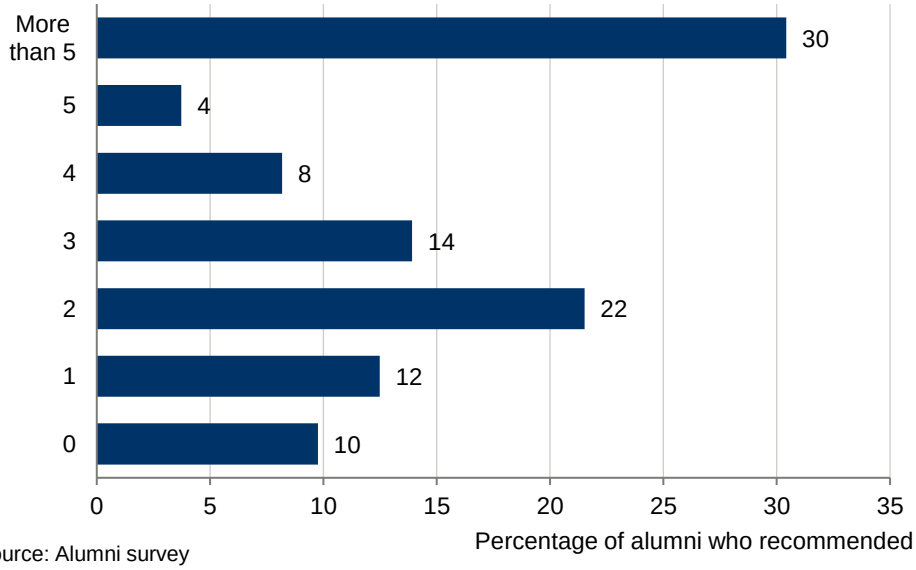
Fig. 31. **How likely international alumni are likely to visit Brighton and Hove, East Sussex and West Sussex**



Source: Alumni survey

International alumni act as ambassadors for the local area by recommending it to both to friends and family at home. Some 77 percent of international alumni respondents had recommended family or friends visit Brighton and Hove, East Sussex and West Sussex. Of these, 90 percent said that at least one person had visited on their recommendation, with 30 percent reporting that more than five people had done so (Fig. 32).

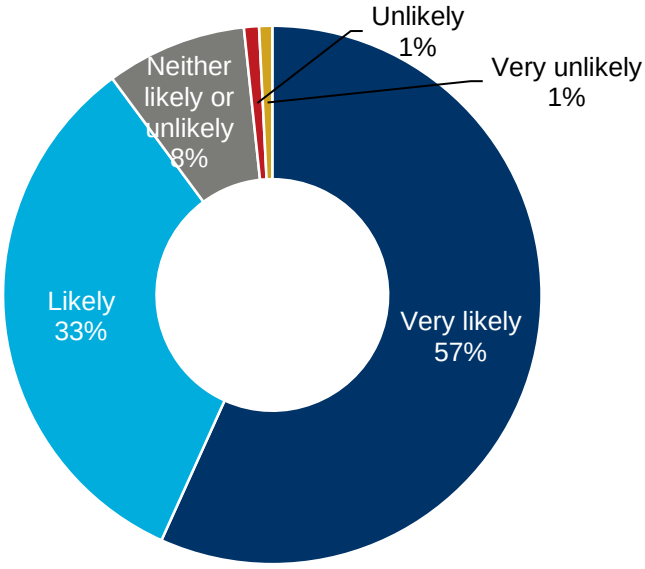
Fig. 32. **Number of people who visited Brighton and Hove, East Sussex and West Sussex following an international alumni's recommendation**



Source: Alumni survey

Looking forward, 90 percent of international alumni said they would recommend visiting Brighton and Hove, East Sussex and West Sussex to friends and family in the future (Fig. 33). Of these, the majority were very likely to do so.

Fig. 33. **How likely international alumni are to recommend visiting Brighton and Hove, East Sussex and West Sussex to others in the future**



Source: Alumni survey

4. THE UNIVERSITY OF SUSSEX'S SOCIAL IMPACT

The University of Sussex, its staff and students play an active role in the local community. The University's efforts to widen participation in education, outreach programmes, and volunteering have notable benefits for Brighton and Hove, East Sussex and West Sussex. Members of the local community also benefit from the University's facilities, the University's sports facilities, modern language centre, and the University's contribution to "the Keep" resource centre.

4.1 WIDENING PARTICIPATION IN HIGHER EDUCATION

Higher education delivers benefits to both the individual and society. These are widely documented (see for example, BIS (2013)).[21] But despite this, people from less-advantaged backgrounds are significantly less likely to attend university than their more fortunate counterparts.[22] Moreover, those that do begin higher education are also less likely to graduate—having higher drop out rates.[23]

The University of Sussex runs an extensive programme of schemes and events to promote participation in higher education by students from low-income families or ethnic minority backgrounds, who are carers, have a disability, and other low-participation backgrounds. In 2015/16, the University's widening participation team hosted 398 events, attended by 20,347 students and parents. Some 135 of these were school talks, covering student life, finance, and choosing and applying to a university. Other events including masterclass workshops (on personal statements, and budgeting, for example), campus visits, summer schools, and work in primary schools.

The majority of the University's outreach work takes place in the local community. The Sussex Study Experience is one such programme. It gives Year 12 students living in Sussex and London the opportunity to experience subject specific university style learning, on campus. Pupils are introduced to academic staff and student ambassadors, who provide information, advice and guidance for university applicants.

Many of the University's students are involved in its widening participation programmes, working as mentors and tutors to promote higher education to students from low-participation backgrounds. In 2015/16, 66 student ambassadors devoted 14,000 hours to promote education to young people. A further 35 students provided 2,550 hours of tutoring in schools.

The University of Sussex's financial support schemes are an important part of widening participation commitment, removing some of the financial barriers to

[21] BIS, *The benefits of higher education participation for individuals and society: key findings and reports "the quantrants*, BIS Research Paper: 2013, 146.
[22] BIS, *National strategy for access and student success in higher education*, 2014.
[23] Crawford, C., *Socio-economic differences in university outcomes in the UK: drop-out, degree completion and degree class*, IFS Working Paper (W14/31), 4 November 2014.

higher education. In 2015/16, the University provided £4.1 million in financial support through its First-Generation Scholars Scheme. Available to students from low-income households and low-participation neighbourhoods, this scheme provides both fee reductions and cash bursaries to support students throughout their degree.

Support for disadvantaged students continues throughout their education with transition, retention, and employability activities and guidance. In 2015/16, the University spent £2.1 million providing academic and skills development, including careers and leadership coaching, workshops, and funded internship opportunities. Graduates who were a part of the First-Generation Scholars Scheme also benefit from continued access to the Careers and Employability Centre for three years after graduation.

The Careers and Employability Centre also helps graduates into employment by supporting local and regional recruiters. Funding programmes enable local businesses that may not normally be able to afford to pay interns to take on students or graduates for placements, providing students with invaluable work experience. Any business or charity can apply for the University's First-Generation Scholars internships and work shadowing programme, which funds 10 week internships for current Sussex students. The Graduate Internship Programme similarly funds internships for recent Sussex graduates. Local small and medium sized enterprises can also take advantage of funding through the Sussex Santander internship scheme, which is open to current students or recent graduates.

Evidence on the first cohort of First-Generation Scholars show signs of the Scheme's success. Some 85 percent of those graduating in 2015 achieved a good degree (First or 2:1 classification), in line with the UK average. Further, 96 percent were in work or further education sixth months after graduating, with 87 percent of those in work employed in graduate level roles.

4.2 COMMUNITY ENGAGEMENT

4.2.1 Staff civic engagement and volunteering

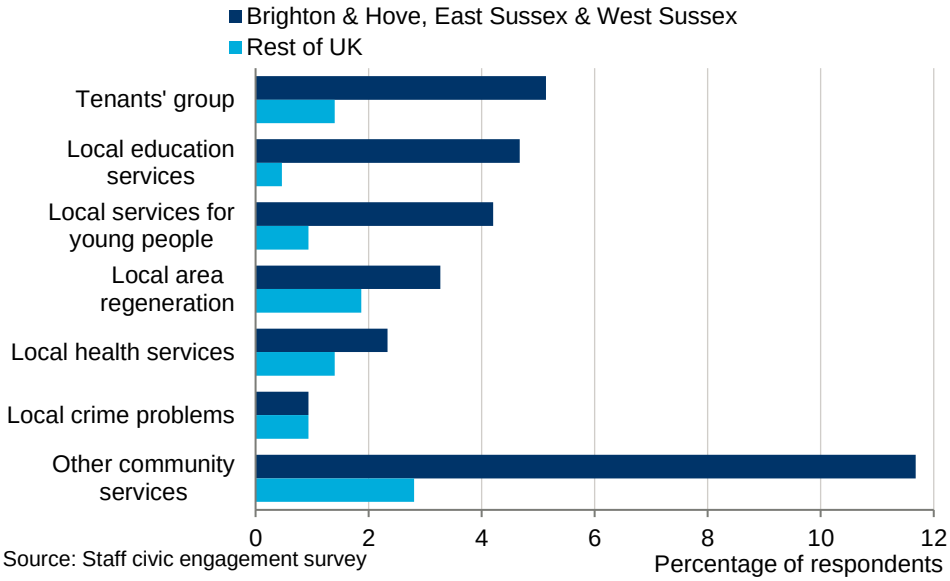
The University of Sussex's staff contribute to the local community, and rest of the UK, through their civic engagement, volunteering and charitable giving. To investigate the scale of community engagement by its staff, the University of Sussex, together with Oxford Economics, conducted a survey in July 2017, engaging with University employees.[24]

The survey found that many of the University's staff are involved in local community groups. Some 23 percent of respondents having been a part of a local community decision-making groups in the last 12 months, 92 percent of whom did so in Brighton and Hove, East Sussex and West Sussex. Staff were most commonly members of tenants' group decision-making committees, and education groups (Fig. 34). This compares eight percent of people in England,

[24] Some 221 University staff members completed the survey. They answered questions on voluntary roles that had taken locally and nationally, their voluntary participation in decision making bodies locally and nationally, formal and informal volunteering locally and nationally, and their charitable donations.

who said they had engaged in civic activism (involvement in decision-making about local services) in the year.[25]

Fig. 34. **University of Sussex staff reporting being a member of a decision-making group in the last 12 months by group function, 2017**



Source: Staff civic engagement survey

Some of the University's staff hold important voluntary positions in their local communities. Some 12 percent of survey respondents acted as a Local Councillor, school governor, volunteer Special Constable or Magistrate in the last 12 months. Nearly all these staff, 96 percent, held one of these positions in Brighton and Hove, East Sussex and West Sussex, with school governor being the most common.

A significant share, 93 percent, of responding staff had formally volunteered at a group, club, or other organisation in the last 12 months, 92 percent of whom did so in the local area.[26] This is particularly notable when compared with the Community Life Survey's 2016/17 findings that 37 percent of respondents had taken part in formal volunteering.

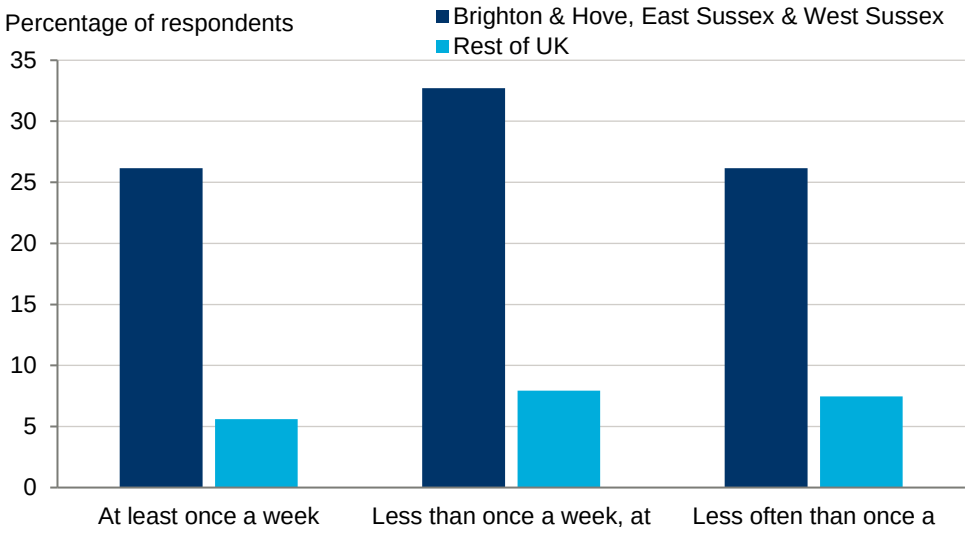
A large share of staff who had volunteered in the last 12 months do so regularly. Some 26 percent of survey respondents reported volunteering formally at least once a week in Brighton and Hove, East Sussex and West Sussex (Fig. 36). Another 33 percent volunteered less than weekly, but at least a once a month in the locality. The comparable figures for staff volunteering elsewhere in the UK are six and eight percent, respectively. Ignoring the geography 67 percent of staff who responded reported they volunteered formally at least once a month which is significantly above the national average of 27 percent.[27]

[25] Department for Digital, Culture, Media and Sport, *Community life survey 2016/17,* 25 July 2017.

[26] Formal volunteering is defined as providing unpaid help through groups, clubs or organisations, in line with the Community Life Survey.

[27] Department for Digital, Culture, Media and Sport, *Community life survey 2016/17,* 25 July 2017.

Fig. 35. **University of Sussex staff volunteering regularly in the last 12 months, 2017**



Source: Staff civic engagement survey

In addition to many staff volunteering formally, some 62 percent volunteered time informally, such as helping a friend or neighbour, 92 percent of whom did so in Brighton and Hove, East Sussex and West Sussex.[28] Of those volunteering informally, 56 percent did so at least once a month, and 23 percent at least once a week. This compares with 22 percent of Community Life Survey 2016/17 respondents who regularly volunteer informally.

The majority of University staff who responded to the survey, 85 percent, reported having donated money to charity in the four weeks before the survey. This is a larger proportion than the 75 percent of Community Life Survey 2016/17 respondents asked the same question. Some 59 percent of these respondents had given to local charities in Brighton and Hove, East Sussex and West Sussex. More than 41 percent of staff had donated to local charities based elsewhere in the UK and the rest of the world, and 72 percent had given to national and international causes.

4.2.2 Student volunteering

The University of Sussex's Students' Union supports more than 1,000 of its students who volunteer at the University. This includes students who work voluntarily for the Students' Union, Buddy Scheme and Welcome Team volunteers, who provide support for new students, students working at university facilities, and roles within societies and clubs.

In addition to supporting volunteers on campus, the Students' Union also encourages students to volunteer in the community. In particular, Community Organiser volunteers are trained to go out into the local area and start conversations with people about local issues. This enables them to find out what issues are important to the community, provide information, and support

[28] Informal volunteering is defined as providing unpaid help as an individual to people who are not a relative, in line with the Community Life Survey.

people to plan or run activities, events, and campaigns. These student volunteers devote a considerable amount of time to the community, a minimum of two hours per fortnight.

A further important voluntary programme delivered through the Students' Union is its Role Models Project. Students have the opportunity, through an elective module, to participate in peer-led mentoring. Run in partnership with the School of Education and Social Work, the project involves students creating and delivering workshops for young people at a local secondary school, aimed at engaging pupils aged 12 to 15 in personal, social and political issues.

The Students' Union supported initiatives are only one channel through which students volunteer their time. The Union also actively promotes other local volunteering opportunities, including through the Community Works' Volunteer Centre and the Brighton and Hove Community Base.

4.3 COMMUNITY USE OF FACILITIES

The University of Sussex has some facilities that are available for use by the local community, as well as students and staff.

The University's sports centre is open to the general public, to either join or use on a "play-and-pay" basis as non-members. The centre's range of facilities include:

- two multi-purpose sports halls (for badminton, table tennis, basketball, football, etc.);
- fitness room, which also acts as an indoor group cycling room;
- indoor cricket nets;
- four glass-backed championship squash courts;
- dance and martial arts studio;
- therapy room; and
- sports injury clinic.

The University of Sussex is a key contributor to The Keep, a world-class centre for archives based in Falmer. Funded by East Sussex County Council, Brighton and Hove City Council, and the University, The Keep houses archives, documents and historical records. The University has contributed its internationally significant Special Collections, which hold over eighty internationally acclaimed archival, manuscript and rare book collections, mostly relating to 20th and 21st century literary, political and social history.

Members of the local community are welcome to access The Keep, as well as use the University's campus library as visitors. The Keep also provides lecture and public reading rooms for general use. Groups from local schools, colleges, volunteer groups and other societies are also welcome to visit and take advantage of tailored sessions or host workshops. The Keep also runs a number of programmes targeting the local community, including outreach programmes that aim to make the collections accessible to all learners.

4.4 OPEN COURSES AND CONFERENCES

The University of Sussex offers open courses in modern languages. With classes held on a weekly basis, courses are offered at a range of levels to give

members of the public an opportunity to study a language within the context of its culture. There are 11 languages available to learn, including French, Japanese, Russian, and Spanish, from fully qualified tutors, many of whom are native speakers.

The University also runs English language courses. These include intensive English courses for adults planning to go university or work in the UK. Lasting for at least six months, these courses aim to improve not only speaking and writing skills, but also study skills, cross-cultural communication, effective use of Information Technology in language learning, and research and presentation skills. Bespoke English language courses are specially designed and delivered for institutions and companies.

For local sixth form teachers, the University runs free conferences in a range of subject areas, from Life Sciences to Philosophy. The aim of these conferences is to help develop teachers' careers, extend their networks and learn about cutting-edge research in their subject. They will typically include lectures by leading academics, practical sessions in the subject matter, and advice and guidance on preparing students for university entry.

5. CONCLUSION

The University of Sussex is an important part of the economy for Brighton and Hove, East Sussex and West Sussex. Through its own expenditure, and by attracting students and visitors who in turn spend money, it stimulates thousands of local jobs, economic output, and tax contributions.

In 2015/16, the University was responsible for an estimated £343 million gross value added contribution to local GDP. The University itself generated £150 million of this contribution, with the rest a result of expenditure by the University, its students, and visitors. Through these activities, the University supported 0.9 percent of the area's total economic output.

In total, the University is estimated to have supported 5,180 jobs in Brighton and Hove, East Sussex and West Sussex. This is around one in every 161 jobs in the area. The economic activity it supported also generated an estimated £74.9 million in tax revenues, sufficient to fund the running of the East Sussex's Fire Authority for almost two years.

As well as being vitally important to the local economy, the University made a notable contribution to the UK economy as a whole. In 2015/16, the University, its students and visitors sustained a £407 million gross value added contribution to UK GDP, supported more than 6,200 jobs across the country, and generated a £100 million in tax receipts.

The University's economic impact goes far beyond its core economic contribution. More than 5,150 students graduated from the University of Sussex in 2015/16, enhancing the talent pool of skilled workers available to local employers. Many go on to work in high-value and 'socially significant' roles, in Brighton and Hove, East Sussex and West Sussex and across the UK.

The University regularly produces world-leading and internationally recognised research. Local businesses are able to take advantage of the University's research capability through collaboration, and access to specialist equipment and academic staff. In 2015/16, the University earnt £12.3 million undertaking contract research on behalf of businesses and other organisations, and £725,000 for its consultancy and facilities services.

Brighton and Hove, East Sussex and West Sussex benefit from a raised international profile thanks to the University and its alumni. Some 63 percent of its international alumni have returned to the local area since graduating. These alumni promote the University and the local area across the world, with 77 percent having recommended friends and family visit the area.

The University makes significant efforts to widen participation in higher education among those from disadvantaged backgrounds. The widening participation team hosted 398 outreach events in 2015/16, while students committed 16,550 hours to mentoring and tutoring in local schools.

Being a good neighbour to the local community is a one of the University's core values. Some 93 of the University's staff, who responded to the survey, regularly volunteer and 23 percent participate in local groups making community decisions.

6. METHODOLOGICAL APPENDIX

METHODOLOGY FOR CALCULATING THE UNIVERSITY'S MULTIPLIER IMPACTS

Direct impact

Our estimate for the gross value added contribution to GDP generated by the University of Sussex is the sum of its surplus and employee compensation. This approach, the income method, is consistent with the principles of national accounting. Direct employment is the headcount of university staff, excluding non-payroll staff, such as contractors.

Direct labour taxes, including income tax, and employee and employer NICs, have been estimated using University employee compensation data from the University and HMRC data on tax allowances and receipts. Due to its charitable status, the University does not pay any corporation tax.

Indirect impact

The modelling for this study made use of Input-Output tables, as published by the ONS.[29] These data are the most detailed official record of the economic links between different parts of the UK economy, and with the rest of the world. Oxford Economics use these tables to develop bespoke sub-regional models to capture the local economic impact of the University.

Our methodology utilises so-called 'Flegg-adjusted Location Quotients (FLQs)', which are consistent with the latest approaches and evidence in regional I-O modelling.[30] Employment data from the ONS' Business Register and Employment Survey (BRES) were used to adjust the I-O tables,[31] to reflect the industrial structure and productive capacity of Brighton and Hove, East Sussex and West Sussex, and of the South East of England.

Oxford Economics' impact models quantify purchases along the entire length of the University's supply chain, and that of the consumer businesses supplying goods and services to students and visitors. The regional models estimate the extent to which these demands can be met in Brighton and Hove, East Sussex and West Sussex, and the leakages in and out of the local area.

The transactions along the supply chains are translated into gross value added using South East specific ratios of value-added to gross output derived from the ONS' Annual Business

[29] ONS, *United Kingdom input-output analytical tables, 2013*, 27 October 2017.

[30] Anthony T. Flegg and Timo Tohmo, *Estimating regional input coefficients and multipliers*, Working Paper, University of the West of England, Faculty of Business and Law, 2013, 5.

[31] ONS, *Business Register and Employment Survey, 2015: provisional*, 2016.

Survey.[32] The impact on employment was modelled using the latest data on output per head in the industrial sectors for the South East, derived from BRES.

Taxes were estimated using HMRC data on tax allowances and receipts, along with statistics on average profitability of each UK sector derived from the I-O tables, the average wage rates seen in these sectors (from the ONS' Annual Survey of Hours and Earnings), and the indirect employment supported within them.

Induced impact

The induced impact is modelled in a similar way. Using wage and postcode data supplied by the University, Oxford Economics used household spending data from the I-O tables to model the typical spending profile of University staff living in Brighton and Hove, East Sussex and West Sussex, making allowances for 'leakages' of imports and savings.

For workers in the supply chains, we used industry-specific ratios of employee compensation per unit of output, sourced from the I-O tables, to forecast how much household wages are supported among suppliers' workers. Both spending streams were fed into our I-O models, to calculate the total impact of this spending. Taxes were calculated using the same methodology as for the indirect impact.

INTERNATIONAL STUDENTS' SUBSISTENCE SPENDING

The University of Sussex attracts students to the local area from other parts of the UK, and the world, and keeps students previously resident in the locality who would have otherwise gone elsewhere. The subsistence spending of these students would not otherwise occur in the economies of Brighton and Hove, East Sussex and West Sussex, and therefore forms part of the overall impact of the University of Sussex.

Subsistence expenditure refers to all student spending on goods and services except for tuition fees. It includes, for example, the purchases of items required for facilitating their study—such as transport to the University and required books—as well as other consumer expenditure—including on food, leisure, and social activities. Payments to the University for accommodation, food, and other services are removed so as not to double count.

The former Department for Business, Innovation and Skills (now known as the Department for Business, Energy, and Industrial Strategy) regularly publishes data on subsistence expenditure by students in England and Wales. The latest available covered the 2011-12 academic year. [33] This study focuses on home-domiciled students, however we follow BIS' assumption that international students' spending is not significantly different to home students'.[34] Students' expenditure in the survey is disaggregated into the following categories:

- living costs, including food, drink, and personal items;
- housing costs, including rent, mortgage costs, and Council Tax;
- participation costs, including books and stationery; and

[32] ONS, *Annual Business Survey, UK non-financial business economy: 2015 provisional results*, 10 November 2016.
[33] Department for Business Innovation and Skills (now Department for Business, Energy and Industrial Strategy), *Student income and expenditure 2011/12*, 2013.
[34] Department for Business Innovation and Skills (now Department for Business, Energy and Industrial Strategy), *Estimating the value to the UK of education exports*, BIS Research Paper Number 46, June 2011.

- spending on children, if any.

Oxford Economics adjusted the average student spend using the ONS' Consumer Price Index to reflect the increase in living costs between 2011/12 and 2015/16. We further adjust the spending to reflect the difference lengths of academic years for undergraduate and postgraduate students, and the fact that international students likely go home less frequently than their UK equivalents. The BIS' student income and expenditure survey is based on an academic year of 39 weeks, while its methodology for value education exports assumes non-EU graduates spend 42 weeks at University, and postgraduate students 52 weeks.

After these adjustments, the average student at the University of Sussex spends £15,423 per year off campus, including housing costs.

To calculate how much expenditure the University of Sussex brings into the area, it is necessary to calculate the number of 'additional' students. To do so, Oxford Economics compared students' term time and home time locations. This allowed us to firstly identify how many students live in Brighton and Hove, East Sussex and West Sussex, and how many of those are truly 'additional'.

Around 3,800 international students and 5,800 students from the rest of the UK lived in the region in 2015/16. More than 3,600 students from Brighton and Hove, East Sussex and West Sussex lived in the area while studying, however their spending cannot be treated as 'additional' unless they would have left the area to go to other higher education institutions had they not attended the University of Sussex. Using tracking data provided by the University, Oxford Economics estimates that approximately 95 percent of these students would have left to study elsewhere.

VISITORS TO STUDENTS

The additional visitors the University attracts to Brighton and Hove, East Sussex and West Sussex come from other parts of the UK and overseas. The spending profile of the two types of visitors—domestic and international—differs by their origin. Therefore, two methods are used to calculate their spending impact. Additionally, alternative spending profiles are used for open day attendees and graduation ceremony guests, depending on their origin.

Visitors from overseas

The ONS' International Passenger Survey (IPS) provides detailed data on the spending of international visitors to the UK and its nations and regions, disaggregated by nationality of the visitor. To estimate the spending of visitors to students, data on the spending of those visiting friends and relatives in the South East of England were used. The pattern of spending was taken from ONS data on the regional value of tourism.

University data indicate that, for instance, there were 130 additional students of Greek origin living in Brighton and Hove, East Sussex and West Sussex in 2015/16. The 2015 Annual Population Survey (APS) data indicate that there were 7,000 people of Greek nationality living in the South East. Therefore, almost 2 percent of all spending by Greek visitors to the region is attributed to the University of Sussex, and assumed to have been spent predominantly in the local area.

Applying this methodology to the University's 3,800 international students living in Brighton and Hove, East Sussex and West Sussex indicates that visitors to these students spent an estimated £1.8 million in the area in 2015/16.

Domestic visitors

The University's home students also attract visitors. Although no information is available on how many visitors each additional student receives, data do exist on the average spend of a visitor from each part of the UK to friends and relatives in the South East of England.

This study assumes that each student from outside Brighton and Hove, East Sussex and West Sussex gets one visitor from their home region each year. With the likelihood that some students receive multiple family and friend visits during an academic year, and that parents are often involved in the transport of personal effects at the beginning and end of session, this is probably a very conservative assumption.

Following this approach, the 5,800 students from the rest of the UK attracted visitors who spent more than £0.8 million.

Graduation ceremony visits

The University of Sussex hosted graduation ceremonies in January and July 2016 which were attended by 3,727 graduands and 11,305 guests. Many of these graduands and their guests will have travelled from across the UK, and overseas, to attend the ceremony. Graduating students' origins were estimated using data on the composition of current students' home locations.

The spend of international and domestic graduation attendees was calculated following similar methodologies to those used for visitors to current students. It was assumed that students from the South East of England and the surrounding counties spent one day in the area, with students and their families from further afield staying a night or more. It is estimated that graduation attendees spent £1.2 million in the local area in 2015/16.

Open day visits

The University of Sussex hosted three open days which were attended by 4,582 prospective students in 2015/16. On average, it is assumed that for every 100 students attending, a further 150 guests (including family members) will also have travelled to the University. People travelling from the South East and the surrounding counties were assumed to incur only a day's spending, while those from other regions were assumed to stay the night to attend. The domicile of open day guests was estimated based on the composition of current students' home locations.

Using the same data on spending by country and region from the Great British Tourism Survey as for other visitors, open day attendees spent an estimated £236,000.

METHODOLOGY FOR CALCULATING THE IMPACT ON PRODUCTIVITY DRIVEN BY RESEARCH AND DEVELOPMENT

Our methodology for calculating the returns to the University of Sussex's research and development activity in 2015/16 closely follows that of Haskel et al., with some assumptions amended where appropriate.

The lifetime value of the investment is estimated using a depreciation rate of 2 percent. This is a central estimate based on a literature review. Estimates range significantly, for example Hall

(2005) states that depreciation can vary from 0 to 40 percent.[35] Haskell et al. use zero for the assumed depreciation rate, which we have included as a higher estimate (the lower the depreciation rate the higher the value of the stock investment). Studies such as Pakes and Shankerman (1979) suggesting a depreciation rate of 0.17 to 0.26, using a methodology based on patent renewal prices.[36] We have included a depreciation rate of 20 percent to represent this other evidence. This study, by Pakes and Shankerman (1979), also forms the basis of our assumption that the benefits of research and development investment are not realised immediately, but occur with a lag of around six years. This is a result of the need to complete projects and then commercialise new technologies.

Before calculating the return on the stock of university research and development investment, it was necessary to calculate the proportion that is truly additional. We used an evaluation of the Science and Research Investment Fund 2006-08, which surveyed higher education institutions and found that between 24 percent and 27 percent of investment would have gone ahead in the absence of the funding. This is the basis of our assumption that 75 percent of non-university funded research and development taking place at universities is additional.

Using these data and assumptions, we developed a simple flow and stock model to calculate the value of cumulative investment in 2015/16, using net present values of the returns. Net present value has been calculated using a discount rate that takes into account that returns today are more valuable now than those accruing in the future.

[35] Hall, B.H., *Measuring returns to R&D: The depreciation problem*, Annales D'Économie et de Statistique 79/80, 2005.

[36] Ariel Pakes and Mark Schankerman, *The rate of obsolence of knowledge, research gestation lags, and the private rate of return to research resources*, 1979.



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