University of Exeter | Partnerships for Progress

The Economic Impact of the University of Exeter

OCTOBER 2022

ABOUT OXFORD ECONOMICS

Oxford Economics was founded in 1981 as a commercial venture with Oxford University's business college to provide economic forecasting and modelling to UK companies and financial institutions expanding abroad. Since then, we have become one of the world's foremost independent global advisory firms, providing reports, forecasts and analytical tools on more than 200 countries, 250 industrial sectors, and 7,000 cities and regions. Our best-in-class global economic and industry models and analytical tools give us an unparalleled ability to forecast external market trends and assess their economic, social and business impact.

Headquartered in Oxford, England, with regional centres in New York, London, Frankfurt, and Singapore, Oxford Economics has offices across the globe in Belfast, Boston, Cape Town, Chicago, Dubai, Dublin, Hong Kong, Los Angeles, Melbourne, Mexico City, Milan, Paris, Philadelphia, Stockholm, Sydney, Tokyo, and Toronto. We employ 450 full-time staff, including more than 300 professional economists, industry experts, and business editors - one of the largest teams of macroeconomists and thought leadership specialists. Our global team is highly skilled in a full range of research techniques and thought leadership capabilities from econometric modelling, scenario framing, and economic impact analysis to market surveys, case studies, expert panels, and web analytics.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 2,000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

SEPTEMBER 2022

To discuss the report further please contact:
Stephen Foreman, sforeman@oxfordeconomics.com
Evie Johnson, ejohnson@oxfordeconomics.com

Oxford Economics
4 Millbank, London SW1P 3JA, UK
Tel: +44 203 910 8061

Contents

£1.56 billion

Total economic output supported by the University of Exeter in 2020/21.

Executive summary

The University of Exeter is one the UK's 24 Russell Group universities, providing education and research opportunities across its campuses throughout Devon and Cornwall. The University generates economic activity and employs thousands of academic and professional services staff in the local economy, and supports activity by spending money with suppliers across the UK.

The University also attracts expenditure to Exeter, Cornwall, and the wider community by recruiting students from around the world and other parts of the UK, while retaining local students to study at the University of Exeter. In addition, visitors of these students also spend money within the economy.

Through all these channels, the University makes an important contribution to both the local Exeter and Cornwall economies in which its campuses are located, the wider South West of England region, and the rest of the UK economy.

THE CORE IMPACT OF THE UNIVERSITY OF EXETER

The University of Exeter supported 9,750 jobs in Exeter, and 1,900 jobs in the Cornwall and the Isles of Scilly Local Enterprise Partnership (LEP) area, equivalent to one in every 10 jobs in Exeter, and one in every 145 jobs in the Cornwall LEP.

The University of Exeter also made a substantial contribution to the economic activity of both Exeter and Cornwall. In 2020/21, this amounted to a £509.4 million gross value added contribution to Exeter's GDP in 2020/21, equal to 9% of Exeter's GDP in the same year. Some £307.8 million of this contribution was created by the University itself, with £51.2 million stimulated through supply chain and wage spending. The spending of students and visitors supported further contributions of £148.8 million and £1.6 million to GDP, respectively. In Cornwall and the Isles of Scilly LEP, the gross value added contribution to GDP was £73.5 million, equivalent to 1% of the LEP's GDP in the same year.

While the University makes the largest relative contribution to the local economy, its economic footprint covers the length and breadth of the UK. In 2020/21, the University, its students, and visitors were responsible for a £899.8 million gross value added contribution to UK GDP in 2020/21, supporting 15,540 jobs.

THE IMPACT OF THE UNIVERSITY OF EXETER'S INTERNATIONAL STUDENTS

International students at the University of Exeter make a sizeable economic contribution to Exeter, Cornwall, and the wider regions surrounding the University. By paying tuition fees, spending money throughout the local economies, and attracting visiting friends and family to the local areas, international students supported a £127.9 million gross value added contribution and 3,110 jobs to Exeter's economy in 2020/21. In Cornwall, the students contributed some £13.1 million to the LEP's GDP and 440 jobs.

15,540 jobs

Total jobs supported by the University in the UK in 2020/21.

£970 million

Projected increase in collective earnings of students graduating at the University of Exeter in 2021.

THE WIDER ECONOMIC AND SOCIAL IMPACT OF THE UNIVERSITY OF EXETER

The University's economic and social footprint spans beyond the economic impacts generated from its expenditure.

Indeed, one of the key economic contributions that a University makes is through the education of its students, which enhances the skilled talent pool available to employers. This can enhance the economy's potential for future growth and prosperity. Based on our analysis of earnings data, we estimate that the education gained by students who have completed an undergraduate degree at the University in the 2020/21 academic year increased the UK's human capital stock by around £970 million.

Universities are also a key hub for research across a range of disciplines, from medicine to engineering, driving widespread economic and social benefits. Between 2016/17 and 2020/21, the University invested £604.4 million in R&D. This investment is expected to generate a long run cumulative productivity benefit of £3.1 billion between 2020/21 and 2034/35. This means that, for every £1 million invested in R&D by the University of Exeter between 2016/17 and 2020/21, the UK's productive capacity will increase by £5.2 million between 2020/21 and 2034/35.[1]

[1] *The total impact is a cumulative impact both up until 2030 (from 2020/21), as the benefits build up, and from 2030, for a further five years.*

Impacts of the University of Exeter by geography

THE IMPACT OF THE UNIVERSITY ON THE CITY OF EXETER

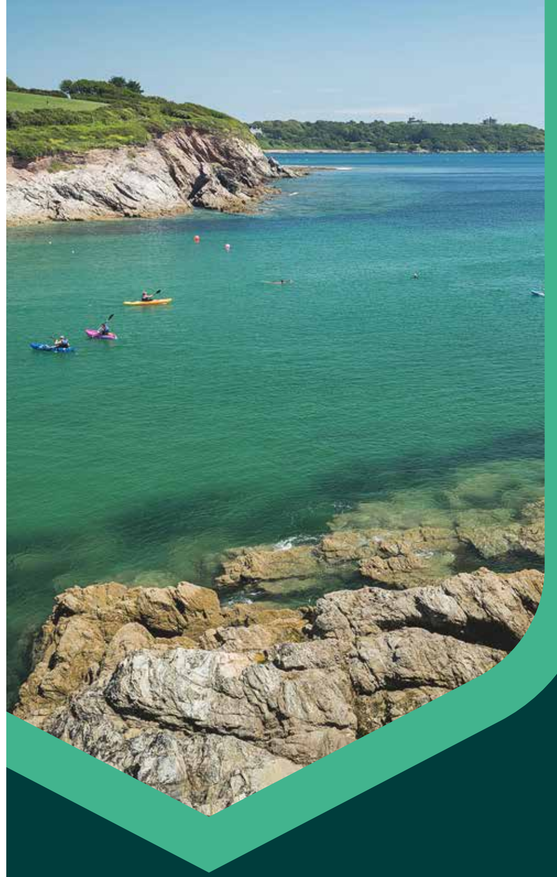
In 2020/21, the University of Exeter generated **£455.3 million** of income, including revenue from tuition fees, research grants, and endowments within Exeter. The direct gross value added generated from this output is equal to **£307.8 million**. As a major employer within the city, the University directly employed **5,630** people in Exeter, equivalent to **5%** of the city's total employment in 2020/21. Indeed, the IDBR (Inter-Departmental Business Register) ranks the University as the second largest employer in Exeter.[2]

[2] *Devon County Council analysis of 2021 IDBR data.*

In total, the University's expenditure activities, the spending of students attracted to the area, and their visitors contributed **£816.3 million** of output in the city, in turn supporting a **£509.4 million** gross value added contribution to Exeter's GDP and **9,750** jobs. Some **£359.0 million (6,870 jobs)** of the gross value added contribution was supported by the University's day-to-day operations and spending with suppliers and on wages. A further **£148.8 million (2,810 jobs)** by the spending of the University's students, and an additional **£1.6 million (70 jobs)** supported by their visitors. To put this into context, the total GVA impact in Exeter is equal to **9%** of Exeter's GDP in the 2020/21 academic year, and **9%** of all employment in the economy in the same year.

£509 million

Total gross value added contribution to Exeter's GDP supported by the University's core economic impact in academic year 2020/21.



THE IMPACT OF THE UNIVERSITY ON THE CORNWALL AND ISLES OF SCILLY LEP

The University's Penryn and Truro campus generated **£46.3 million** of income within Cornwall in 2020/21. The direct gross value added generated from this output is equal to **£26.6 million**. The University also directly employed **671** people in Cornwall, equivalent to **0.2%** of the Local Enterprise Partnership's (LEP) total employment in 2020/21. In total, the University's expenditure activities, the spending of students attracted to the area, and their visitors contributed **£125.0 million** of output to Cornwall, resulting in a **£73.5 million** gross value added contribution to Cornwall's GDP, alongside **1,900 jobs.** This contribution comprised of the University's day-to-day operations and spending with suppliers and on wages **(£47.2 million; 1,370 jobs)**, the spending of its students **(£26.1 million; 520 jobs)** and their visitors **(£0.2 million; 10 jobs)**. This is equal to **0.9%** of the LEP'S GDP and **1%** of total employment in Cornwall and the Isles of Scilly in the 2020/21 academic year.

£74 million

Total gross value added contribution to Cornwall's GDP supported by the University's core economic impact in academic year 2020/21.

THE IMPACT OF THE UNIVERSITY ON DEVON

Situated within the wider county, the University of Exeter contributed a total impact of **£915.0 million** of output within Devon (including Exeter) in 2020/21. This activity supported almost **£563.4 million** gross value added contribution to Devon's GDP, as well as **11,920 jobs**. These impacts can be broken down into the University's day-to-day operations and spending with suppliers and on wages **(£399.8 million; 8,220 jobs)**, the impact of University students **(£162.0 million; 3,620 jobs)** and their visitors (£1.6 million; 80 jobs). In the context of the county as a whole, the impact of the university's gross value added impact is equal to 2% of Devon's GDP and 3% of its total employment in 2020/21.

£563 million

Total gross value added contribution to Devon's GDP supported by the University's core economic impact in academic year 2020/21.

£583 million

Total gross value added contribution to Heart of the South West LEP 's GDP supported by the University's core economic impact in academic year 2020/21.

THE IMPACT OF THE UNIVERSITY ON THE HEART OF THE SOUTH WEST LEP

Broadening our geographical scope to the Heart of the South West LEP, which includes Devon, Plymouth, Torbay and Somerset, the total output supported by the University of Exeter in 2020/21 is equal to **£951.4 million**, which translates to a **£582.5 million** gross value added contribution to the LEP, as well as **12,300** jobs. This GVA contribution is built up of the University's day-to-day operations, spending with suppliers and on wages **(£409.9 million; 8,480 jobs)**, its students **(£171.0 million; 3,740 jobs)** and their visitors **(£1.6 million, 80 jobs)** The total GVA contribution is equal to 1.5% of the LEP's GDP.

THE IMPACT OF THE UNIVERSITY ON THE UK

Looking at the economic activity across the UK, the University supported economic output of almost **£1.6 billion** in 2020/21. The gross value added contribution supported from the University's core activities totals **£899.8 million** and supported some **15,540 jobs**. This contribution comprised of the University's day-to-day operations and spending with suppliers and on wages **(£796.7 million; 13,980 jobs)**, the spending of its students **(£101.7 million; 1,540 jobs)** and their visitors **(£1.3 million; 20 jobs)**. To contextualise the size of the University's total economic impact, the total GVA supported by the University of Exeter in the UK in 2020/21 is equal to **0.04%** of the UK's GDP, and **0.04%** of all employment in the economy in the same year.

£900 million

Total gross value added contribution to UK GDP supported by the University's core economic impact in academic year 2020/21.

1. Introduction

Located within the South West of the UK, the University of Exeter makes a significant economic and wider contribution to the local economies in which it's located.

Having a "one University, two locations" structure means that the University supports economic activity across the breadth of the South West, with campuses located both in Exeter, Devon, alongside Penryn and Truro, Cornwall. The University is highly integrated within the local community, with around a quarter of Exeter's population studying or working at the University.[3] The University also attracts researchers, students, and visitors alike to the area as a globally recognised Russell Group University. In 2022, the University ranked 149th in the latest (2022) QS World University Rankings.[4] The University also ranks highly across its subject areas, with a range of disciplines ranking within the global top 50. This includes Mining and Engineering; its sport-related subjects; Geography; Classics and Ancient History; History; Archaeology; and Environmental Sciences.[5]

Across Devon and Cornwall, the University hosts four campuses and a further two research and teaching sites. Two of the University's campuses are in Exeter, including the Streatham Campus, where most of the University's students are located, and the St Luke's Campus, home to the University's sport, health, and medical schools. Located at the Royal Devon & Exeter Hospital in Exeter is the University's Research, Innovation, Learning and Development (RILD) building, focusing on health education and research. In Cornwall, the University has its Penryn Campus, and the Truro Knowledge Spa, which is a teaching and research facility, home to the European Centre for Environment & Human Health (ECEHH).[6]

The importance of universities as a key driver of regional economic growth and innovation in the UK is highlighted by the 2013 Witty review, an independent review undertaken by Sir Andrew Witty to analyse the role of universities in driving growth throughout the UK.[7] The third recommendation from the review found that "universities have an extraordinary potential to enhance economic growth. The full diversity of institutions have a role to play from local SME support and supply chain creation to primary technology leadership and breakthrough invention."[8] As a key stakeholder within the community, the University works closely to help promote economic prosperity. Professor Lisa Roberts, Vice Chancellor of the University of Exeter, sits on the Heart of the South West Local Enterprises Partnership's (LEP) board, aimed at improving the economic social and environmental progress of the area. Further, the University helps to improve social mobility within the area by attracting local students to higher education through its South West pathway of the Exeter Scholars programme, and involvement with the Next Steps South West initiative.

The University of Exeter has commissioned Oxford Economics to calculate the economic contribution of the University of Exeter in the academic year 2020/21 at both the local and national level, by quantifying the impacts of the University across Exeter, Devon, the Heart of the South West LEP, the Cornwall & Isles of Scilly LEP, and the UK. To do so, Oxford Economics employs a quantitative method called an economic impact assessment to calculate the contribution of the University to each study geography's GDP and employment, using data provided by the University and publicly available statistics. We conduct the economic modelling for this study using Oxford Economics' input-output (I-O) based model of Exeter, Devon, the Cornwall & the Isles of Scilly LEP, and the Heart of the South West LEP economies, constructed using data published by the Office of National Statistics (ONS).

The remainder of this report is outlined below:

- **Section 2** looks at the economic impact of the University's direct operations, its spending with suppliers and the wages paid to University employees and those located within the University's supply chain. Furthermore, the section discusses the further economic activity supported by subsistence spending undertaken by students at the University, the impacts of students' visitors, and the economic impact of international students.
- **Section 3** looks at the wider economic and social impacts of the University, including the impact of the courses provided to students on human capital and the impact of the University's R&D activities.
- **Section 4** concludes the findings of the study and highlights the key findings of the analysis.

[3] *University of Exeter.*
[4] *University of Exeter. "Awards and league table success".*
[5] *University of Exeter. "Awards and league table success".*
[6] *University of Exeter. "Our campuses."*
[7] *Gov UK. 2013.*
[8] *Gov UK. 2013. Pp.4.*

CALCULATING THE UNIVERSITY OF EXETER'S ECONOMIC IMPACT

This study quantifies the economic contribution the University of Exeter makes to both the national and local economies in which it's located, using an analytical method called an economic impact assessment. The results presented are for the academic year 2020/21. We assess the University of Exeter's contribution towards the economic activity of Exeter, Devon, the Heart of the South West LEP, the Cornwall & Isles of Scilly LEP, and the UK. We do so across three channels of economic impact:

- The University of Exeter's **direct impact** is the economic activity generated by the University itself;
- The **indirect impact** is the economic activity generated through supplier purchases made in order to fulfil the University's, students', and visitors' orders; and
- The **induced impact** arises as the University of Exeter, its suppliers, and those serving students and visitors pay wages to their staff, which are spent in the consumer economy.

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

- **Output** is the value of the goods and services produced by a firm or institution.
- **Gross value added** is the contribution an institution or company makes to Gross Domestic Product. It is viewed as the value of its output minus the cost of the inputs used up in its production. It is the measure the ONS uses to quantify the contribution to the economy of each producer, industry, or sector.
- **Employment,** in headcount terms to aid comparison with ONS data.

The results are presented on a gross rather than a net basis. This means we measure the "footprint" of the University of Exeter in 2020/21. We do not attempt to estimate what benefits could arise if the University's resources 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 displacement of activity by the University of Exeter from other institutions or sectors.

We calculate the economic impact of the University across four study geographies:

Exeter: Home to the University's Streatham and St Luke's campuses.

Devon: Home to the University of Exeter, and comprises the East Devon, Exeter, Mid Devon, North Devon, West Devon, Torridge, Teignbridge, and South Hams local authority districts (LADs).

The Heart of the South West LEP: Local Enterprise Partnership which encompasses Devon, Sedgemoor, Mendip, South Somerset, Somerset West and Taunton, Plymouth, and Torbay.

The Cornwall & Isles of Scilly LEP: A Local Enterprise Partnership home to the University's Penryn and Truro campuses, made up of Cornwall and the Isles of Scilly.

The UK: The economic impacts arising from imports, which, in other words, "leak" out of the study regions are assumed to provide no further economic benefit to the local economies. For example, whilst the University of Exeter purchases goods from suppliers located outside of the UK, which stimulates economic activity abroad, however these impacts are outside of the scope of the study, and so are excluded from the analysis.

Fig. 1. Schematic of the University of Exeter's expenditure impacts

DIRECT IMPACT

The University of Exeter employs lots of research and ancillary staff. Its operations also generate GDP.

+

INDIRECT IMPACT

It also spends money with suppliers who employ staff and generate GDP. They use other suppliers in turn.

+

INDUCED IMPACT

Employees (including of the suppliers) spend their wages in wider consumer economy, generating more GDP and jobs.

+

UNIVERSITY IMPACT

ADDITIONAL STUDENTS' SUBSISTENCE IMPACT

Additional students (from outside the area) spend money in the wider economy, on student accommodation, leisure activities, and consumer goods. This generates more GDP and jobs at the outlets they visit, their supply chains, and through wage-spending impacts.

+

ADDITIONAL STUDENTS' VISITORS IMPACT

Friends and relatives visiting these additional students also spend money in wider economy, on tourist accommodation, meals out, and consumer goods. This generates even more GDP and jobs at the outlets they visit, their supply chains, and through wage-spending impacts.

=

TOTAL IMPACT

Added together, all these effects (both the University's and students, impacts) comprise the total economic impact of the University of Exeter

STUDENTS' IMPACT

2. The Economic contribution

This section of the study explores the economic contribution that the University of Exeter makes to Exeter, Devon, the Cornwall and Isles of Scilly LEP, the Heart of the South West LEP, and the UK during the 2020/21 academic year.[9]

Where possible, we also analyse the impacts on each of the geographies of interest by campus.[10] We evaluate three types of expenditure stimulated by the University:

- The economic impact stimulated by the University's own operational spending on goods and services with suppliers, as well as the impact of its capital investment in 2020/21. We also analyse the impact of the wages paid to the University's employees and those employed throughout the University's supply chain.
- The spending undertaken by the students that the University attracts, or retains, within each of the local areas, on goods and services whilst they are at the University.
- The expenditure of friends and family who come to visit students at the University, including domestic visits and spending by international visitors to students.[11]

Fig. 2, Fig. 3, and Fig. 4 summarise the results of our analysis, which are explained in more depth throughout this chapter.[12]

Fig. 2. The University of Exeter's total contribution to output by source of impact and study geography, 2020/21

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	£ million	545.8	267.5	3.0	816.3
Devon county	£ million	620.1	291.9	3.0	915.0
Devon (incl. Plymouth and Torbay)	£ million	632.5	300.3	3.0	935.8
The Heart of the South West LEP	£ million	639.0	309.3	3.1	951.4
The Cornwall & Isles of Scilly LEP	£ million	78.9	45.8	0.4	125.0
UK	£ million	1,362.3	196.5	2.6	1,561.4

Source: University of Exeter, Oxford Economics

Fig. 3. The University of Exeter's total gross value added contribution to GDP by source of impact and study geography, 2020/21

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	£ million	359.0	148.8	1.6	509.4
Devon county	£ million	399.8	162.0	1.6	563.4
Devon (incl. Plymouth and Torbay)	£ million	406.6	166.4	1.6	574.6
The Heart of the South West LEP	£ million	409.9	171.0	1.6	582.5
The Cornwall & Isles of Scilly LEP	£ million	47.2	26.1	0.2	73.5
UK	£ million	796.7	101.7	1.3	899.8

Source: University of Exeter, Oxford Economics

Fig. 4. The University of Exeter's total employment contribution by source of impact and study geography, 2020/21[13]

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	Jobs, headcount	6,870	2,810	70	9,750
Devon county	Jobs, headcount	8,220	3,620	80	11,920
Devon (incl. Plymouth and Torbay)	Jobs, headcount	8,420	3,700	80	12,200
The Heart of the South West LEP	Jobs, headcount	8,480	3,740	80	12,300
The Cornwall & Isles of Scilly LEP	Jobs, headcount	1,370	520	10	1,900
UK	Jobs, headcount	13,980	1,540	20	15,540

Source: University of Exeter, Oxford Economics

[9] *From this point, this will now be referred to as 2020/21.*
[10] *This refers to the split of Exeter and Cornwall campuses, and is not disaggregated to each individual campus due to data availability.*
[11] *As there were no in-person open days or graduation ceremonies during the 2020/21 academic year due to the Covid-19 pandemic, this expenditure is excluded from the study.*
[12] *The output supported by the University is the total value of goods and services that are produced by a sector. The GVA contribution is the turnover minus the cost of goods and services purchased to create that turnover, because some of a firm's revenues are used up to pay for the cost of creating the good or service. The remainder, is therefore, the value added to that good or service.*
[13] *Totals may not sum due to rounding.*

2.1. THE UNIVERSITY'S DIRECT IMPACT

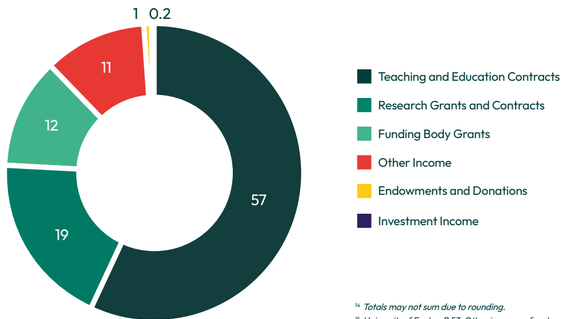
The University of Exeter's operations - through its teaching and research activities - generate economic activity within Exeter and Cornwall.

In 2020/21 the University earned **£501.6 million** in income across its Exeter and Cornwall campuses. Of this total, **£455.2 million (91%)** was generated in Exeter and **£46.3 million (9%)** in Cornwall.[14] The largest proportion of income across both campuses, some 76%, was paid to the University for its teaching and research activities (Fig. 55).

£502 million

Total income earned by the University of Exeter across Exeter and Cornwall in academic year 2020/21.

Fig. 5. The University's income by activity, 2020/21 [15/16]



Source: University of Exeter, Oxford Economics

[14] *Totals may not sum due to rounding.*
[15] *Universityof Exeter. P.53. Other income refers to a range of activities such as student rents, conferences, catering, consultancy, or commercial rent.*
[16] *Totals may not sum to 100% due to rounding.*

6,362

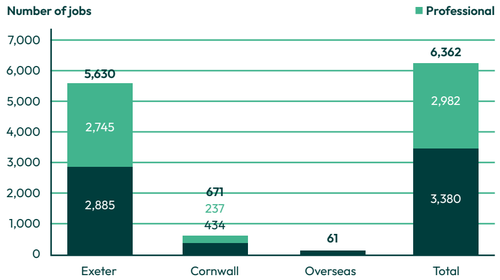
Total number of staff directly employed by the University of Exeter across Exeter and Cornwall in academic year 2020/21.

On these earnings, the University made a direct gross value added contribution of £334.4 million to UK GDP in 2020/21.[17] The Exeter campuses made a £307.8 million direct gross value added contribution to GDP, equivalent to 5% of Exeter's local GDP. To give a sense of scale, this contribution is almost as large as the gross value added contribution made by the entire water supply sector in Exeter.[18] The Cornwall campus made a £26.6 million direct gross value added contribution to GDP, equivalent to 0.2% of the Cornwall and the Isles of Scilly LEP's local GDP.

The University of Exeter directly employed **6,362** members of staff in 2020/21, of which **5,630** staff were employed at the University's Exeter campuses, equal to one in every 18 jobs in Exeter. **671** members of staff were employed at the Cornwall campuses. A small number of staff, **61** people, were employed at locations overseas.[19]

The University employs people across the skills spectrum. Around 53% of staff across both campuses were working in academic roles, with a further 47% working in professional services for the University, such as, but not limited to, administrative, finance, operations, or student services roles. Fig. 6 illustrates the distribution of staff by campus and job type. The total employment of the University is similar to the number of people employed in the city's construction industry. The IDBR ranks the University as the 2nd largest employer in Exeter, the 27th in Cornwall, 7th across Devon, Plymouth and Torbay and the 9th largest employer across Devon, Plymouth, Torbay and Cornwall combined.[20]

Fig. 6. Direct employment by campus and job type



Source: University of Exeter, Oxford Economics

Many of the University's employees live in the local communities. Some 2,426 of the University's employees live within Exeter (equal to almost 2% of Exeter's total population within the same year). 913 employees live within the Cornwall and Isles of Scilly LEP (equal to some 0.2% of the LEP's population that year). Fig. 7 highlights the distribution of the University's staff by local authority district.

[17] *The direct gross value added contribution to GDP of the University is calculated using the income approach, in line with national accounting, using financial accounts data provided by the University. This is the sum of the University's surplus and employee compensation.*
[18] *Devon and the Heart of the South West LEP also made a £308 million contribution because all of the direct impact is realised in Exeter.*
[19] *Staff employed overseas by the University undertake academic roles such as research and/or teaching.*
[20] *Devon County Council analysis of 2021 IDBR data.*

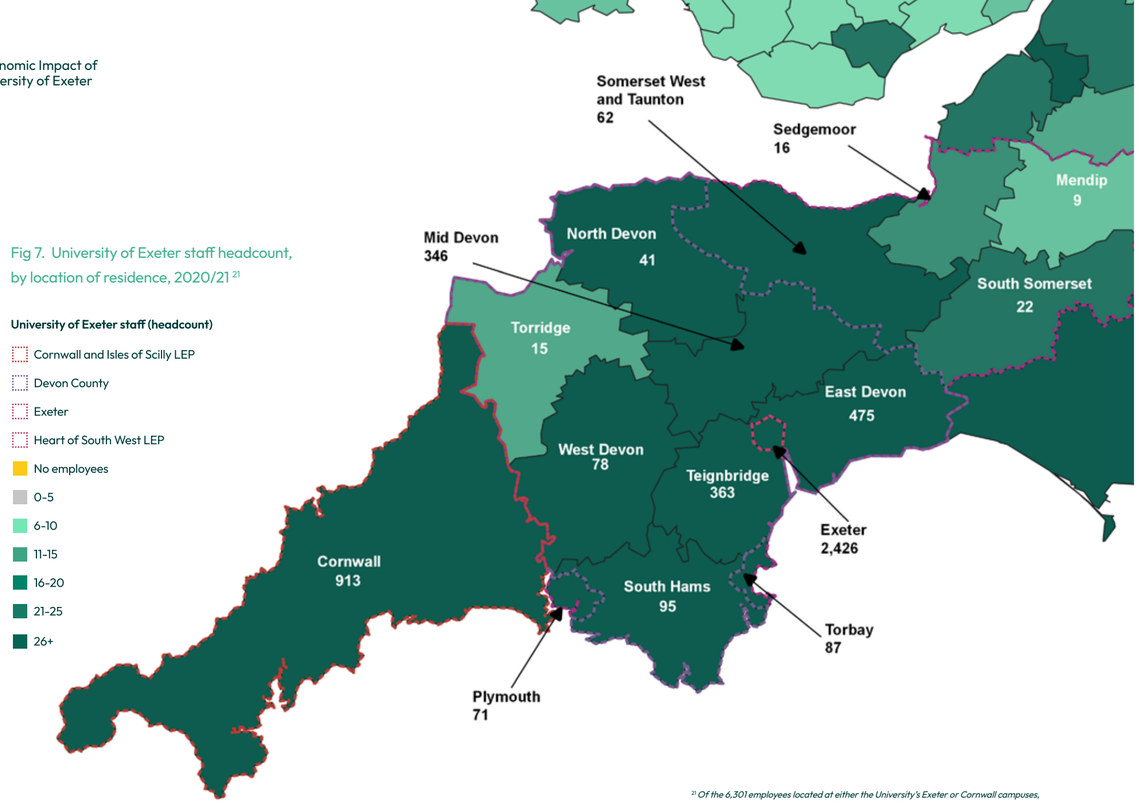


Fig 7. University of Exeter staff headcount, by location of residence, 2020/21 [21]

[21] *Of the 6,301 employees located at either the University's Exeter or Cornwall campuses, 5,283 lived within the South West of the UK in 2020/21. A further 913 lived throughout the rest of the UK. We were unable to match the remaining 105 postcodes.*

THE UNIVERISTY OF EXETER'S RESPONSE TO COVID-19

The University of Exeter, its students, and staff, have played a pivotal role in the fight against the pandemic, including volunteering, supporting the manufacturing of vaccinations, and through the University's academic research.

For instance, at the onset of the pandemic, more than 30 University staff volunteered to support local hospitals, including tenured professors such as Julie Thacker and Ian Fussell, whilst over 50 medical students volunteered to graduate early to work within local NHS facilities. In addition, academics and technical staff at the University provided protective equipment to the frontline of the NHS. Further, through its links with the University of Exeter, Tsinghua University also donated ventilators, face masks and isolation ventilators, face masks and isolation gowns for the Royal Devon and Exeter NHS Foundation Trust (RD&E) to help with the continuing fight against the pandemic.

The University has also supported the production of vaccines. The University's Knowledge Transfer Partnership with Smart Manufacturing, a manufacturing company in Devon who work to improve the efficiency of production processes in the pharmaceutical and food industries, played a crucial role in supporting the manufacturing process of the Oxford-AstraZeneca vaccine. The partnership uses the combined efforts of both experts on Engineering Management from the University of Exeter and the manufacturing capabilities of Smart Manufacturing to support the production of the vaccines. By January 2021, more than half a million doses of the vaccination were made available.

Scientists at the RD&E are part of a group of the country's leading institutions who are joining together to sequence the virus from patients throughout the UK. Knowing the sequence makes it possible to understand how the virus is changing and to map the spread of COVID-19. This information will be key for informing the best strategies for reducing spread and also for future diagnostic tests and treatment.

Furthermore, a group of experts from the University's Centre for Water Systems (CWS) received an award from the Royal Academy of Engineering for their work on Sewers4COVID, which detects the level of the SARS-CoV-2 virus prevalent in sewage.

Finally, the University has contributed to research on the lasting health impacts of the pandemic. Dr David Strain, a Senior Clinical Lecturer at the University of Exeter's Medical School, is the British Medical Association's lead on the NHS Long Covid taskforce. The ONS predicts that over 10% of COVID-19 cases results in this form of illness, characterised to last longer that 12 weeks. Dr Strain's research has trialled new ways to combat long-covid, including monthly vaccinations for patients, whilst the task force follows a ten point plan which includes a £100 million investment. Some £30 million of this investment is directed at enhanced NHS long covid support and £70 million is aimed at creating 15 hubs to help younger people who suffer from long covid.

2.2. THE UNIVERSITY'S SUPPLY CHAIN IMPACT (THE INDIRECT EFFECT)

To deliver its teaching, research, and other services, the University of Exeter purchases millions of pounds of inputs from suppliers, including those based in the local area. This expenditure stimulates economic activity along the length of the University's local and national supply chains.

In this study, we split the types of supply chain expenditure undertaken by the University 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 as 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. This section firstly looks at the impacts of the operational spending of the University. The capital purchases made by the University in 2020/21 and the impacts of such spending are evaluated in section 2.2.3.

In 2020/21, the University of Exeter spent some **£141.7 million** on operational goods and services with suppliers located across the UK.[22] The University's Exeter campus spent an estimated £123.8 million of this total and the remaining £17.9 million was undertaken by its Cornwall campus.

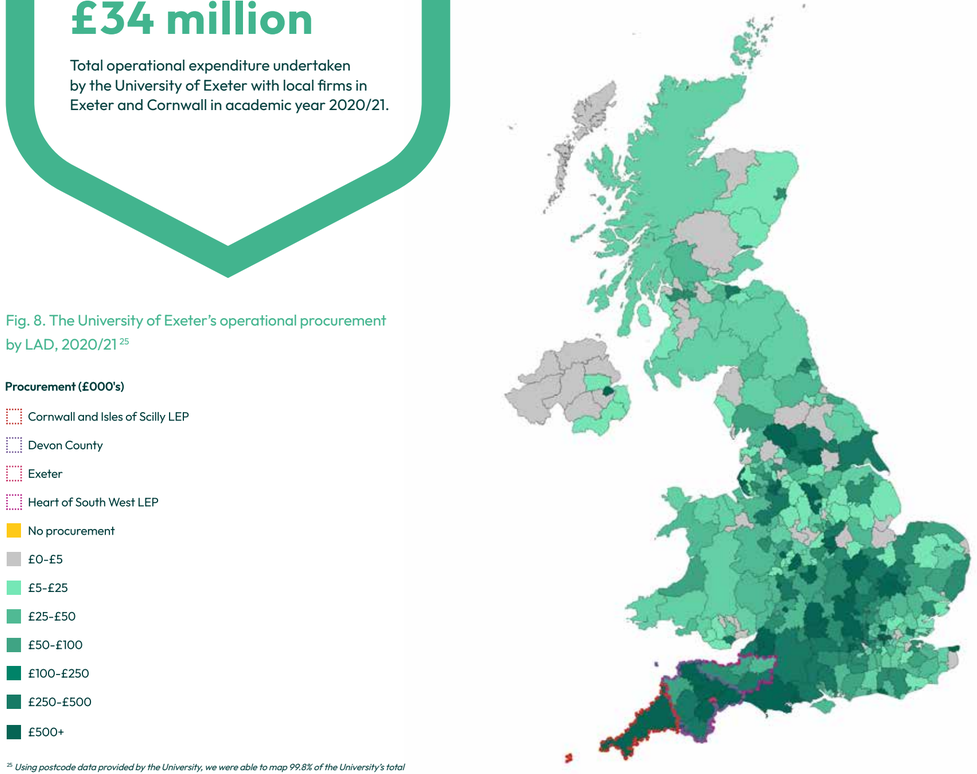
A substantial proportion of the University's operational spending was spent with local firms. In 2020/21, the University spent around £22 million (15%) with just under 330 firms located in Exeter and £12.1 million (9%) with almost 320 firms in the Cornwall and Isles of Scilly LEP. Looking at the wider regions, almost £34 million (24%) of the University's suppliers were located with almost 970 suppliers located in the Heart of the South West LEP. The remaining £108.5 million (76%) was spent with suppliers spread across the rest of the UK (Fig. 8).[23/24]

[22] University of Exeter. '2020/21 financial accounts'.
[23] Supply chain impacts stimulated from imports from suppliers located outside of the UK are outside of the scope of this study, and so are excluded from the total impacts of the University's operational procurement.
[24] An estimated £12.5 million (8%) of the University's operational spending was made up of imports from the rest of the world.

£34 million

Total operational expenditure undertaken by the University of Exeter with local firms in Exeter and Cornwall in academic year 2020/21.

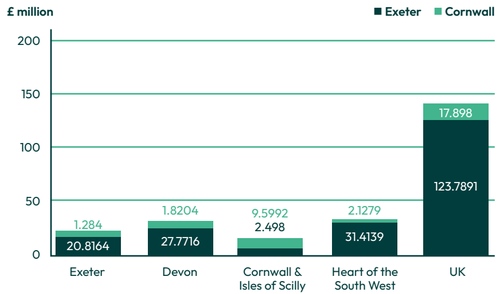
Fig. 8. The University of Exeter's operational procurement by LAD, 2020/21[25]



[25] Using postcode data provided by the University, we were able to map 99.8% of the University's total operational expenditure undertaken by the University in 2020/21. The remaining 0.2% was unmatchable.

Fig. 9 outlines the University's operational expenditure within each of the study geographies by campus.[26]

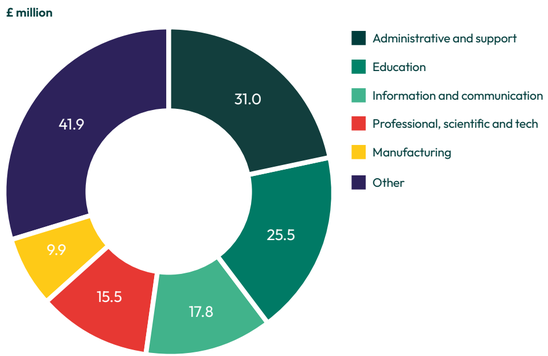
Fig. 9. Total operational spend by campus and study geography, 2020/21



Source: University of Exeter, Oxford Economics

The University procures goods and services from a range of sectors. The majority of its operational spending, equal to **£31.0 million (22%)** was undertaken with firms within the administrative support sector. Around **£25.5 million (18%)** was undertaken with firms within the education sector. A further **£17.8 million (13%)** was spent with firms in the information and communication and professional services **(£15.5 million; 11%)** sectors.

Fig. 10. University of Exeter's operational procurement with UK based suppliers



Source: University of Exeter, Oxford Economics

2.2.1. IMPACT OF THE UNIVERSITY'S EXETER CAMPUS PROCUREMENT

The Exeter campuses operational expenditure supported some £114.5 million estimated gross value added contribution to GDP in the UK. Furthermore, the activity supported an estimated 2,610 jobs. The regional impacts are as follows:

- £11.5 million gross value-added (GVA) contribution to GDP; 310 jobs in Exeter.
- £15.9 million GVA contribution to GDP; 480 jobs in Devon.
- £18.7 million GVA contribution to GDP; 570 jobs in the Heart of the South West LEP.
- £1.6 million GVA contribution to GDP; 60 jobs in Cornwall and Isles of Scilly LEP.

At the UK level, the sectors that benefit most from this activity are the administrative services sector with an indirect gross value added contribution to GDP of £23.9 million (21% of the total impact), and the professional services sector, with a £15.4 million gross value added contribution to GDP (13%), and the information and communications sector; at £14.0 million (12%).

2.2.2. IMPACT OF THE UNIVERSITY'S CORNWALL CAMPUS PROCUREMENT

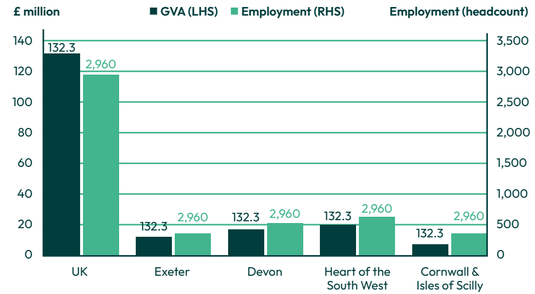
The Cornwall campuses operational expenditure supported a £17.8 million estimated indirect gross value added contribution to GDP in the UK. Furthermore, the activity supported an estimated 360 jobs.

The regional impacts are as follows:

- £0.6 million GVA contribution to GDP; 20 jobs in Exeter.
- £0.9 million GVA contribution to GDP; 30 jobs in Devon.
- £1.2 million GVA contribution to GDP; 30 jobs in the Heart of the South West LEP.
- £7.0 million GVA contribution to GDP; 300 jobs in Cornwall and Isles of Scilly LEP.

Fig. 11 summarises the total gross value added and employment impacts of the University of Exeter within each of the study geographies.

Fig. 11. University of Exeter's operational indirect impact by study geography



Source: University of Exeter, Oxford Economics

2.2.3. CAPITAL INVESTMENTS

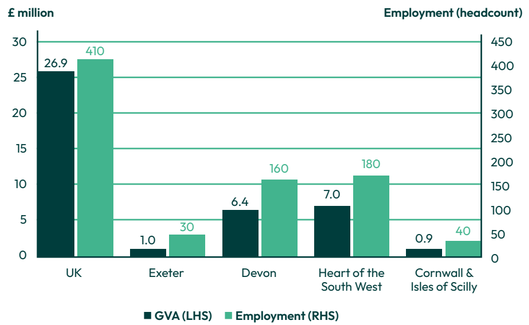
In 2020/21 the University of Exeter invested around £30.5 million into long-term capital projects. Of this total, £29.8 million (98%) of the total capital investment was undertaken with firms located within the UK. £29.4 million of the University's domestic capital investment is undertaken by its Exeter campuses, and the remaining £0.4 million was spent at its Cornwall campuses. These investments included spending within construction, information and communication, professional services and the manufacturing sector.

At a local level, the University spent £1.9 million (6% of total domestic spending) with firms located in Exeter in 2020/21. A further £1.2 million (4%) was spent with firms situated in the Cornwall and Isles of Scilly LEP. Some £13.6 million was spent with firms located within Devon (46%), and around £14.2 million with firms located within the Heart of the South West LEP (48%).

The indirect economic impact of the capital spending projects totalled £26.9 million in gross value added contribution to the UK economy and 410 jobs. Focusing on the local economies, this activity supported:

- £1.0 million gross value-added (GVA) contribution to GDP; 30 jobs in Exeter.
- £6.4 million GVA contribution to GDP; 160 jobs in Devon.
- £7.0 million GVA contribution to GDP; 180 jobs in the Heart of the South West LEP.
- £0.9 million GVA contribution to GDP; 40 jobs in Cornwall and Isles of Scilly LEP.

Fig. 12. Indirect economic impact of the University's capital project spending by geography of interest



Source: University of Exeter, Oxford Economics

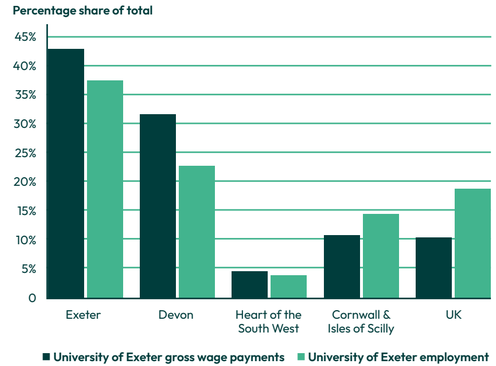
2.3. THE UNIVERSITY'S WAGE-FINANCED CONSUMPTION IMPACT (THE INDUCED EFFECT)

The impact of the University of Exeter's operations does not end with its supply chain, as the payments made to its employees, and those of its external suppliers, support more economic activity in the country, as they spend a proportion of their wages on items including housing, utilities, retail, and consumer services. This is the induced contribution.

In 2020/21, the University of Exeter paid £298.7 million in wages to its 6,362 staff. Of this total, some **£275 million** was paid to employees based at its Exeter campuses, and an estimated **£24 million** paid to employees who work at the University's Cornwall campuses.

Looking at the home addresses of those employed by the University, **£127.7 million** of wages (equal to 43% of the University wage bill) were paid to staff who live in Exeter, and a further **£92.6 million** (or 31%) of wages were paid to employees who live in the wider Devon region outside of Exeter. Some **£13.4 million** (equal to 4.5% of the total) of wages were paid to staff who live within the rest of the Heart of the South West LEP area, not including Exeter or Devon. **£31.1 million** (10% of the total) of wages were paid to staff who live within the Cornwall & Isles of Scilly LEP area. Some **£30.4 million** (equal to 10% of the total) was then paid to employees across the rest of the UK, in areas including the South East, London and East of England. Finally, **£3.4 million** of wages were paid to staff who live outside of the UK, and so the impact of their wage spending is outside the scope of this study.

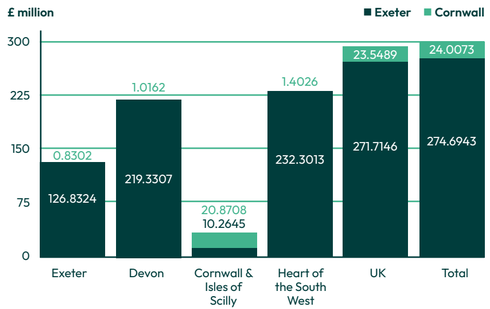
Fig. 13. The University of Exeter wages and staff numbers by home address, 2020/21



Source: University of Exeter, Oxford Economics

The 3,370 people who are employed in the University's UK operational and capital expenditure 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 some £99 million in employee compensation in 2020/21.

Fig. 14. Total wages paid to employees of the University of Exeter, 2020/21[27]



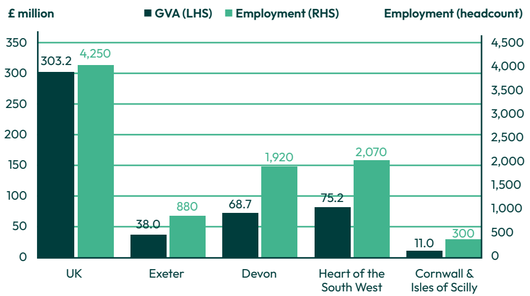
Source: University of Exeter, Oxford Economics

The wage-stimulated consumption of the University's employees, and those employed throughout the University's supply chain supported some £303.2 million in gross value added contribution to UK GDP in 2020/21.

At a local level, the wage consumption stimulated an estimated:

- £38.0 million gross value-added (GVA) contribution to GDP; 880 jobs in Exeter.
- £68.7 million GVA contribution to GDP; 1,920 jobs in Devon.
- £75.2 million GVA contribution to GDP; 2,070 jobs in the Heart of the South West LEP.
- £11.0 million GVA contribution to GDP; 300 jobs in Cornwall and Isles of Scilly LEP.

Fig. 15. University of Exeter's wage induced gross value added and employment impact by study geography, 2020/21



Source: University of Exeter, Oxford Economics

[27] *The remaining £3.5 million was paid to staff who reside abroad and so their impact is outside of the scope of this study.*

£1.4 million

The UK GDP multiplier is 2.4, therefore every £1 million of gross value added generated by the University, an additional £1.4 million is supported within the wide economy.

2.4. THE UNIVERSITY'S TOTAL EXPENDITURE IMPACT

The direct, indirect, and induced impacts outlined in sections 2.1 to 2.3 can be summed to quantify the total gross contribution the University makes to the economy through its expenditure in 2020/21. **In the 2020/21 academic year, the total gross value added impact of the University was £796.7 million, supporting 13,980 jobs within the UK.** The University's UK GDP multiplier was 2.4. This means that for every £1 million of gross value added generated by the University, an additional £1.4 million is supported within the wider economy because of its spending with suppliers and on wages.

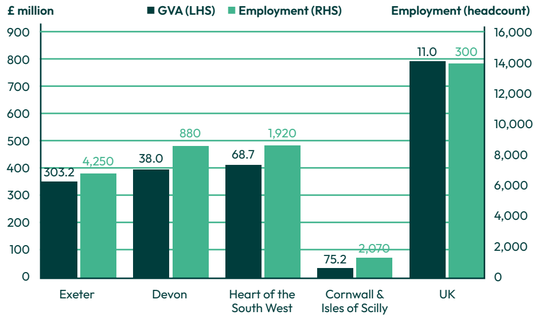
Some 91% of this impact can be linked back to the operations, spending with suppliers and wage expenditure of the Exeter campus. The additional 9% is related to the running of the Cornwall campuses.

The University also makes a sizeable impact on each of the study geographies, including:

- £359.0 million gross value-added (GVA) contribution to GDP; 6,870 jobs in Exeter's economy, equivalent to one in every 15 jobs in Exeter
- £399.8 million GVA contribution to GDP; 8,220 jobs within Devon's economy
- £409.9 million GVA contribution to GDP; 8,480 jobs within the Heart of the South West LEP
- £47.2 million GVA contribution to GDP; 1,370 jobs within Cornwall and the Isles of Scilly LEP, equivalent to one in every 200 jobs in Cornwall and the Isles of Scilly LEP

Fig. 16 highlights the impact of the University on each of the study geographies. The largest impact fell within the Heart of the South West LEP region. This is a result of the broader geography, and so encompasses a larger proportion of suppliers, whilst highlighting the localisation of the University's supply chain, and where its staff reside.

Fig. 16. The University of Exeter's total expenditure gross value added and employment contribution by study geography, 2020/21



Source: University of Exeter, Oxford Economics

The total gross value added, and employment contribution of the University of Exeter's direct, indirect, and induced impacts are summarised in Fig. 17, Fig. 18 and Fig. 19.

Fig. 17. University of Exeter's total expenditure impact on output, 2020/21 (£, million)

Geography	Units	Direct	Indirect	Induced	Total
Exeter	£ million	455.2	26.5	64.1	545.8
Devon county	£ million	455.2	49.6	115.2	620.1
Devon (incl. Plymouth and Torbay)	£ million	455.2	54.8	122.4	632.5
The Heart of the South West LEP	£ million	455.2	56.5	127.2	639.0
The Cornwall & Isles of Scilly LEP	£ million	46.3	14.2	18.3	78.9
UK	£ million	501.6	314.6	546.1	1,362.3

Source: University of Exeter, Oxford Economics

Fig. 18. University of Exeter's total gross value added expenditure impact, 2020/21 (£, million)

Geography	Units	Direct	Indirect	Induced	Total
Exeter	£ million	307.8	13.2	38.0	359.0
Devon county	£ million	307.8	23.3	68.7	399.8
Devon (incl. Plymouth and Torbay)	£ million	307.8	26.1	72.7	406.6
The Heart of the South West LEP	£ million	307.8	26.9	75.2	409.9
The Cornwall & Isles of Scilly LEP	£ million	26.6	9.5	11.0	47.2
UK	£ million	334.4	159.2	303.2	796.7

Source: University of Exeter, Oxford Economics

Fig. 19. University of Exeter's total expenditure impact on employment by study geography, 2020/21 (jobs, headcount)

Geography	Units	Direct	Indirect	Induced	Total
Exeter	Jobs, headcount	5,630	350	880	6,870
Devon county	Jobs, headcount	5,630	670	1,920	8,220
Devon (incl. Plymouth and Torbay)	Jobs, headcount	5,630	760	2,030	8,420
The Heart of the South West LEP	Jobs, headcount	5,630	780	2,070	8,480
The Cornwall & Isles of Scilly LEP	Jobs, headcount	671	400	300	1,370
UK	Jobs, headcount	6,362	3,370	4,250	13,980

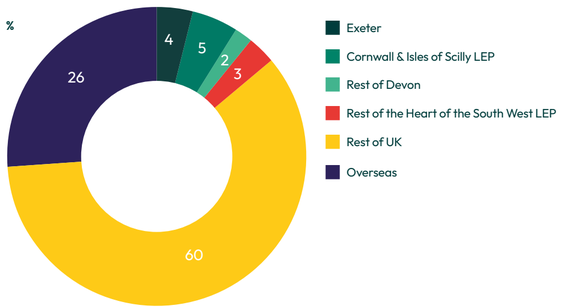
Source: University of Exeter, Oxford Economics

2.5. STUDENTS' EXPENDITURE IMPACTS

The University of Exeter's economic footprint extends beyond the operational impacts outlined in sections 2.1 to 2.4. The University of Exeter's teaching and research facilities attracted students from more than 130 countries around the world in 2020/21. It also draws students from the rest of the UK, and retains local students who might otherwise go elsewhere to study. These students spend money in the local economy on housing, travel, food, entertainment, course costs, and personal spending. Given that, in the absence of the University, this localised expenditure would not have taken place, we refer to it as "additional spending".

Moreover, an estimated 21,200 of the University of Exeter's students were estimated to be "additional" to Exeter and the Cornwall & Isles of Scilly LEP, having moved to the local area or stayed specifically to study at the University. This includes 5,500 students who came from overseas, 12,900 students who moved from other parts of the UK, as well as 2,800 students from the local areas surrounding the Exeter and Cornwall campuses.

Fig. 20. University of Exeter additional students to Exeter and the Cornwall & Isles of Scilly LEP by place of origin, 2020/21



Source: University of Exeter, Oxford Economics

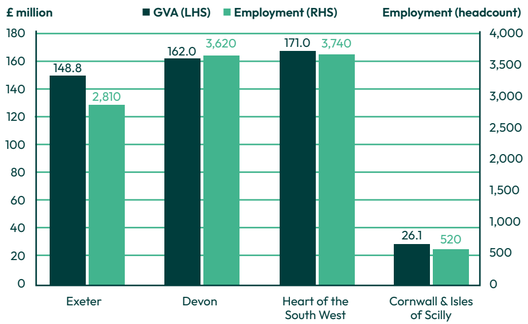
Whilst international and domestic students may have differing spending patterns whilst at University, the average subsistence spending per student, not accounting for tuition fees, was **£13,700** per year in 2020/21. The majority of student spending is comprised of housing costs (33% of the total average spend per year). Students also spend a significant portion on personal spend items (some 16%), including goods such as clothes, telephone, internet and television packages, mobile phones, and gifts.

The total demand from providers of these goods and services arising from the University's additional student subsistence spending across Exeter and Cornwall campuses was equal to around **£230 million** in Exeter and some **£40 million** in the Cornwall & Isles of Scilly LEP in 2020/21. Around 90% of the subsistence spending from the University, is estimated to have come from students at the University's Exeter campus.[29]

The spending of the University's students within the local and national economies led to a significant gross value added and employment contribution within each of the five study regions. The spending of students attracted to or retained within Exeter stimulated a **£148.8 million** gross value added contribution to Exeter's GDP, and some **2,810 jobs**. The sector that benefitted the most from students' subsistence expenditure is real estate, which estimated to produce a **£53.2 million** GVA contribution to GDP and almost **140 jobs**. The wholesale and retail sector also benefitted from student spending, with a supported GVA contribution to GDP of some **£22.3 million** and **550 jobs**. Around **600 jobs** were supported within the transportation and storage sector and some **480 jobs** were also supported within the food and accommodation sector.

In the Cornwall & Isles of Scilly LEP, student expenditure supported around **£26.1 million** in GVA to the enterprise's economy, and almost **520 jobs** in the local economy. Of the total gross value added contribution to GDP within the local enterprise, some 42% of the GVA impact was supported to the real estate activities sector, equal to **£10.9 million** and almost **30 jobs**. An additional **£3.6 million** GVA was stimulated within the wholesale and retail sector, and some **£3.3 million** within the manufacturing sector.

Fig. 21. Gross value added and employment impacts from student subsistence spending by geography, 2020/21



Source: University of Exeter, Oxford Economics

[29] *Whilst data on which campus University students were assigned to were not available, we applied the proportion of headline figures from the University's website to calculate the fees paid at the University's Exeter or Cornwall campuses.*

2.6. ATTRACTING VISITOR EXPENDITURE

The University of Exeter's students attracts visitors from across the UK, and overseas, to Exeter and Cornwall. Their spending with local businesses while visiting - including hotels, restaurants, and shops - can also be considered a part of the University's total economic contribution to the local area.

Due to the COVID-19 pandemic, there were no graduations or open days held at the University of Exeter during the 2020/21 academic year, which would have otherwise supported additional activity within the local area, and so the total visitor expenditure does not include visitors to the local area for open days or graduations. In addition, the pandemic has caused several distortions to global travel, due to border restrictions and national lockdowns.

As a result, the number of visitors attracted by the University of Exeter, in particular those from overseas, are expected to be much lower in 2020/21 than in a pre-pandemic year. Whilst data on the total spending of overseas visitors to the South West were not available for 2020/21, we account for the impacts of the pandemic by adjusting 2019 data using available statistics on the number of overseas arrivals to the UK by country of origin in 2020/21.[30] The resulting change from this estimate is that the total estimated spending of all international visitors to the South West of the UK is 81% lower in 2020/21 than in 2019.

The domestic visitors to UK domiciled students from other parts of the UK, and international students from overseas are estimated to have spent almost **£2.4 million** within Exeter's economy in 2020/21 and **£0.3 million** throughout Cornwall.[31]

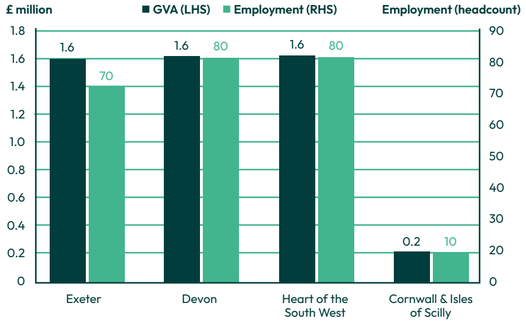
2.6.1. ECONOMIC IMPACTS OF DOMESTIC AND INTERNATIONAL VISITORS

In 2020/21, we estimate that the total visitor expenditure contributed around £1.6 million in gross value added in Exeter and just under 70 jobs. The impacts of such spending were similar across Devon and the Heart of the South West LEP. A **£0.2 million** gross value added contribution and **almost 10 jobs** was supported by visitor spending within the Cornwall and Isles of Scilly LEP area.

In Exeter, many of the jobs supported by this expenditure were located within the accommodation and food services sector **(40 jobs; 65%)**, followed by the transport and storage sector **(almost 10 jobs; 11%)** and the wholesale and retail sector **(almost 10 jobs; 8%).** Looking at the economic impacts on the Cornwall and Isles of Scilly LEP, we see a similar distribution of employment impact, where just under **10 jobs**, equal to some **67%** of the employment impact, were supported within the accommodation and food sector.

The total contribution to each of the study regions' GDP and employment are outlined below in Fig. 22.

Fig. 22. Total gross value added and employment contribution of visitor spending, 2020/21



Source: University of Exeter, Oxford Economics

[30] *To do so, we apply two assumptions. First, we calculate the average estimated spend per visit by tourist origin in 2020/21 by adjusting the 2019 figures for inflation. Second, we assume that the number of visits per tourist origin to the South West change by the percentage change in UK arrivals from each country between 2019 and 2020/21. Multiplying the adjusted average spend per trip by the estimated number of visits in 2020/21 allows us to arrive at an estimate of total spending on visits to friends and family by country of origin to the South West in 2020/21.*

[31] *Due to the impact of the COVID-19 pandemic, students within the 2020/21 year may receive fewer visits from friends and family than in a pre-pandemic year due to restrictions on travel and social events. This means that there may be significantly fewer visitors to the area as a result. Even more so, some students may receive multiple family visits over the course of an academic year, whilst many parents are also often involved with helping students to move at the beginning and end of each academic year. Therefore, the estimate of one visit a year is judged to be a conservative estimate.*

2.7. TOTAL ECONOMIC IMPACT OF THE UNIVERSITY

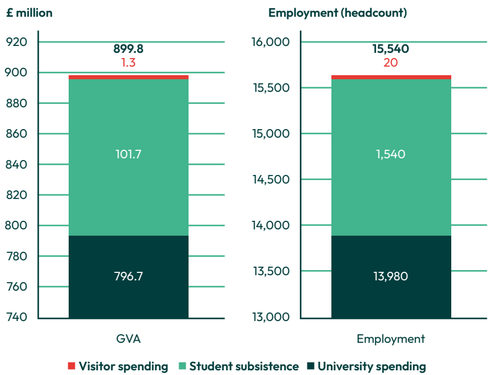
The University's total economic impact encompasses the expenditure impacts captured in section 2.4, the impact of student subsistence spending (as detailed in section 2.5), and the visitor impacts (section 2.6). Summing these impacts allows us to arrive at the estimated total economic impact of the University of Exeter in 2020/21 across Exeter, Devon, the Heart of the South West LEP, the Cornwall & Isles of Scilly LEP, and the UK.

In the 2021/21 academic year, the University's expenditure, students, and their visitors supported a £899.8 million gross value added contribution to UK GDP. £796.7 million, equal to 89%, of the total impact was supported by the University's expenditure. Student spending stimulated a further £101.7 million, or 11% of gross value added. The remaining GVA, £1.3 million (0.1%), was supported by visitors of students to the University within the same year.

The University also supported 15,540 jobs over the same time-period. The majority of these jobs, 13,980 (90%), are traceable to the University's expenditure. Some 1,540 (10%) jobs were also supported by the spending of students within the UK, and 20 jobs were stimulated within the national economy from the spending of visiting friends and family to students.

This equates to almost one job supported per two students in 2020/21.

Fig. 23. The total economic impact of the University of Exeter in the UK, 2020/21



Source: University of Exeter, Oxford Economics

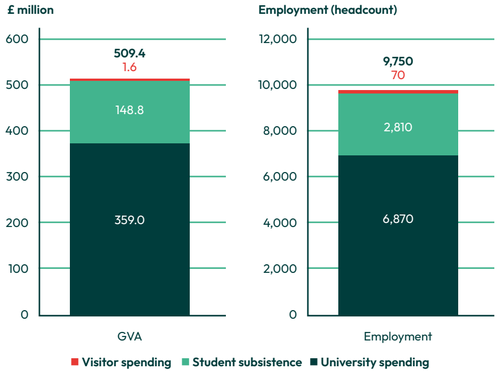
The remainder of this chapter explores the total core economic impact of the University at the sub-national level.

2.7.1. TOTAL ECONOMIC IMPACT OF THE UNIVERSITY IN EXETER

At the city level, the University of Exeter made a £509.4 million contribution to Exeter's GDP in 2020/21. To put this into context, this contribution is equal to 9% of the city's total GDP in this academic year. Similar to the national results, the University's expenditure impacts supported most of the University's gross value added contribution to the city of Exeter, equal to £359.0 million (or 70% of the total). The spending of the University's students supported some £148.8 million to Exeter's GDP in 2020/21, equal to 3% of total GDP within that year. The spending of visitors to the University stimulated around £1.6 million in GVA (0.3% of the total impact).

Further, the University also supported around 9,750 jobs within Exeter, equivalent to 9% of the city's employment. 6,870 of these jobs were supported because of the University's day-to-day operations, spending with suppliers, and impacts arising from the spending of wages throughout the consumer economy. An additional 2,810 jobs were stimulated through student subsistence expenditure, and 70 from the spending of student visitors to the city. The 9,750 jobs that are in some way connected to the University in 2020/21, is equal to 9% of the city's total employment in that academic year.

Fig. 24. The total economic impact of the University of Exeter, 2020/21



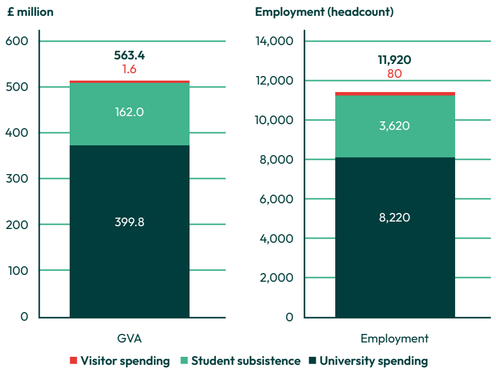
Source: University of Exeter, Oxford Economics

2.7.2. TOTAL ECONOMIC IMPACT OF THE UNIVERSITY IN DEVON

As the wider county that the University is located in, the University's impacts span further afield in Devon. **In total, the University supported a £563.4 million gross value added contribution to Devon's GDP in 2020/21.** £399.8 million (71%) of the total is supported by the expenditure activities of the University, £162.0 (29%) million by students spending on goods and services during term-time and £1.6 million (0.3%) by the visitors attracted to Devon by the University's students. The total gross value added contribution of the University in 2002/21 was equal to 2% of the county's GDP in 2020/21.

During the academic year, the University also supported 11,920 jobs in Devon. This is comprised of 8,220 jobs supported within the University's expenditure impacts, 3,620 stimulated through the spending of students within the county's economy, and 80 jobs supported by their visiting friends and family.

Fig. 25. The University of Exeter's total economic impact in Devon, 2020/21



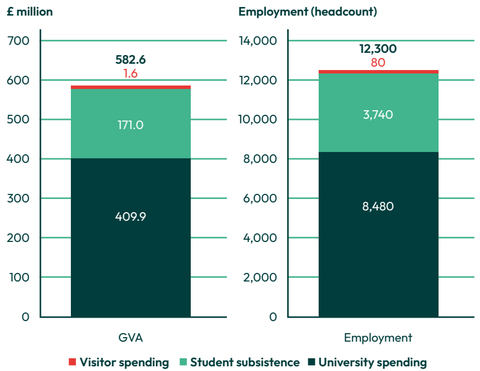
Source: University of Exeter, Oxford Economics

2.7.3. TOTAL ECONOMIC IMPACT OF THE UNIVERSITY IN THE HEART OF THE SOUTH WEST LEP

Inclusive of Devon, and Sedgemoor, Mendip, South Somerset, Somerset West and Taunton in Somerset, the economic impact of the University of Exeter in the Heart of the South West LEP in 2020/21 is slightly higher still. **During the academic year, the University supported £582.6 million in gross value added contribution towards the LEP's GDP, equal to 1.5% of the area's GDP in 2020/21.** £409.9 million was supported through the University's operations, expenditure with suppliers, and the impacts stimulated by the spending of wages throughout the LEP consumer economy. An additional £171.0 million is stimulated through student subsistence expenditure, and the remaining £1.6 million supported by spending of friends and family of the University's students.

The economic impacts stimulated via these channels supported a total of 12,300 jobs within the LEP in 2020/21. 8,480 of these jobs were traceable back to the University's expenditure activities, an additional 3,740 could be linked back to the spending of students, and 80 by the spending of visitors to students. The total 12,300 jobs supported by the University is equal to 1.4% of the LEP's total employment in the 2020/21 academic year.

Fig. 26. The University of Exeter's total economic impact in the Heart of the South West LEP, 2020/21



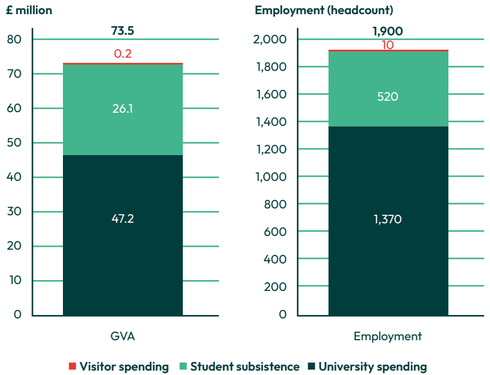
Source: University of Exeter, Oxford Economics

2.7.4. TOTAL ECONOMIC IMPACT OF THE UNIVERSITY IN THE CORNWALL AND ISLES OF SCILLY LEP

Home to the University's Penryn and Truro campuses, the University of Exeter also supported around £73.5 million gross value added contribution to Cornwall's GDP in 2020/21. 64% of this impact, equal to £47.2 million is related to the University's core expenditure impacts; 36%, or £26.1 million, to the spending of students throughout Cornwall and £0.2 million; 0.3% attributable to the spending of visiting friends and family of students.

Looking at the employment impacts of the University in 2020/21, the total number of jobs supported by the University was 1,900 jobs, equivalent to 1% of the LEP's employment. Many of these, 1,370, were linked back to the operations and spending of the University itself, an additional 520 supported via student expenditure, and 10 jobs were stimulated by visitors of students to Cornwall and the Isles of Scilly.

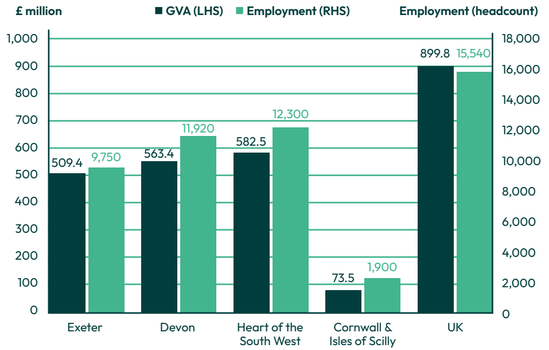
Fig. 27. The University of Exeter's total core economic impact in Cornwall, 2020/21



Source: University of Exeter, Oxford Economics

Fig. 28 below compares the gross value added and employment contributions to each of the study geographies in the 2020/21 academic.

Fig 28. The University of Exeter's total GVA and employment contribution by geography and channel, 2020/21



Source: University of Exeter, Oxford Economics

Fig 29. The University of Exeter's total contribution to output by source of impact and study geography, 2020/21

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	£ million	545.8	267.5	3.0	816.3
Devon county	£ million	620.1	291.9	3.0	915.0
Devon (incl. Plymouth and Torbay)	£ million	632.5	300.3	3.0	935.8
The Heart of the South West LEP	£ million	639.0	309.3	3.1	951.4
The Cornwall & Isles of Scilly LEP	£ million	78.9	45.8	0.4	125.0
UK	£ million	1,362.3	196.5	2.6	1,561.4

Source: University of Exeter, Oxford Economics

Fig. 30. The University of Exeter's total contribution to GDP by source of impact and study geography, 2020/21

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	£ million	359.0	148.8	1.6	509.4
Devon county	£ million	399.8	162.0	1.6	563.4
Devon (incl. Plymouth and Torbay)	£ million	406.6	166.4	1.6	574.6
The Heart of the South West LEP	£ million	409.9	171.0	1.6	582.5
The Cornwall & Isles of Scilly LEP	£ million	47.2	26.1	0.2	73.5
UK	£ million	796.7	101.7	1.3	899.8

Source: University of Exeter, Oxford Economics

Fig. 31. The University of Exeter's total employment contribution by source of impact and study geography, 2020/21 [32]

Geography	Units	University spending	Student subsistence	Visitor spending	Total
Exeter	Jobs, headcount	6,870	2,810	70	9,750
Devon county	Jobs, headcount	8,220	3,620	80	11,920
Devon (incl. Plymouth and Torbay)	Jobs, headcount	8,420	3,700	80	12,200
The Heart of the South West LEP	Jobs, headcount	8,480	3,740	80	12,300
The Cornwall & Isles of Scilly LEP	Jobs, headcount	1,370	520	10	1,900
UK	Jobs, headcount	13,980	1,540	20	15,540

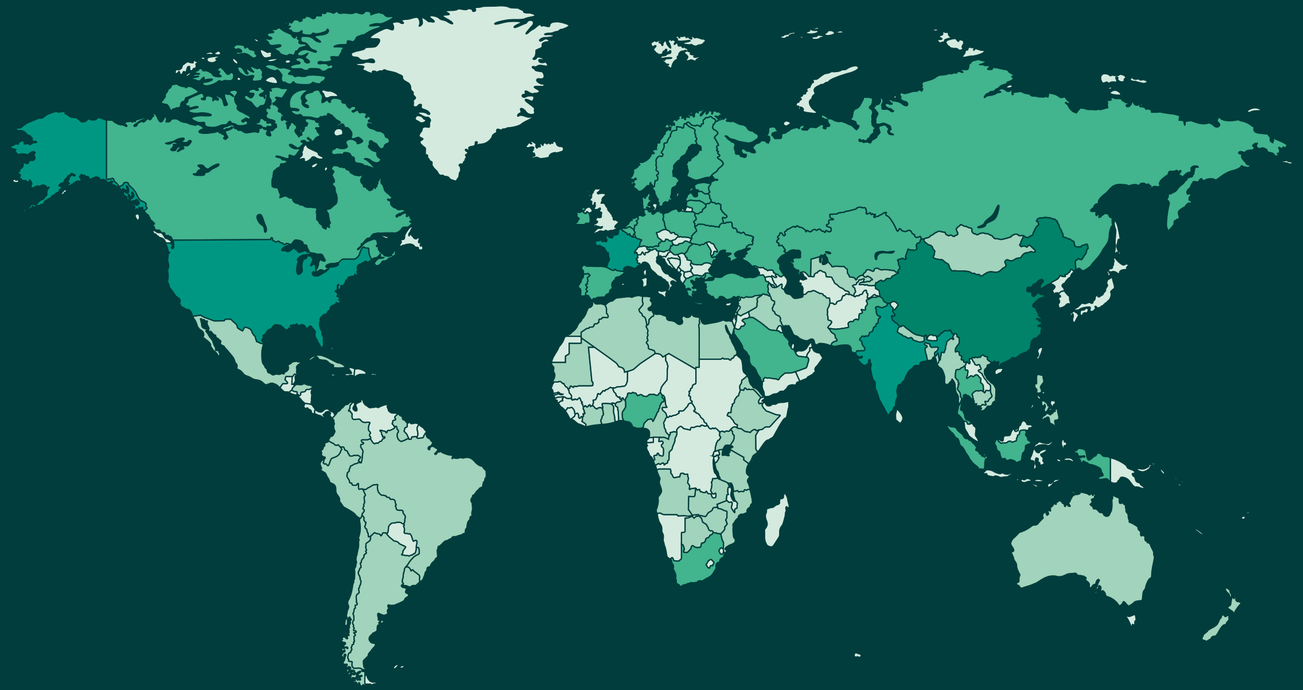
Source: University of Exeter, Oxford Economics

[32] *Totals may not sum due to rounding.*

THE ECONOMIC IMPACT OF INTERNATIONAL STUDENTS

The University of Exeter is home to international students from over **130** countries in 2020/21. Data provided by the University indicates that over **6,800** students registered with the University in 2020/21 who originate from outside of the UK. Some **25%** of international students come to study at the University from European countries (EU), and the remaining **75%** come to study at the University from the rest of the world (ROW).

Fig. 32. University of Exeter's international students by country of domicile, 2020/21



The international students at the University of Exeter generate a significant economic impact to both the local areas (such as Exeter, Devon, Cornwall, and the South West) as well as to the UK economy.

Here we look at the economic impacts stimulated by the University's international students across three key channels:

- Tuition fees paid to the University;
- Subsistence spending by international students within the local areas; and
- Visits by friends and family from abroad to students whilst they study at the University.

2.7.5. UNIVERSITY SPENDING SUPPORTED BY TUITION FEES

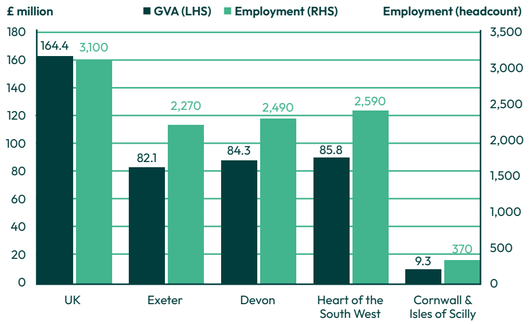
The tuition fees paid by international students stimulate a wider economic footprint that can be attributed back to the University's non-UK students. Pairing data from the University's financial accounts on tuition fee income, disaggregated between the UK and EU, and international students, with data on the number of students attending the University by country of domicile, allows us to calculate the estimated tuition fee income attributable to EU and the rest of the world students.

We estimate that in 2020/21, international students paid around **£100.2 million** in tuition fees to the University of Exeter, 36% of the total fees collected. Some **£85.8 million** in fees were paid by international students domiciled outside of the EU. Disaggregating the UK and EU tuition fee income received by the University using student data allows us to estimate a total of **£14.4 million** in income fees paid by EU students to the University. This split reflects the higher number of non-EU international students, as well as the higher level of tuition fees paid by non-EU international students.

The direct and multiplier impacts supported by the tuition fees paid by international students to the University are estimated at some **£164.4 million** gross value added contribution to UK GDP. Looking at the regional level, tuition fees paid by international students supported a total economic contribution of:

- £82.1 million gross value-added (GVA) contribution to GDP; 2,270 jobs in Exeter
- £84.3 million GVA contribution to GDP; 2,490 jobs in Devon
- £85.8 million GVA contribution to GDP; 2,590 jobs in the Heart of the South West LEP.
- £9.3 million GVA contribution to GDP; 370 jobs in the Cornwall & Isles of Scilly LEP

Fig. 33. Total economic impact of the tuition fees paid by the University of Exeter's international students by geography, 2020/21



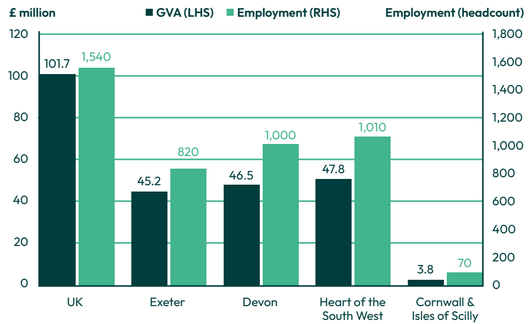
2.7.6. SUBSISTENCE SPENDING OF INTERNATIONAL STUDENTS

As outlined in section 2.5, attracting international students to Exeter and Cornwall stimulates additional student spending which may not have otherwise taken place, had students from outside of the UK not attended the University. The student expenditure of international students throughout the local economies supports a substantial amount of economic activity for local and national businesses.

In 2020/21, international students are estimated to have spent some **£69 million** within Exeter, and almost **£6 million** on goods and services within Cornwall & the Isles of Scilly LEP. The total economic activity supported by this spending was equal to:

- £45.2 million gross value-added (GVA) contribution to GDP; 820 jobs in Exeter
- £46.5 million GVA contribution to GDP; 1,000 jobs in Devon
- £47.8 million GVA contribution to GDP; 1,010 jobs in the Heart of the South West LEP
- £3.8 million GVA contribution to GDP; 70 jobs in the Cornwall & Isles of Scilly LEP
- £101.7 million GVA contribution to GDP; 1,540 jobs in the UK.

Fig 34. Total economic impact of student subsistence expenditure of the University of Exeter's international students by geography, 2020/21



2.7.7 VISITORS TO INTERNATIONAL STUDENTS

Students who move to study at the University of Exeter from other parts of the world are also expected to receive a visit from family or friends from their home country throughout the academic year.

The COVID-19 pandemic has caused significant disruption to global travel patterns resulting from increased border restrictions. As a result, the number of visitors to the UK from overseas are expected to be much lower in 2020/21 than in a pre-pandemic year. Whilst the latest International Passenger Survey (IPS) data available at the time of this study were for 2019, we adjust the total tourism spending of visits to family and friends in the South West by origin to account for travel disruption caused by the pandemic.

To do so, we apply two assumptions. First, we calculate the average estimated spend per visit by tourist origin in 2020/21 by adjusting the 2019 figures for inflation. Second, we assume that the number of visits per tourist origin to the South West change by the percentage change in UK arrivals from each country between 2019 and 2020/21. Multiplying the adjusted average spend per trip by the estimated number of visits in 2020/21 allows us to arrive at an estimate of total spending on visits to friends and family by country of origin to the South West in 2020/21. The resulting change from this estimate is that total estimated spending of all visitors to the South West of the UK is 81% lower in 2020/21 than in 2019.

In turn, we estimate that the total spending of international visitors to the UK was equal to just under **£1.1 million** in 2020/21. Diving into the sub-regions, we estimate visitors spent some **£0.9 million** within Exeter, Devon, and the Heart of the South West, and an additional **£0.07 million** spent within the Cornwall & Isles of Scilly LEP.

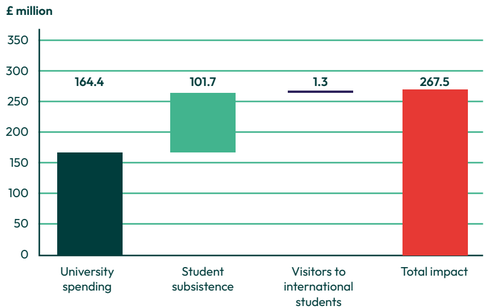
The spending of visitors on goods and services such as accommodation, food, and drinks services and in shops within the local economies is estimated to support a **£1.3 million** gross value added contribution to the UK economy, and just under **30 jobs**.

2.7.8 TOTAL CONTRIBUTION TO EXETER, DEVON, CORNWALL & ISLES OF SCILLY LEP, THE HEART OF THE SOUTH WEST LEP, AND THE UK FROM INTERNATIONAL STUDENTS

Aggregating the economic impacts stimulated by the tuition fees paid by international students, the subsistence expenditure undertaken by students during their time at University, and spending of international visitors, leads to a total gross value added contribution of £267.5 million to the UK's economy and 4,670 jobs in 2020/21. At a regional level, international students contributed **£127.9 million** to the GDP of Exeter, equal to **2%** of Exeter's GDP in 2020/21. International students also supported **3,110 jobs** within Exeter in the same year. The contribution made by international students across all channels of economic impact highlights the importance of international students studying at the University within both the national and local community.

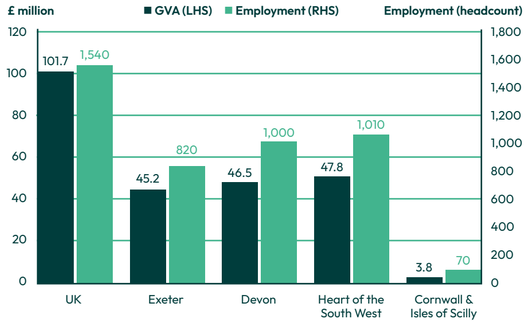
As highlighted in Fig. 35, £164.4 million, or **61%**, of international students' total gross value added contribution to the UK economy in 2020/21 stemmed from the impact of tuition fees paid by the students. A further £101.7 million, or **38%** of the total impact is attributable to the subsistence spending undertaken by students, with just £1.3 million, or **1%** due to visitor spending.

Fig. 35. Total gross value added contribution to GDP of the University of Exeter's international students to the UK economy, 2020/21



Source: University of Exeter, Oxford Economics

Fig. 36. highlights the total gross value added and employment economic impact of student by study geography



Source: University of Exeter, Oxford Economics

THE UNIVERISTY OF EXETER'S RESPONSE TO THE CLIMATE EMERGENCY

The Intergovernmental Panel on Climate Change (IPCC) states that "without immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C is beyond reach." To help meet the global challenge to mitigate the climate emergency, the UK has pledged to halve its emissions by 2030 and become net-zero by 2050. As the host country of the COP26 conference in 2021, a summit of governments and institutions to accelerate action on climate change, the UK led proceedings which secured over $130 trillion US dollars for net-zero investments.

The University of Exeter cites climate change as the greatest risk facing the world's nations. Throughout COP26, the University helped inform discussions at the conference and promote solutions against the climate emergency through its research across multiple disciplines. Home to the five most influential climate scientists, the University's expertise has enabled its researchers to contribute to several environmental research projects.

For example, Professor Tim Lenton's research aims to help tackle the climate crisis by identifying the 'tipping points' where small changes become significant enough to cause large-scale changes in the natural environment. Professor Pierre Friedlingstein from the University's Global Systems Institute lead the Global Carbon Budget Office with the support of more than 90 people from 70 organisations in 18 countries. The Global Carbon Budget tracks trends in global carbon emissions and sinks and is a key measure of progress towards the goals of the Paris Agreement.

The University of Exeter also started the "One Chance Left" project to celebrate the city's status as the UNESCO City of Literature. The project features a collection of new poems written by a range of scientists and health professionals, including a poet from the University and the Met Office. One Chance Left uses poetry to communicate important issues surrounding climate change and human health.

Exeter's Green Futures campaign focuses on achieving the missions set out in COP26 and harnessing 'positive tipping points' to reduce the UK's carbon emissions. One of the programmes introduced by the Green Futures campaign is SeaCURE, a collaboration led by the University of Exeter with Plymouth Marine Laboratory, Brunel University and tpgroup, to capture carbon from sea water. The project applies carbon capture technology which uses the efficiency of sea water as a carbon store. The project has been provided with a £250,000 grant from the Net Zero Innovation Portfolio, run by the UK government's Department for Business, Energy & Industrial Strategy, and is designed to remove 100 tonnes of carbon dioxide each year. The project hopes to contribute to long-term solutions to reducing carbon emissions.

Another example of an initiative supported by the University is the Southwest Partnership for Economic and Community Benefits (SWEEP). This is a Natural Environment Research Council impact project, and combines expertise from local universities, research laboratories and over 200 researchers in the South West of the UK. SWEEP supports local decision makers through policy guidance to promote sustainable local economic growth. To date, the programme has helped leverage some £43 million in funding, influenced around £95 million of partner investments or business cases, supported cost savings of £200 million and has protected over 117 square miles of seabed.

Finally, Professor Richard Betts headed the Third Climate Change Risk Assessment (CCRA3), one of the leading publications regarding the UK's resilience to climate change and how policy makers can best prepare for the implications of climate change.

3. The Wider Economic and Social Impact of the University

The previous chapter measured the core economic contribution that the University of Exeter makes to employment and GDP. These impacts could otherwise be described as the "demand-side" impacts since it considers the contribution of the University to the overall level of demand in the local and national economy.

We now switch our focus to the contribution that the University of Exeter makes to the UK's productive capacity or the "supply-side" of the economy.

We look at this contribution to the UK's productive capacity through two key channels. First, through its teaching, the University enhances the skills base of the UK labour force. Second, the University contributes to the rise in the productive capacity of the UK economy, through its research and development capabilities (R&D). These wider benefits are more difficult to quantify, but are an important part of the University's contribution to the local area.

3.1. TEACHING AND LEARNING ACTIVITIES

Universities boost students' skill levels, providing considerable benefits, both to students and wider society. For students, there are both short-term and longer-term benefits. For example, in the short term, students can increase their subject-specific knowledge within their field of study, and in the longer term, higher education also allows students to develop broader life skills over the course of study, such as communication, leadership, and confidence. Developing these skills whilst at University can aid students transition from education into the labour force, providing fruitful career opportunities for the University's past and present students.

The University of Exeter offers a broad range of meaningful career and development support to both its current and past graduates. From individual development sessions, alumni career networks, and sector-specific career mentor schemes, the services on offer allow the University to help champion its students and alumni as they enter the labour market. The support provided by the University to its students is recognised by the 2021 Complete University Guide, where the University ranked first for Business Graduate Prospects.

The University also creates strong links between its past and present students through its career mentorship scheme, pairing students with University alumni from a range of successful career paths. To date, the scheme has supported over 2,000 students with mentoring support from over 650 University alumni, who have provided over 33,000 hours of time to students.

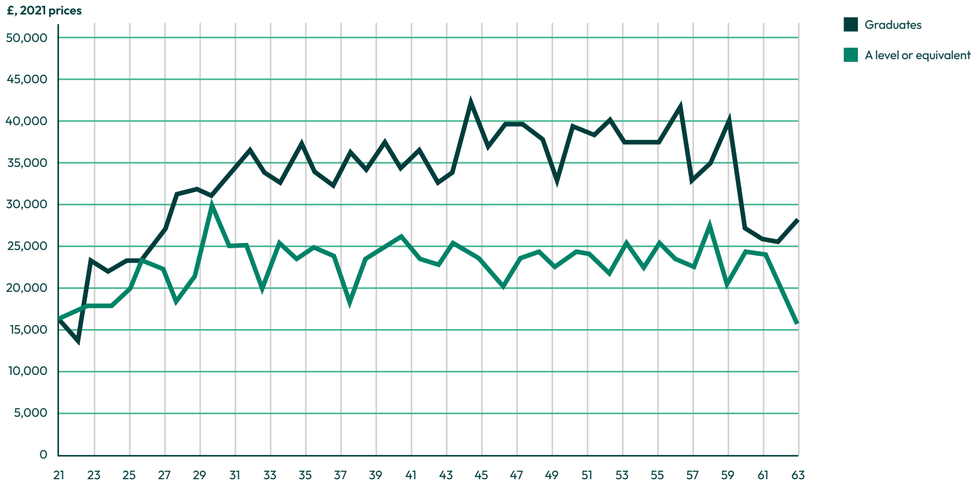
Data provided by the University of Exeter highlighted that in 2020/21, 9,650 students were eligible to graduate from the University. Around 85% of the total students eligible to graduate studied at the University's Exeter campuses, whilst the remaining 15% studied in Cornwall. When students choose to enter employment within the UK after graduation, bringing the skills and knowledge gained throughout their education with them into the workforce, it will, in turn, boost the level of skilled labour available to UK employers, providing a benefit to wider society. Many of the University's graduates remain within the UK after graduation. Data from the 2018/2019 Higher Education Statistics Agency (HESA) graduate outcomes survey, showed that around 62% of the University's in-work graduates took up work within the UK following graduation.

Evidence from the economic literature highlights the economic benefits stemming from Higher Education. Such benefits can be accrued by the individual, such as earning a higher wage, or being more likely to be in employment, or they can be accrued by the firms who hire University graduates. For firms, hiring highly skilled graduates may lead to greater profitability and productivity, as employees diffuse knowledge learned from their degrees to the wider business.

To estimate the value of higher education to University students, we estimated the difference a qualification gained at the University of Exeter makes to a student's potential lifetime wage earnings. To do so, we adopt an approach used by the ONS to evaluate the UK's human capital stock. That is, we estimate the present value of students' potential future lifetime employment income, after discounting over time.

[33] *University of Exeter. "Graduate destinations".*
[34] *University of Exeter. "10 years of career mentor scheme".*
[35] *Note: 62% of total survey respondents. 2020/21 HESA graduate outcomes data is not yet available, and so, we have used the 2018/19 data as a guide to the 2020/21 outcomes.*
[36] *Walter McMahon, "Higher Learning, Greater Good: The Private & Social Benefits of Higher Education", 2009*
[37] *Please see the appendix for further detail on the methodology used to quantify the value of student's potential lifetime earnings, in addition to the assumptions which underpin the analysis and its limitations.*

Fig. 37. Average gross annual salary, by age and highest level of qualification, 2021 prices



Source: ONS, Department for Education, Oxford Economics

To quantify the potential impacts of the University of Exeter's investment on its students in the 2020/21 academic year, we first identify the median lifetime earnings over time of students with an undergraduate degree, compared to what they could have earned if their highest level of qualification was an A level or equivalent. Pairing this wage premium with data provided by the University, we then estimate the aggregate lifetime earnings premium of the University's **3,638** undergraduate degree qualifying students who are estimated to work in the UK post-graduation. **We find that the University of Exeter's investment in its students during the 2020/21 academic year led to an increase of £970 million to the UK's human capital stock.** This figure does not include postgraduate degrees or Postgraduate Certificate in Education qualifiers due to unavailable data, and so the estimated total is a conservative estimate of the total returns. Of the 3,638 undergraduate degree qualifying students, an estimated 3,346 studied at the University's Exeter campuses. The associated increase in the UK's human capital stock of students at the Exeter campuses is estimated at £890 million. The remaining 292 undergraduate degree qualifying students studied at the University's Cornwall campuses, and the University's investment into these students led to a rise in the UK's human capital stock of £80 million.

SOCIAL INEQUALITY ACROSS COMMUNITIES

The importance of reducing inequality within and across nations is highlighted by goal 10 "Reduced Inequalities" of the United Nations (UN) Sustainable Development Goals (SDGs). The UN express that whilst inequality in some forms has improved over time, inequality remains and has increased further because of the COVID-19 pandemic.

The University of Exeter seeks to address social inequalities across countries through its research within the humanities, arts, and social sciences disciplines (HASS). Using an interdisciplinary approach, the University combines research and methodological approaches from several social science subjects, including History, English, Politics and Sociology. The University's research contributes to global inequality reduction by enhancing the understanding of global trends in inequality.

For instance, Dr Wendy O'Shea Meddour, the Director of Creative Writing at the University of Exeter, has published around 20 children's books, which focus on discussing different societal challenges. Her book 'Lubna and Pebble', which discusses the global refugee crisis, was awarded The Times magazine 'Best 10 Children's Books of the Year'. By spreading ideas of equality regardless of borders to children, Dr Meddour's work contributes to the mission set out by Pro-Vice Chancellor and Executive Dean Professor Jo Gill, who urges that humanities 'at the University of Exeter work collaboratively to dig really deep into our understanding of social injustice, enabling us to bring creative approaches to addressing and resolving some of those challenges'.

In addition, Jane Whittle, Professor of Economic and Social History, leads research funded by the European Research Council, which aims to challenge the assumptions that underpin the role of women in medieval and contemporary British society. Her research focuses on understanding society's underpinning of the role of gender in work within England, with a particular focus on tracing work patterns from the 1300s to the 1700s. For example, the research team's work highlights how the role of gender in historical England's economy is formed, which helps us to understand how inequalities today have changed and persisted. The research aims to reduce gender inequality within the workplace today, for example, by creating a greater understanding of the formation of the gender pay gap.

The University of Exeter is also home to The Centre for Social Mobility, the only University centre in the UK which is "(...) dedicated to improving social mobility through evidence-informed practice and policy". The centre aims to support disadvantaged young people throughout their education, by increasing access to and reducing inequalities in higher education. The University of Exeter is a finalist in the Social Mobility Awards University of the Year category for 2022.

3.2. THE UNIVERSITY'S CONTRIBUTION THROUGH RESEARCH, KNOWLEDGE EXCHANGE, AND ENTREPRENEURSHIP

Undertaking meaningful R&D is a key component of the University of Exeter's 2030 Strategy, whereby the University commits "(...) to make new discoveries and tackle societal challenges on a local, national, and global level" in order to pursue their purpose of creating "(...) a sustainable, healthy, and socially just future".[38/39]

The University of Exeter has been recognised on several occasions for its contribution to research. In 2021, Research England, part of UK Research & Innovation (UKRI), released the first Knowledge Exchange Framework (KEF) results. The University is currently rated as performing within the top 20% of UK higher education institution across four of the KEF perspectives: research partnerships, public and community engagement, working with the public and third sector, and local growth and regeneration.[40] Also, in early 2020, a team of scientists at the University received the Queen's Anniversary Prize, a national award which recognises high quality research and innovation by UK colleges and universities, for their contribution to research of the human and environmental impacts of plastics pollution.[41/42] This is the fourth time a team at the University has received this prize to date.

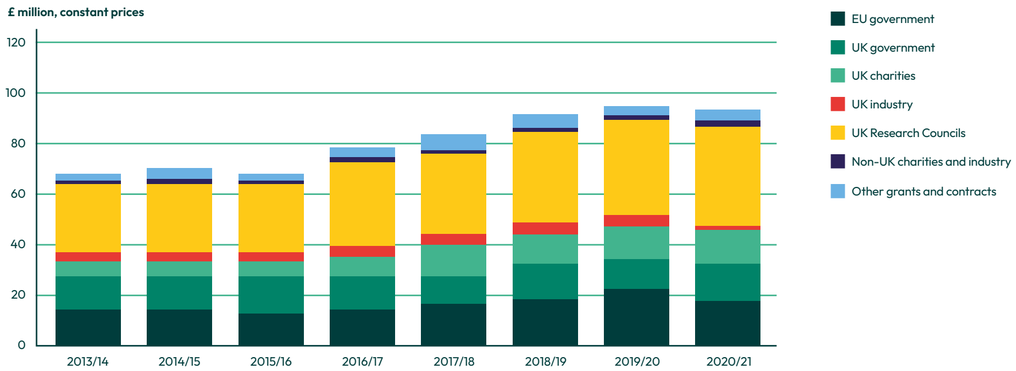
[38] *University of Exeter. 'Strategy 2030'. Pp. 8.*
[39] *University of Exeter. 'Strategy 2030'. Pp. 3.*
[40] *KEF. 2021. "Research England. Knowledge exchange framework"*
[41] *The Queen's Anniversary Prize.*
[42] *University of Exeter.*
[43] *Claudio Bravo-Ortega and Álvaro García Marín. "R&D and productivity: A two way avenue?" World Development, 39(7), pp.1090-1107 (2011).*

3.2.1. RESEARCH INPUTS

The research undertaken by the University is likely to bring benefits across several spheres that generate a widespread societal impact. R&D can stimulate the creation of new products and services, as well as innovations to existing products which can lead to gains in efficiency. Research can also lead to better healthcare and wellbeing preventions or treatments, improved environmental outcomes, and better policy outcomes. The impacts of R&D are not limited to the local area where innovations take place. Indeed, as new processes and innovations are shared over time throughout social networks the impacts of R&D are dispersed beyond the local economy. For example, Bravo-Ortega and Marin (2011) find that increases in the level of R&D expenditure per person leads to a rise in long-run productivity across the national economy.[43]

In 2020/21, the University of Exeter received **£94.6 million** in research funding from a range of sources. Much of this income **(£41 million, 43%)** was provided by UK research councils, a further **£32 million (33%)** was provided by UK and EU government bodies, whilst some **£11 million (12%)** was funded by UK charities. Since 2013/14, the total research funding received by the University has increased by **37%** (after adjusting for inflation). The University's Exeter campuses received **82%** of the total research funding in 2020/21, equal to some **£78 million**, compared with the University's Cornwall campuses, which received **£17 million (18%)**. This split between Exeter and Cornwall reflects the different size of the respective campuses and research centres.

Fig. 38.University of Exeter research funding by source, 2013/14 to 2020/21



Source: University of Exeter, Oxford Economics

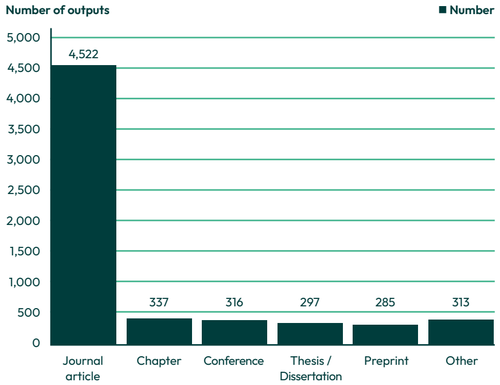
Across Devon and Cornwall, the University of Exeter undertakes a substantial amount of R&D. In 2020/21, the University undertook **£139.2 million** worth of research expenditure, a 27% rise over the past four years.[44]

[44] *Total research expenditure in 2020/21 is equal to £139.2 million, and total research income is £94.6 million.*

3.2.2. RESEARCH OUTPUTS

In 2020/21, the University of Exeter produced 6,070 research outputs. The largest portion of these outputs was 4,552 journal articles (Fig. 39), making up 74% of the total. This was followed by 337 chapters, 316 conferences, and 297 thesis/dissertations, comprising a 6%, 5%, and 5% share respectively. In addition, the University outputs also include books, datasets, reports, digital publications, exhibitions, and software/code.

Fig. 39. Research outputs by type



Source: University of Exeter, Oxford Economics

Across the Exeter campuses, **26%** of research outputs were associated with the College of Medicine & Health, **25%** with the College of Engineering, Mathematics & Physical Sciences, and **22%** with the College of Life & Environmental Sciences. Within the Cornwall campus, **51%** of research outputs were associated with the College of Life & Environmental Sciences.

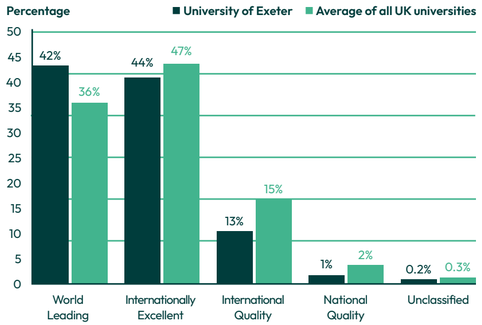
The 2021 Research Excellence Framework (REF), released in May 2022, evaluates the quality of research undertaken by Higher Education Institutions in the UK. Overall, over 99% of the University's research was rated of international quality, of which just under 47% was world-leading, and an additional 42% was scored as internationally excellent. Further, some 89% of the University's research outputs were either world-leading (42%), or internationally excellent (44%). The proportion of world-leading research undertaken by the University is higher than the average profile of all universities in the UK, where 36% of research scored as world-leading, on average (Fig. 41). This demonstrates the global importance of the University's research.

Ten disciplines at the University of Exeter ranked within the top ten universities for overall world-leading research. Most notably, the University ranked first for world-leading research within the Sport Science, and Theology and Religious Studies disciplines.

The University has improved its research capabilities since the 2014 REF results. Indeed, the size of the University's full-time equivalent (FTE) staff submitted for assessment has risen by 70% since 2014, and the proportion of the University's world-leading research has risen by over 60%.[46]

[46] *University of Exeter. 'REF 2021'.*

Fig. 40. The University of Exeter's 2021 REF research outputs rating compared with the average of all UK universities



Source: University of Exeter, Oxford Economics

3.2.3. IMPACTS OF RESEARCH

The impacts of R&D on productivity

The economic benefits of R&D arise initially from the general increase in spending—general demand increases as research facilities are developed and researchers are deployed. The productivity benefits of R&D-driven innovation are realised over time as new products and processes gradually enter the economy.

Our analysis investigates how the University's expenditure on R&D generates a stock of knowledge that not only benefits the University of Exeter, known as the **direct R&D impact**, but also diffuses throughout society, thereby raising productivity levels across the economy. This occurs as the knowledge gained via research spills over into the wider economy, as businesses and individuals that are not involved in R&D investments are still able to reap its rewards, which is referred to as the **R&D spillover effect**.[47] Such spillovers might occur through the sharing of knowledge through academia, the dissemination of new scientific methodologies, or the competitive imitation and innovation of new technological breakthroughs. For these reasons, R&D expenditure leads to general increase in the productive capabilities of an economy and provides a boost to long run growth and improved standards of living.

Monetising the long-run contribution of the University's R&D

Across Devon and Cornwall, the University of Exeter undertakes a substantial amount of R&D. In 2020/21 alone, the University undertook **£139.2 million** worth of R&D. However, since the benefits of R&D are realised in the long-run, it is important to look at the total spending of R&D investment over several years of history. Indeed, between 2016/17 and 2020/21, the University has invested a total of **£604.4 million** in R&D. The University's R&D spans a variety of sectors; however, it is most heavily focussed within the scientific research and development sector. Additionally, the University conducts research to help innovate within other scientific research fields, health care, and finance.

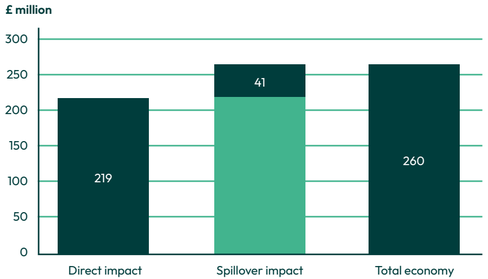
Our analysis suggests that this £604.4 million investment between 2016/17 and 2020/21 is expected to generate a long run productivity benefit of £260.3 million per year from 2030. Of this, £219.3 million per year (or 84% of the benefits) are directly realised by the University and its research associates, with £41.0 million per year (16% of the benefits) realised in the rest of the economy (the spillover impact).

In other words, for every £1 million that the University of Exeter spent on R&D between 2016/17 and 2020/21, the UK economy's long-run productive capabilities will increase by around £430,700 per year from 2030.

On a cumulative basis, we estimate that the long run productivity benefit of R&D undertaken by the University between 2016/17 and 2020/21 is equal to a £3.1 billion boost between 2020/21 and 2034/35.

This means that, for every £1 million invested in R&D by the University of Exeter between 2016/17 and 2020/21, the UK's productive capacity will increase by £5.2 million between 2020/21 and 2034/35.[48]

Fig. 41. The University's long-run yearly productivity impact on the UK economy from 2030



Source: University of Exeter, Oxford Economics

[47] *Details of the econometrics behind Oxford Economics' long-run productivity model can be found in the Appendix.*
[48] *The total impact is a cumulative impact both up until 2030 (from 2020/21), as the benefits build up, and from 2030, for a further five years.*

University collaborations, partnerships, and consultancy

The University of Exeter continues the dissemination of its knowledge to inspire wider innovative potential from its research through forming collaborations and partnerships, encouraging spin-offs, and obtaining intellectual property rights, for example, in the form of patents. In 2020/21, the University was granted 23 new patents, bringing the total between 2014/15 and 2020/21 to 105.[49]

Additionally, several spin-offs have formed as a result of research undertaken with some connection to the University. Spin-offs are formal companies that are born when findings from academic research are commercialised. The source of such spin-offs varies, including staff or graduate spin-offs, social enterprises, and spin-offs with some or no ownership by the University. Up to 2020/21, the University of Exeter's research activities have generated 66 spin-offs, 16 of which are newly registered within 2020/21. Most of the new spin-offs in 2020/2021 were the 10 graduate spin-offs.[50] An additional way for universities to recognise the commercial potential of its research is through licensing, which can take the form of, but is not limited to, patents, copyright, or trademarks. Up to 2020/21, the University held 82 total licences, including SMEs, commercial businesses, and non-commercial organisations.[51] Though this can be split into software licences and non-software licences which accounted for 52 and 30 respectively. The estimated income associated with the total intellectual from patents, copyright, design, registration and trademarks, and the sale of shares in spin-off companies is equal to £270,000 in 2020/21.[52] Further, HESA data indicates that the estimated current turnover of all active spin-off firms is just under £13 million in 2020/21, with over half of this turnover generated by graduate start-up spin-offs.[53] The total estimated external investment received by the spin-offs is equal to just under £8.1 million which is an increase of over 40% when compared with 2019/20.[54]

The University provides consultancy, access to facilities and courses for businesses for a varied range of companies, many in the local area. In 2020/21, The University of Exeter earnt over £2.8 million through consulting projects with over 370 firms including over 180 SME's. Non-commercial firms accounted for 65% of this revenue, though only numbering 35% of contracts.[55] On the other hand, through businesses' use of facilities, equipment and other services, the University earnt over £290,000.[56] Nevertheless, one of the larger revenue streams was the University's provision of courses for the business and community which provided over £3 million, with exactly half originating for SME's in the local area.[57]

The University of Exeter also engages with the commercialisation of research through SETsquared. The SETsquared partnership is a collaboration of six universities - Exeter, Bath, Bristol, Cardiff, Southampton and Surrey - that aim to support regional economic growth through supporting high tech and high growth businesses.[58] The scheme focuses on enhancing the local economy through three channels: business acceleration, research commercialisation and student entrepreneurship.[59]

The Exeter centre, located in the innovation centre and science park, aims to promote student entrepreneurship. It provides the With Proficiency in Entrepreneurship (WPiE) pathway, which includes a set of modules accessible to all undergraduate students, fostering entrepreneurship in the student body.[60] Furthermore, the provision of grants to the most promising student start-ups initiated in this pathway reduces the difficulty in scaling up and leads to greater success for these potential high growth businesses. Other campaigns such as the Business Acceleration Scale-Up Programme targets companies which have an appetite for large technical innovation in healthcare and the environmental science.[61] Finally, providing over 500 events for over 1,800 participants has led to academics finding suitable practical commercialisation routes for their research with local businesses. Altogether, the SETsquared Exeter project has provided significant investment, totalling £1.2 billion in the last 20 years, and actively increased entrepreneurial spirit and economic growth in the Southwest region.[62]

[49] *HESA, 'Table 4a - Intellectual property: Disclosures and patents filed by or on behalf of the HE provider 2014/15 to 2020/21'. 'Number of patents granted in year'.*
[50] *HESA, 'Table 4e - Intellectual property: Spin-off activities by HE provider, type of activity, metric and academic year'. 'Number of active firms', 'Number (of newly registered companies within the reporting period).*
[51] *HESA, 'Table 4b - Intellectual property: Licence numbers (including patents, copyright, design, registration and trade marks) by HE provider, type of organisation, type of licence granted and academic year'. 'Total number'.*
[52] *HESA, Table 4d - Total intellectual property income (including patents, copyright, design, registration and trade marks) by HE provider 2014/15 to 2020/21.*
[53] *HESA, 'Table 4e - Intellectual property: Spin-off activities by HE provider, type of activity, metric and academic year'. 'Estimated current turnover of all active firms (£000s)'.*
[54] *HESA, 'Table 4e - Intellectual property: Spin-off activities by HE provider, type of activity, metric and academic year'. 'Estimated external investment received (£000s)'.*
[55] *HESA, "Business and community services by HE provider".*
[56] *HESA, "Business and community services by HE provider".*
[57] *HESA, " Continuing Professional Development (CPD) and Continuing Education (CE) courses for business and the community by HE provider".*
[58] *SETsquared Exeter - Start or Grow your Business with Support from Us*
[59] *The University of Exeter. "Entrepreneurship and Start Up Support Programmes- An overview of SETsquared Exeter."*
[60] *http://business-school.exeter.ac.uk/research/centres/entrepreneurship/wpi/*
[61] *The University of Exeter. "Entrepreneurship and Start Up Support Programmes- An overview of SETsquared Exeter."*
[62] *The University of Exeter. "Entrepreneurship and Start Up Support Programmes- An overview of SETsquared Exeter."*

4. Conclusion

The University of Exeter is an important part of the UK economy, and the local economies where its Exeter and Cornwall campuses and research sites are situated. Through its own expenditure, and by attracting students and visitors who in turn spend money, it stimulates thousands of local jobs and supports economic activity.

The University of Exeter supported 9,750 jobs in Exeter, and 1,900 jobs in Cornwall and the Isles of Scilly LEP, equivalent to one in every 10 jobs in Exeter, and one in every 140 jobs in the Cornwall LEP.

The University of Exeter made a substantial contribution to the economic output of both Exeter and Cornwall. In 2020/21, this amounted to a £509.4 million gross value added contribution to Exeter's GDP in 2020/21, equal to 9% of Exeter's GDP in the same year. In Cornwall and the Isles of Scilly LEP, the gross value added contribution to GDP was £73.5 million, equivalent to 0.9% of the LEP's GDP in the same year.

As well as being vitally important to the local economy, the University made a notable contribution to the UK economy as a whole. In 2020/21, the University, its students, and visitors sustained a £899.8 million gross value added contribution to UK GDP, and supported 15,540 jobs across the country.

The University's economic impact goes far beyond its core economic contribution. More than 9,650 students graduated from the University of Exeter in 2020/21, enhancing the talent pool of skilled workers available to local employers, and the rest of the UK. In 2020/21, we estimate the University contributes £970 million to UK labour force productivity as a result of increased earnings potential accrued by its undergraduate students.

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. Between 2016/17 and 2020/21, the University undertook **£604 million** of R&D across its campuses. We estimate this R&D will produce **£260 million** of yearly benefits from 2030, once the benefits of R&D are dispersed amongst the wider economy.

To conclude, the activities undertaken by the University in 2020/21 highlight its role as one of the major knowledge hubs within the South West of the UK, supporting economic activity within the local economies and the long-term potential of the UK labour force and innovation.

5. Appendix: Methodology to calculate the impacts

METHODOLOGY

In this section, we will discuss the various methodology used to capture the impact of the University of Exeter across the following channels:

METHODOLOGY FOR THE CORE IMPACT STUDY

The University's direct impact

Our estimate for the gross value added contribution to GDP generated by the University of Exeter 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.

The University's supply chain impact (the indirect impact)

The modelling for this study made use of Input-Output tables, as published by the ONS.[63] 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 uses 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.[64] Employment data from the ONS' Business Register and Employment Survey (BRES) were used to adjust the I-O tables, to reflect the industrial structure and productive capacity of Exeter, Devon, the Heart of the South West LEP, and the Cornwall & Isles of Scilly LEP.[65]

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 each of the study localities, and the leakages in and out of the local area.

The transactions along the supply chains are translated into gross value added using South West-specific ratios of value added to gross output derived from the ONS' Annual Business Survey.[66] The impact on employment was modelled using the latest data on output per head in the industrial sectors for the relevant local authority districts, derived from BRES and UK Regional Accounts.

The University's wage-financed consumption impact (the 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 Exeter, Devon, the Heart of the South West LEP, the Cornwall & Isles of Scilly LEP, and the UK, making allowances for "leakages" of wage expenditure on 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.

The impact of students' subsistence spending

The University of Exeter 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 Exeter, Devon, the Heart of the South West LEP, the Cornwall & Isles of Scilly LEP, or the UK and therefore forms part of the overall impact of the University.

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 Department for Education publishes data on subsistence expenditure by students in England and Wales. The latest available covered the 2014/15 academic year.[67] This study focuses on home domiciled students. However we follow the assumption from the Department for Business, Energy & Industrial Strategy (BEIS) that international students' spending is not significantly different to home students'. 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
- 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 2014/15 and 2020/21. We further adjust the spending to reflect the fact that international students are likely to go home less frequently than their UK equivalents.

The Department for Education's 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.[68]

After these adjustments, the average student at the University of Exeter spends £13,700 per year off campus, including housing costs. To calculate how much expenditure the University of Exeter 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 each of the study geographies, and how many of those are truly additional.

Visitor and tourism impacts:

The additional visitors the University attracts to Exeter, Devon, Cornwall. and the wider South West, 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.

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 West of England.[69] This study assumes that each student from outside of the local geographies 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.

Although data were not available on how many visitors each additional student receives, we pair data on the average spend of a visitor from each part of the UK to friends and relatives in each region (for example, to Devon). We then calculate the spending those domestic visitors make within the region. The study assumes that each student from outside of the local area gets one visitor from their home region within the academic year.

International visitors

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 West 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 almost 300 additional students of French origin living in Exeter in 2020/21. The 2020 Annual Population Survey (APS) data indicate that there were 6,000 people of French nationality living in the South West. Therefore, almost 5% of all spending by French visitors to the region is attributed to the University of Exeter and assumed to have been spent predominantly in the local area.

Applying this methodology to, for example, the University's 5,100 international students living in Exeter, indicates that visitors to these students spent an estimated £0.9 million in the area in 2020/21. This method is also applied to each of the study geographies.

Economic impact of international students

International visitors

Please see methodology note above.

Student subsistence expenditure

Please see methodology note above.

Fees

In order to derive income from fees, we use the University's financial statements on the income from fees, disaggregated by home and EU students, and international students. We then use data on students registered with the University in 2020/21, based on a student's country of domicile. This allows us to calculate the proportion of students who are of either from the UK, non-UK EU, or the rest of the world. This allows us to calculate the proportion of UK to non-UK EU students, which we then use to estimate the amount of home/EU fees that correspond to UK-domiciled and international students. From this fee income, we then estimate the direct contribution to local (Exeter, Devon, Cornwall and Isles of Scilly LEP, and the Heart of the South West LEP area) and UK GDP and employment. We then estimate the multiplier impact on GDP and employment that is attributable to fee income usinginput-output tables, to give the indirect and induced effects.

THE WIDER ECONOMIC AND SOCIAL IMPACT OF THE UNIVERSITY

Teaching and learning activities

In measuring the impact of the University of Exeter on the UK's human capital stock, we follow the ONS' methodology for estimating human capital.[70] This is an income-based approach that uses the sum of discounted lifetime earnings of individuals to calculate their level of human capital. This approach relies on the assumption that labour is paid according to its marginal productivity, as differences in productivity are calculated as differences in income.

To this end, we developed a database of lifetime earnings, which represent the economic value of each individual's labour market activities, for different education levels. We then estimated the increase in the lifetime earnings of Exeter's graduates as a result of having achieved an undergraduate degree at the University. The increase in lifetime earnings was discounted to give a net present value of the increase in economic output. We also used student outcome data provided by the University of Exeter for the 2018/19 cohort. This data showed the number of in-work survey respondents who took up work within the UK following graduation. We apply this proportion to the percentage of eligible undergraduate degree qualifiers to not overstate the increase in the human capital stock of the University's graduates.

It is important to note that this method assumes that the higher wages of graduates, relative to those holding an A level qualification, reflects the higher level of marginal productivity held by graduates. However, in reality, there are several other predictors of wages that come into play, for example demand and supply within the local economy, the level of prices within the economy, and the impacts of collective bargaining power.

In addition to this, the method assumes that the difference in lifetime earnings of graduates, compared with non-graduates, reflects the value of education received by the student at University. This assumption does not take into account other factors which may lead to differences in potential lifetime earnings between graduates and non-graduates, such as career aspirations and on-the-job experience.

Contribution through research, knowledge exchange, and entrepreneurship

R&D productivity model

For our R&D productivity analysis, we used our in-house econometric model to explain how R&D expenditure in different sectors contributes to productivity growth.

The modelling approach was adopted from Badinger and Egger (2008)[71] who adopted a spatial econometric approach to estimate intra-industry and inter-industry productivity spillovers in TFP (total factor productivity) transmitted through input-output relations in a sample of 13 OECD countries and 15 manufacturing industries. Our methodology follows a similar approach with a larger dataset with more countries and more recent data. To account for the spatial element, a spillover matrix is constructed using the latest Social Accounting Matrices for each country from the OECD, broadly following the approach in Coe, et al (2019).[72]

It is hard to predict when the benefits of R&D, either through improvements in knowledge and processes or new products, will begin to appear in the economy. The time period for these benefits is heavily dependent on the nature of R&D being undertaken. However, our econometric modelling suggests that by the end of a 10-year period, i.e., by 2030, the UK economy is likely to have achieved the estimated efficiencies associated with the R&D spending, which will persist each following year.

[63] *ONS, "United Kingdom Input-Output Analytical Tables, 2017", 9 April 2021.*
[64] *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*
[65] *ONS, "United Kingdom Input-Output Analytical Tables, 2017", 9 April 2021.*
[66] *ONS, "Business Register and Employment Survey, 2019: Provisional", 6 November 2020*
[67] *ONS, "Annual Business Survey 2019 Results", 24 June 2021*
[68] *Department for Education, "Student Income and Expenditure survey, 2014 to 2015", 22 March 2018. The SIES 2014/15 is the latest version of the survey with results available. The department awarded a contract to run SIES in 2019/20 through open tender, however work on this was paused due to COVID-19. It is the department's aim to restart this work soon.*
[69] *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.*
[69] *Kantar, "The GB Tourist: 2019 Annual Report".*
[70] *ONS, "Measuring the UK's Human Capital Stock", (Methodological Guidance, 2011).*
[71] *Harald Badinger, and Peter Egger, Intra-and inter-industry productivity spillovers in OECD manufacturing: A spatial econometric perspective, No. 2181, CESifo working paper, 2008.*
[72] *David T.Coe, Elhanan Helpman, and Alexander W. Hoffmaister, International R&D Spillovers and Institutions, IMF Working Paper. WP/08/104.*

University of Exeter | Partnerships for Progress