

# THE ECONOMIC IMPACT OF THE UNIVERSITY OF BATH

A REPORT FOR THE UNIVERSITY OF BATH

JANUARY 2016

## **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 200 countries, 100 industrial sectors and over 3,000 cities. Our best-of-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 London, New York, and Singapore, Oxford Economics has offices across the globe in Belfast, Chicago, Dubai, Miami, Milan, Paris, Philadelphia, San Francisco, and Washington DC. We employ over 200 full-time people, including more than 130 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. Underpinning our in-house expertise is a contributor network of over 500 economists, analysts and journalists around the world and our heritage with Oxford University and the academic community.

Oxford Economics is a key adviser to corporate, financial and government decision-makers and thought leaders. Our worldwide client base now comprises over 1000 international organisations, including leading multinational companies and financial institutions; key government bodies and trade associations; and top universities, consultancies, and think tanks.

---

## **January 2016**

All data shown in tables and charts is Oxford Economics' own data, except where otherwise stated and cited in footnotes.

All information in this report is copyright © Oxford Economics Ltd.

This report is confidential to the University of Bath and may not be published or distributed without their prior written permission.

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

# TABLE OF CONTENTS

|  |    |
|--|----|
| Executive summary.....                                 | 1  |
| 1. Introduction.....                                   | 2  |
| 2. Employment contribution.....                        | 6  |
| 2.1 Total employment.....                              | 6  |
| 2.2 The University's own employment .....              | 6  |
| 2.3 Supply chain and consumer spend contribution ..... | 8  |
| 2.4 Student subsistence spending .....                 | 11 |
| 2.5 Spending of visitors to students .....             | 11 |
| 3. GDP contribution.....                               | 14 |
| 3.1 Total GDP contribution.....                        | 14 |
| 3.2 Direct GDP contribution .....                      | 14 |
| 3.3 Supply chain and consumer spend contribution ..... | 16 |
| 3.4 Student subsistence spending .....                 | 17 |
| 3.5 Spending of visitors to students .....             | 17 |
| 4. Tax contribution.....                               | 18 |
| 4.1 Total contribution.....                            | 18 |
| 4.2 University and staff contribution .....            | 18 |
| 5. Conclusion.....                                     | 20 |
| 6. Appendices.....                                     | 21 |

# EXECUTIVE SUMMARY

This report investigates the economic contribution the University of Bath, its students, staff and visitors make to Bath and North East Somerset and the rest of the UK. It does so by looking at the channels of expenditure through which the University contributes to the district and wider UK economy. Estimates are likely to be conservative as assumptions are made on where staff and students spend their money and on the number of visitors attracted to the district.

**The University of Bath is estimated to have supported nearly 5,850 jobs in Bath and North East Somerset in 2014/15**—equivalent to one in every 17 jobs in the district. Of these, 3,031 (or 52 percent) were at the University itself, equivalent to one in every 33 people in employment in Bath and North East Somerset. This makes the University the second largest employer in the district. It employs roughly the same number of people as work in all the district's restaurants. The University supported some 7,800 jobs in the UK as a whole in 2014/15.

**The University employs people across the skills spectrum.** Some 1,142 are employed in teaching and research roles. A further 1,161 people are employed in administrative and management jobs and 728 people in technical and operational roles.

**The University's employees are highly embedded in the local community.** In 2014/15, over half of the University staff lived in Bath and North East Somerset. Another 36 percent of the total lived in the wider South West region.

**The University of Bath pays its employees salaries substantially above the district, regional and national averages.** The average gross wage for people employed by the University in 2014/15 was £32,400, which was 35 percent above the average for all jobs in Bath and North East Somerset.

**In total, the University is estimated to have supported a value added contribution of £294.0 million to Bath and North East Somerset's GDP in 2014/15.** This is equivalent to 6.2 percent of the district's economic output. Of this, it is estimated that the University of Bath directly and indirectly supported nearly two thirds (£188.2 million) of the total contribution to GDP, while spending by additional students and their visitors stimulated the remainder (£105.8 million). When consideration is taken of expenditure on suppliers located elsewhere in the country, the University supports a £352.2 million contribution to UK GDP.

**Some £9,560 in extra value added is supported in Bath and North East Somerset by each additional student.** This includes the activity supported through subsistence spending and visitors attracted to the area by the students.

**The economic activity in Bath and North East Somerset supported by the University of Bath, its students and visitors to those students generated a total tax contribution of £71.0 million to the UK Exchequer.** To give an indication of scale, this is sufficient to pay for the running costs of the Avon Fire Authority for a year and half. The University supports some £95.9 million in taxes across the whole UK.

## 5,850 jobs

Supported by the University of Bath and its students in Bath and North East Somerset in 2014/15

*7,800 jobs in the UK are reliant in some part on the University of Bath*

## £294 million

Total economic impact supported by the University and its students in Bath and North East Somerset in 2014/15

*The University supported a value added contribution of £352 million to UK GDP.*

# 1. INTRODUCTION

This report investigates the economic contribution the University of Bath, its students, staff and visitors make to Bath and North East Somerset and the rest of the UK. It does so by looking at the channels of expenditure through which the University contributes to the district and wider UK economy.

Each chapter examines the impact of the University's presence on a different metric. This report proceeds as follows:

- Chapter 2 examines the University's contribution to employment in Bath and North East Somerset and wider UK as a result of the spending impacts that are outlined in the box on page 4.
- Chapter 3 investigates the gross value added contribution to GDP supported by the expenditure of the University, its students and their visitors.
- Chapter 4 calculates the tax receipts that flow from the economic activity stimulated by the expenditure of the University, its students and their visitors.
- Chapter 5 concludes.

The impact that the University has on Bath and North East Somerset and the wider UK of course goes far beyond these expenditure impacts. This report does not, however, attempt to quantify the other ways in which the University impacts businesses, charities and people within the district and beyond. But it is worth briefly summarising these at the outset.

The University has an international reputation for research excellence. In the 2014 Research Excellence Framework, 96 percent of its research was rated as having either outstanding or very considerable impacts. Some of this knowledge is transferred to local businesses directly or through research spillover effects.

The University of Bath's successful business incubation role is renowned globally. UBI Global, a leader in performance analysis of business incubation, recently ranked SETsquared (the University's enterprise partnership with other UK universities) as the best university business incubator in the world. It has helped over 1,000 technological start-ups to develop and raise more than £1 billion in investment. Additional information on the University's contribution to knowledge exchange is provided in the Appendix written by Dr Jon Hunt, Director of Research & Innovation Services.

Being a stable employer, the University also underpins job security in the city of Bath. Unlike some private companies, in difficult economic circumstances it is not likely to relocate or close down. By reducing the risk of economic volatility in the area, the University therefore plays an invaluable role in its community.

The sports facilities belonging to the University are widely used. Bath University's Sports Training Village, home to many Olympic and international standard athletes, offers its facilities to the wider public, including its London 2012 Olympic Legacy 50 metre swimming pool and the UK's only bobsleigh/skeleton push-start track. The University's football facilities are also utilised by the Southampton Football Club as a training ground.

By providing a wide range of activities for local schools and colleges aimed at widening participation in higher education, the University and its staff also help the local community. Activities include summer schools, subject taster days, activities for students with learning difficulties and disabilities and support to mature students who are keen to return to education. Moreover, the University runs a General University Lecture Programme (GULP), offering a wide array of lecture topics for the public to enjoy for free.

The University's staff and students also contribute to the local community through volunteering. As well as participating in the national annual Student Volunteering Week, the University offers many more opportunities to help the local community throughout the year. Among others, the University promotes volunteering opportunities at *Age UK*, *Guide Dogs for the Blind* and *Help Change Lives* in local NHS health services. Several fundraising and charity events are also organised by the Raise and Give (RAG), the student fundraising group at the University of Bath Students' Union, and the V Team, the student volunteering group of the Students' Union.

## INTRODUCTION TO ECONOMIC IMPACT ANALYSIS

The study undertakes a standard economic impact assessment, looking at three forms of expenditure (Figure 1).

- The first channel of impact is the direct effect. This is the economic activity generated by the University itself, for example by employing academic, administrative, management and operational staff and by generating economic activity through its payment of wages and generation of surpluses.
- The second channel of impact is the indirect effect, which is the employment and activity which is stimulated along the University's local supply chain, as a result of its purchases of inputs of goods and services from suppliers within the district.
- The final channel, known as the induced effect, captures the economic activity supported by staff and those employed in direct supply chains spending their wages on goods and services in the local economy.

The indirect and induced impacts are calculated using multipliers derived from regional input-output tables. These are developed by combining ONS (2014) input-output data<sup>1</sup> for the whole UK with the techniques developed by Flegg, et al. (1995).<sup>2</sup> Employment and tax estimates are calculated using ONS data on labour productivity, average earnings in each industrial sector and tax allowances rates for 2014/15.

The scale of the University's impact for each of the three channels is measured using three metrics:

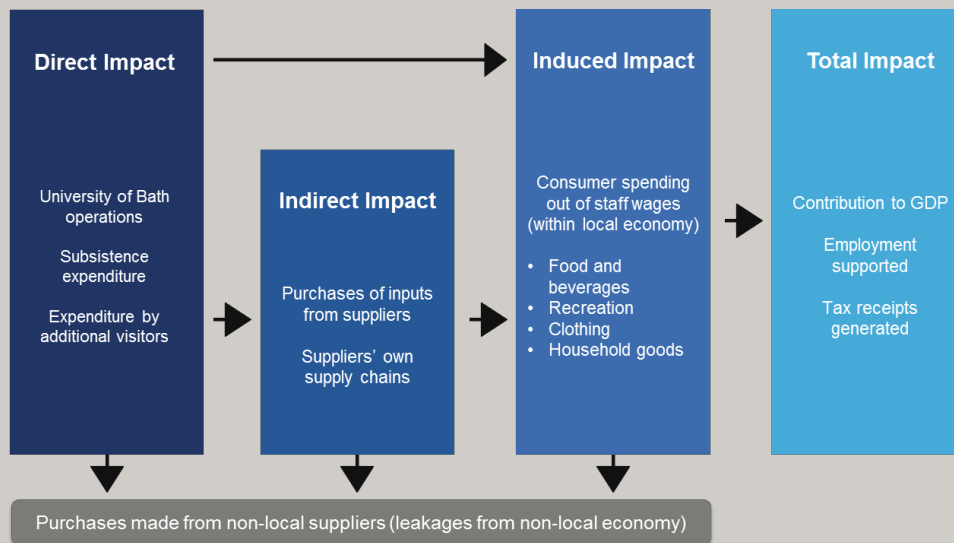
- Gross value added – Gross value added is the contribution an institution or company makes to Gross Domestic Product (GDP). It is most easily thought of as the value of the output it produces less the value of the inputs used in that output's production.
- Employment – measured in headcount terms rather than on a full-time equivalent (FTE) basis to facilitate comparison with ONS employment data.
- Tax receipts – this study considers the receipts generated from Income and Corporation taxes, employee and employer National Insurance contributions and other indirect taxes paid by employees (for example VAT).

---

<sup>1</sup> ONS, *Input-output analytical tables - 2010*, ed. Richard Wild (Newport: ONS, 2014).

<sup>2</sup> Webber C.D. and Elliot M. V. Flegg A. T., "On the appropriate use of location quotient", *Regional Studies*, 29 (1995): 547-61.

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





## 2. EMPLOYMENT CONTRIBUTION

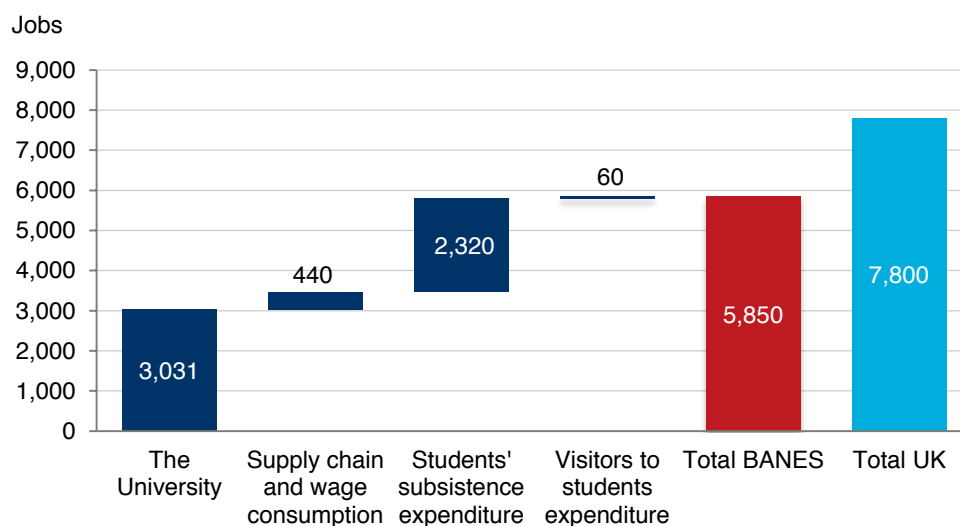
### 2.1 TOTAL EMPLOYMENT

The University of Bath generates economic activity and supports jobs across the district. Including all impact channels, it is estimated that the University of Bath, its students and their visitors supported nearly 5,850 jobs in Bath and North East Somerset. Therefore one in every 17 jobs in the district was in some way dependent on the University's presence.

The two largest impacts on the district's labour market come through the University's own employment and the jobs supported by the subsistence spending of students attracted into the locality to study at the University (Figure 2). In 2014/15, the University of Bath itself employed 3,031 people. Subsistence spending by students who moved to the district is estimated to have supported another 2,320 people in employment. The University's supply chain spending, wage-financed expenditure and spending by visitors to the students accounted for the remainder of the jobs supported.

The impact of the expenditure of the University, its students and their visitors grows when the analysis is extended to the whole UK, as more of the supply chain spend and wage-financed consumption is captured. The University is estimated to support 7,800 people in employment in 2014/15 in the UK as a whole.

**Fig. 2: The total employment contribution of the University of Bath and its students, 2014/15**



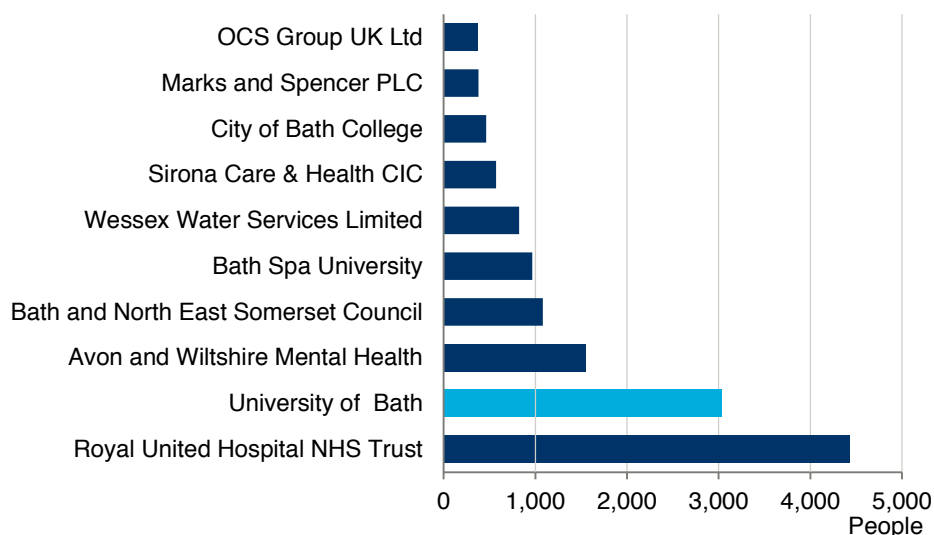
Source: Oxford Economics

### 2.2 THE UNIVERSITY'S OWN EMPLOYMENT

The University of Bath is a major employer in Bath and North East Somerset. In 2014/15, its workforce of 3,031 people made it the second largest employer in the area after the Royal United Hospital Trust (Figure 3). To give an alternative indication of scale, it employs around the same number of people as work in all

of the district's restaurants (3,260 people)<sup>3</sup> and twice as many as are employed in the district's hotels and other types of accommodation (1,540 people).<sup>4</sup>

**Fig. 3: Ten largest employers in Bath and North East Somerset**



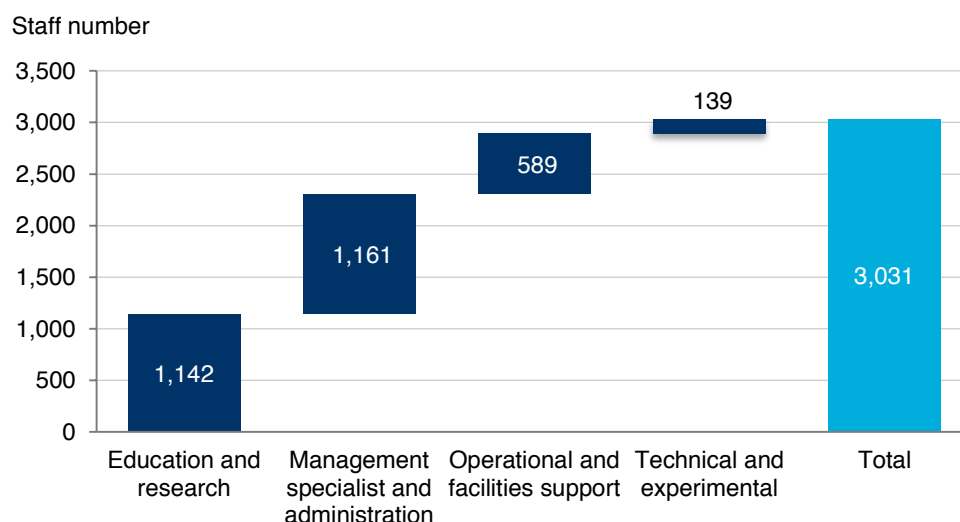
Source: Bath Spa University, University of Bath, Bath and North East Somerset Council

The University of Bath employs people across the skills spectrum. Besides the 1,142 employees engaged in education and research, which constitute 38 percent of the University's workforce, it also employed some 1,161 workers in administrative and managerial roles (a further 38 percent of its workforce) (Figure 4). Another 589 people (19 percent) were employed by the University in operational roles, including, for example, as housekeepers and security officers.

<sup>3</sup> SIC code 561 : Restaurants and mobile food service activities.

<sup>4</sup> SIC code 551 : Hotels and similar accommodation.

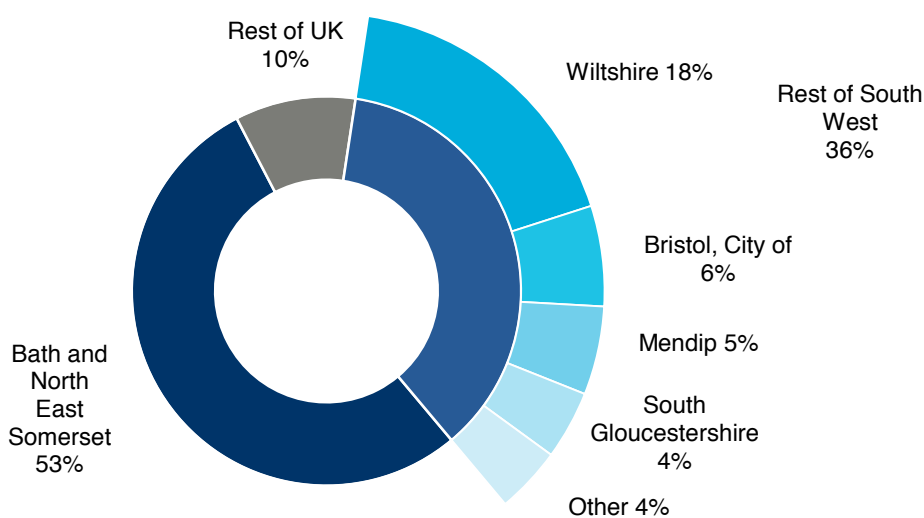
**Fig. 4: Staff by job family, 2014/15**



Source: The University of Bath

The University's employees are highly embedded in the local community. Some 53 percent lived in Bath and North East Somerset in 2014/15, making up 1.9 percent of all the economically active residents of working age in the district.<sup>5</sup> A further 36 percent lived in the rest of the South West, with particular concentrations in Wiltshire, Bristol and Mendip (Figure 5).

**Fig. 5: Home locations of the University of Bath's employees, 2014/15**



Source: University of Bath, Oxford Economics  
Figures may not sum due to rounding

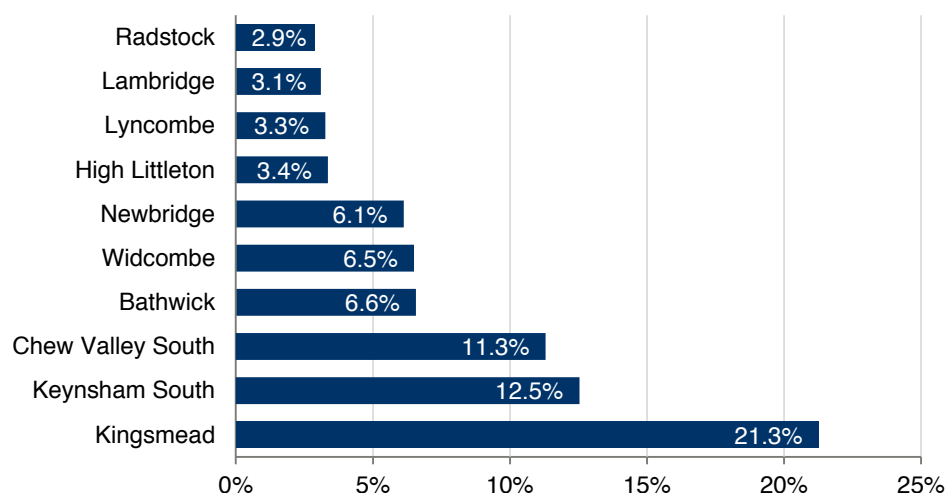
### 2.3 SUPPLY CHAIN AND CONSUMER SPEND CONTRIBUTION

To undertake its activities, the University of Bath purchases inputs of goods and services from suppliers across Bath and North East Somerset and the rest

<sup>5</sup> ONS, Annual Population Survey.

of the UK. The University is estimated to have spent £3.3 million with over 310 suppliers in the district in 2014/15.<sup>6</sup> Suppliers located in Kingsmead and Keynsham South wards received 21.3 and 12.5 percent of the local expenditure, respectively (Figure 6).

**Fig. 6: Location of the University's suppliers within the district by contract value, 2014/15**



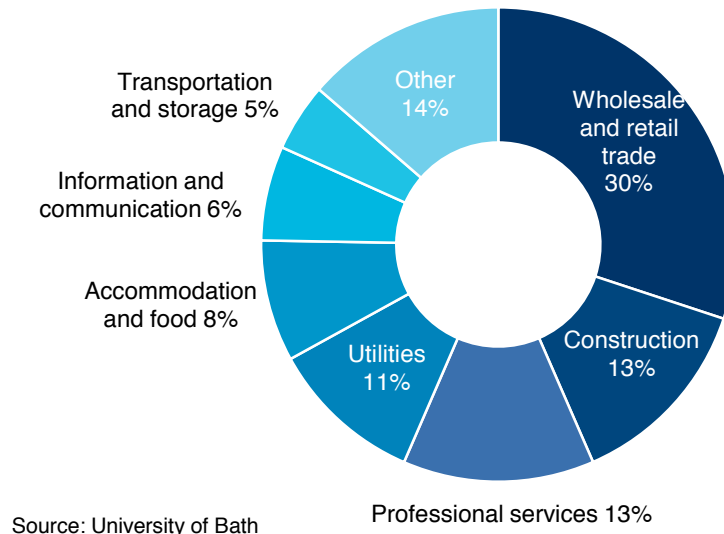
Source: University of Bath

Using the University's invoice database, it is possible to investigate the type of suppliers which benefit from its procurement expenditure. Some 30 percent of the University's expenditure on inputs of goods and services was made with firms in the wholesale and retail trade industry. Construction and professional service firms (accountants, lawyers, marketing and recruitment) ranked joint second with 13 percent of total expenditure (Figure 7).

Purchases from such suppliers, and the subsequent economic activity these purchases stimulate, fuel economic growth by creating and sustaining jobs in the Bath and North East Somerset and the UK economy. It is estimated that the economic activity that the University of Bath's procurement stimulated supported around 40 jobs in the district in 2014/15. The £46.0 million of procurement the University sources from the 3,540 suppliers across the UK supported 1,230 jobs.

<sup>6</sup> This study assumes that one postcode equals one business.

**Fig. 7: Supply chain spending by industry in the UK, 2014/15**



The University and its suppliers pay wages to their employees. A proportion of the wages paid will subsequently be spent by employees within the wider consumer economy, for example at local retail and leisure outlets such as the SouthGate shopping centre in the centre of Bath. This is the University of Bath's induced impact on the economy.

Based on data provided by the University, it is estimated that the institution paid £51.3 million in gross wages to those of its staff that are resident in Bath and North East Somerset in 2014/15. Of that, roughly £37.7 million was available to be spent in the local economy (the remainder was paid in taxes to the central and local government). This expenditure, and that of people working in the University's local supply chain, is estimated to have supported 400 jobs in the district in 2014/15. Most of these were in the retailing and hospitality sectors.

This is probably a conservative estimate, as many of the University's employees, and those employed in its supply chain, are likely to spend a fair proportion of their salary within the district's retail and leisure outlets (for example during lunch-breaks or after work), albeit not living within the district. However, due to difficulties in accurately apportioning this spend, it is not included in the calculations in this study.

The University of Bath has an employment multiplier of 1.15 in Bath and North East Somerset; for every 100 jobs at the University itself, it supports a further 15 across the local economy.

When considering the impact of the wage-spending channel for its entire staff body (including the 47 percent which live outside the district), it is estimated that 2,000 jobs are supported UK-wide by the University of Bath's employees' wage-spending. This means that, UK-wide, the University's employment multiplier is 2.07. In other words, for every 100 employees at the University of Bath, another 107 are supported in the rest of the UK economy.

## 2.4 STUDENT SUBSISTENCE SPENDING

The University of Bath attracts students from all over the world. Some of these will already live in the area and choose to stay and attend the University. Others will move to the area explicitly to attend the University. Some 11,060 of the University's students (or 71 percent of the student body) can be classified as 'additional' to the local area, almost all of whom (over 99 percent) were enrolled in full-time study.<sup>7</sup> In 2014/15 the expenditure of these additional students amounted to £147.5 million, which was spent on local transport, food and personal items from retail and leisure outlets in Bath and North East Somerset. This spending, incurred while studying in Bath, is regarded as being additional to the economy—without the University, it would not be available to support economic activity in the area—and as such is included in the calculations of the overall economic impact of the University.

The subsistence spending of these additional students is estimated to support 2,320 jobs in Bath and North East Somerset

## 2.5 SPENDING OF VISITORS TO STUDENTS

Family and friends visiting the students who moved to Bath and North East Somerset to study at the University also spend money in the area, generating economic activity and supporting employment in local businesses. These visitors use local transport, stay at hotels, visit restaurants and explore the city's historical sites, including the Abbey and the Roman Baths.

In 2014/15, these visitors spent £2.5 million on recreational activities in the area. This expenditure is estimated to support around 60 jobs in Bath and North East Somerset.

---

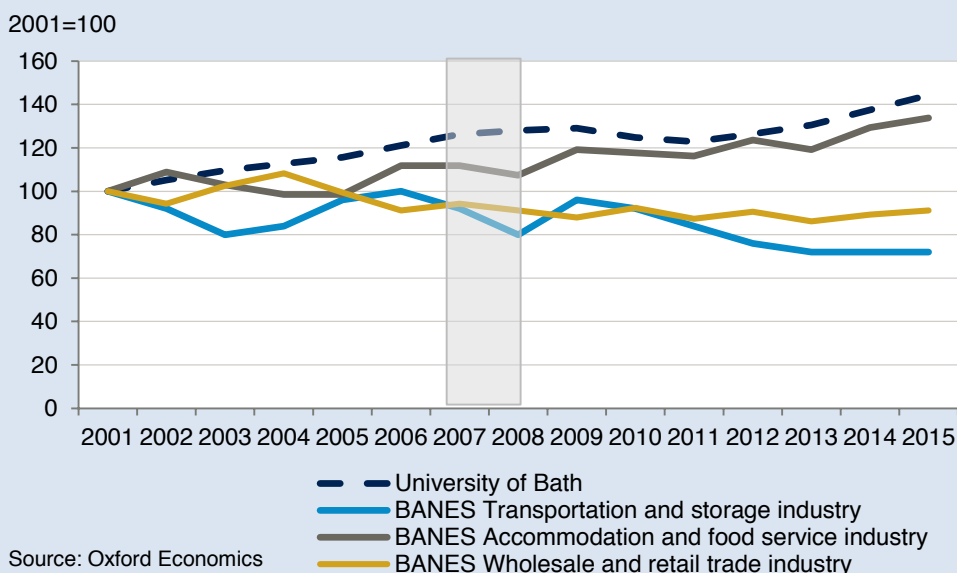
<sup>7</sup> Additional students include students who came from outside Bath and North East Somerset to live in the area while studying and students originally from the district, who choose to stay because of the University.

## THE UNIVERSITY AS A STABLE EMPLOYER

Most economies are subject to economic cycles (known as 'booms' and 'recessions'). Any company or institution that does not follow this ebb and flow, either by retaining or employing more staff, acts to mitigate the negative impact of the wider economy when it enters a recession. It is argued that public sector employment is less pro-cyclical and volatile than the private sector. Comparison of University data and employment levels in the district and region suggest that this is true for the University of Bath.

Analysis of the University's employment data indicates that the recession did not affect employment decisions at the University. The size of the University's workforce in 2008 and 2009 increased by an average of 1.1 percent each year, after GDP started to contract in the second quarter of 2008.<sup>8</sup> By 2015, employment at the University had increased by 14 percent compared to pre-recession (2007) levels—double the seven percent growth seen in Bath and North East Somerset as a whole.

**Fig. 8: Employment at the University compared with other industries in Bath and North East Somerset<sup>9</sup>**



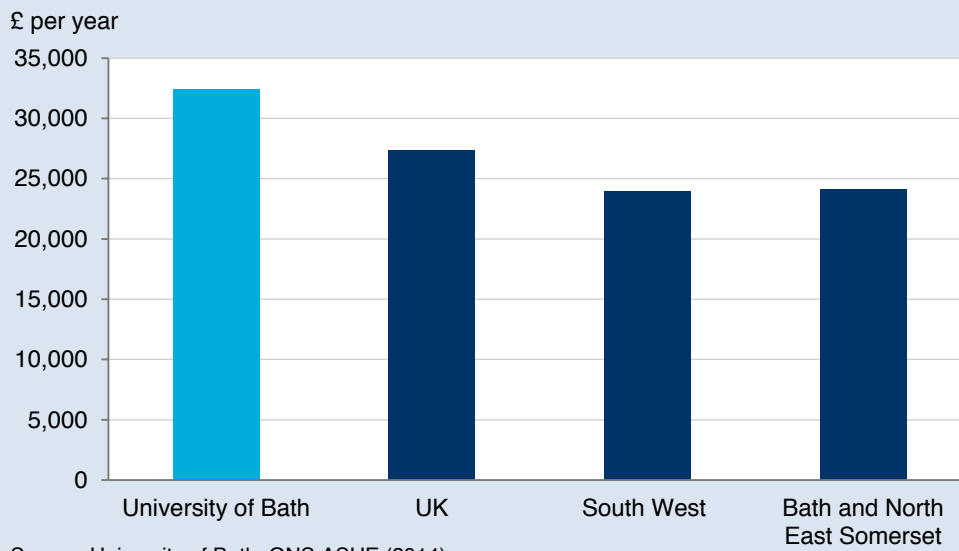
The University of Bath not only contributes to the local economy through the stability of its employment, it also pays its employees gross salaries substantially above the district, regional and national averages. The average gross wage for people employed by the University in 2014/15 was £32,400. This was 35 percent above the average for jobs in Bath and North East Somerset and 36 percent above the average for jobs located in the South West (Figure 9).

By providing stable and relatively high paying employment compared to elsewhere in the district and region, the University supports a continued stream of expenditure on goods and services in the local economy. This mitigates the impact of any recession on the district, particularly given the size of the University as an employer. The benefit of this is not only felt by the businesses serving University employees, it extends to their supply chains and employees—fostering a greater degree of stability and confidence in the district and region.

<sup>8</sup> ONS, "Quarterly National Accounts, Quarter 2 (Apr to June)" (Statistical Release, 2015).

<sup>9</sup> Shaded area reflects the period of falling real GDP (2008Q2 to 2009Q2) according to ONS (2015).

**Fig. 9: Mean gross wage comparison for the University of Bath and all employee jobs (by place or work) in 2014**





## 3. GDP CONTRIBUTION

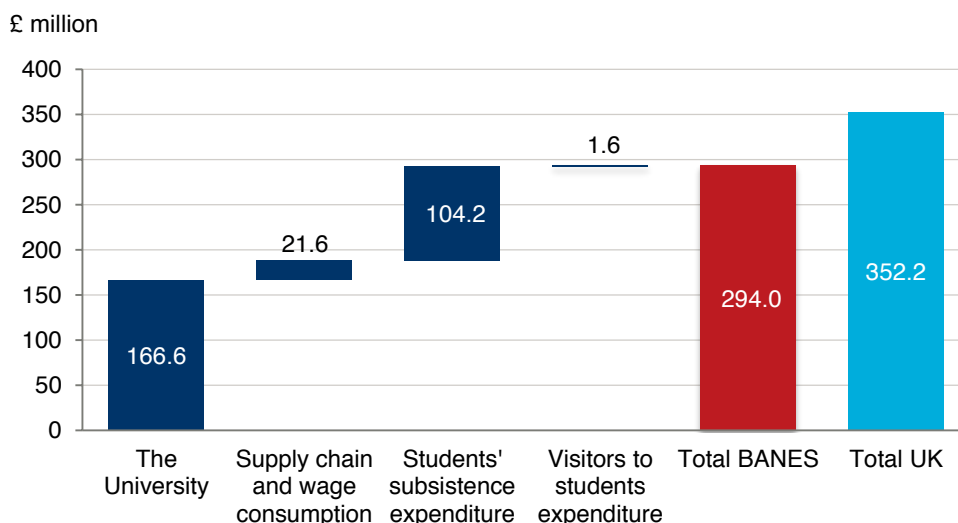
### 3.1 TOTAL GDP CONTRIBUTION

As well as quantifying the impact of the University in terms of the jobs it sustains, we are able to estimate its impact in terms of contribution to GDP. The University of Bath's total impact on the Bath and North East Somerset economy was worth £294.0 million in 2014/15. This is 6.2 percent of all economic output produced in the district. As with employment, this contribution arises from a number of different channels: its direct operations, its procurement, its staff wage-spending, its students' subsistence expenditure and the spend of visitors to these students.

The University is estimated to have directly and indirectly supported a £188.2 million gross value added contribution to Bath and North East Somerset's GDP. It is estimated that the University was directly responsible for £166.6 million of this gross value added contribution, representing 57 percent of the total. Expenditure by additional students and their visitors is estimated to have supported a £105.8 million gross value added contribution, representing 36 percent of the University's total impact in Bath and North East Somerset (Figure 10).

In total, the University of Bath, its students and their visitors are estimated to have supported a value added contribution of over £352.2 million to the UK economy.

**Fig. 10: The contribution to GDP of the University of Bath and its students, 2014/15**



Source: Oxford Economics

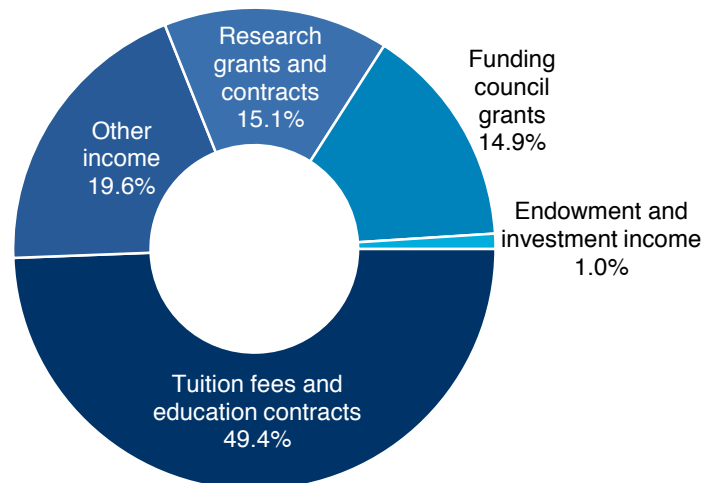
### 3.2 DIRECT GDP CONTRIBUTION

In 2014/15, the University of Bath had revenues of £243.4 million. As with all universities, this income came from a number of different sources. Some 49 percent of the total came from tuition fees and education contracts (Figure 11). Of the £120.2 million received in fees, £58.7 million was paid by home full-time

students, while full-time overseas students paid £38.7 million in fees. Students from other EU countries raised a further £10.1 million for the University.<sup>10</sup>

The second and third largest sources of income were research grants and contracts (£36.7 million) and funding council grants (£36.4 million). Other operating income (largely from the operation of halls of residence, catering and conference services) made up much of the remainder.

**Fig. 11: The University's income by source, 2014/15**

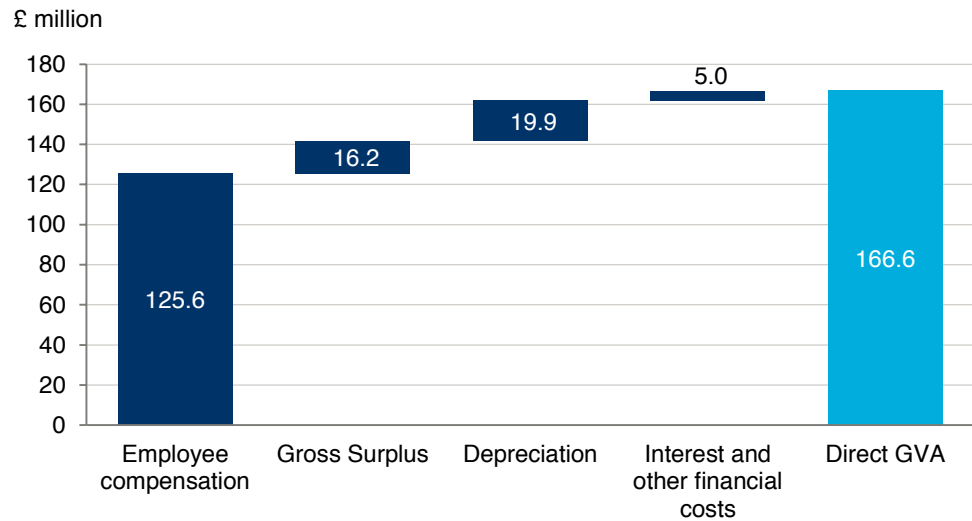


Source: University's 2014/15 financial statements

The University of Bath spent over £227.2 million in 2014/15 on current expenditures. The University's single largest expenditure was its payment of wages and salaries to its 3,031 employees – and other employment costs such as pension and National Insurance contributions – amounting to £125.6 million (Figure 12). It also made a surplus of £16.2 million. Based on this information, Oxford Economics estimates the University generated a £166.6 million gross value added contribution to the Bath and North East Somerset economy, or 3.5 percent of all the economic output produced in the district in 2014/15.

<sup>10</sup> University's 2014/15 Financial Statements.

**Fig. 12: Composition of the University of Bath's direct gross value added contribution, 2014/15**



Source: University of Bath

### 3.3 SUPPLY CHAIN AND CONSUMER SPEND CONTRIBUTION

As well as the direct GDP contribution outlined in section 3.2, the University's expenditure on inputs of goods and services and its payment of wages to staff generates further economic benefits for the district and the national economy. This stimulates considerable activity at businesses across Bath and North East Somerset and the UK as a whole.

In 2014/15, the £3.3 million the University spent on inputs of goods and services from suppliers within Bath and North East Somerset is estimated to have supported a £1.6 million contribution to the district's GDP. It also spent £42.7 million with 3,230 suppliers located elsewhere in the UK. In total, the University's procurement spend stimulated a £35.8 million value-added contribution to UK GDP.

In 2014/15, the University paid £98.2 million in gross wages. Its staff and those of the firms in its direct supply spent a proportion of their income at local retail and leisure outlets. The 52 percent of wages paid to staff living in the district is estimated to have supported a £19.9 million gross value added contribution to Bath and North East Somerset's GDP. Across the whole UK, the wage-financed spending is estimated to have generated a value-added contribution of £87.6 million to GDP.

These results suggest the University of Bath has a GDP multiplier of 1.13 in Bath and North East Somerset. In other words, for every £100 in GDP created directly by the University itself, a further £13 is generated elsewhere in the Bath and North East Somerset economy. The UK-wide GDP multiplier is much larger, at 1.74, suggesting that for every £100 directly contributed by the University to UK GDP, it supports a further £74 elsewhere in the national economy.

### **3.4 STUDENT SUBSISTENCE SPENDING**

The University's additional students spend money on rent, local transport, food and drink, household goods and other items during the course of their studies. In 2014/15 this equated to £147.5 million of extra expenditure, and in turn this stimulated activity all across the district. When all of the subsequent supply chain and wage consumption impacts related to this expenditure are factored into the analysis, this subsistence spending is estimated to support a gross value added contribution of £104.2 million to the Bath and North East Somerset economy.

### **3.5 SPENDING OF VISITORS TO STUDENTS**

Students attract visits from family and friends. Whilst here, these visitors to students use local transport, stay at hotels, visit the district's restaurants and bars, and pay entrance fees to its cultural, sporting and entertainment attractions. This spending stimulates economic activity at local companies. In 2014/15, this spending is estimated to have supported a £1.6 million contribution to Bath and North East Somerset's GDP.

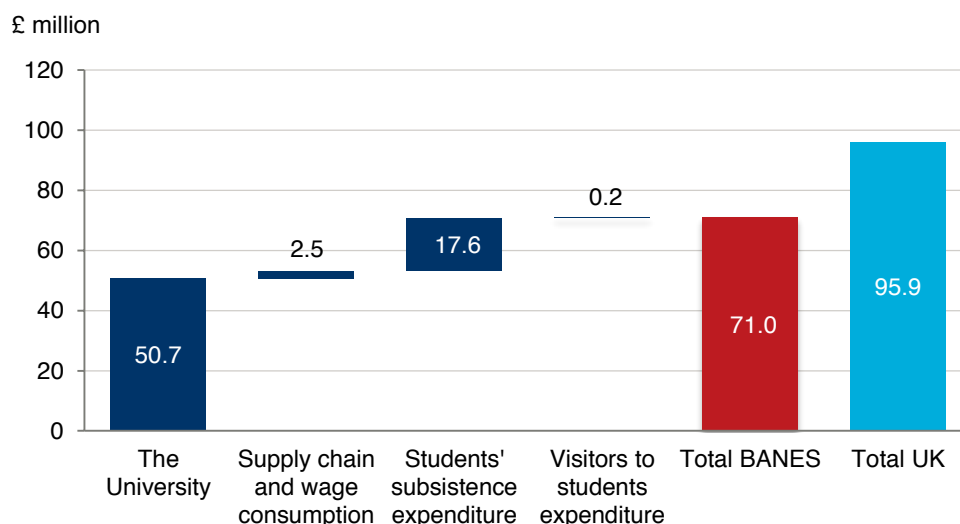
Oxford Economics estimates that on average £9,560 in extra economic activity is supported in the Bath and North East Somerset economy by each additional student brought to the area by the University of Bath. This includes the activity supported through subsistence spending and visitors attracted to the area by the students.

## 4. TAX CONTRIBUTION

### 4.1 TOTAL CONTRIBUTION

All this economic activity generates tax contributions. In total in 2014/15, the University of Bath's activity in the district contributed £71.0 million in tax receipts to the UK Exchequer. The University and its staff were responsible for 71 percent of the total (£50.7 million) (Figure 13). To give a sense of scale, the £50.7 million directly contributed by the University of Bath and its employees could fund the Avon Fire Authority's running costs for over a year. Some £2.5 million was related to local supply chain and wage expenditure and tax payments generated by the students' subsistence spending comprised a further £17.6 million. The activity in the whole of the UK generated £95.9 million in tax receipts.

**Fig. 13: Total tax contribution of the University of Bath, 2014/15**

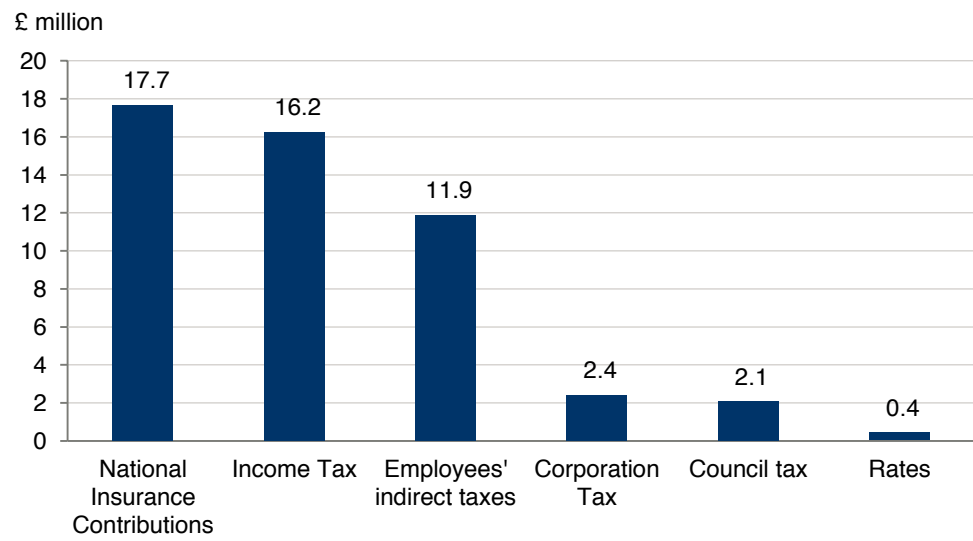


Source: Oxford Economics

### 4.2 UNIVERSITY AND STAFF CONTRIBUTION

As shown in Figure 11, in 2014/15 the University and its employees contributed £50.7 million in taxes. Employer and employee National Insurance contributions accounted for 35 percent of the tax contribution (£17.7 million), while employee income tax payments amounted to a further £16.2 million for the Exchequer. The payments of indirect taxes (including VAT) by University employees accounted for nearly a quarter of the tax impact of the University (Figure 14).

**Fig. 14: Taxes paid by the University of Bath and its employees, 2014/15**



Source: University of Bath, Oxford Economics

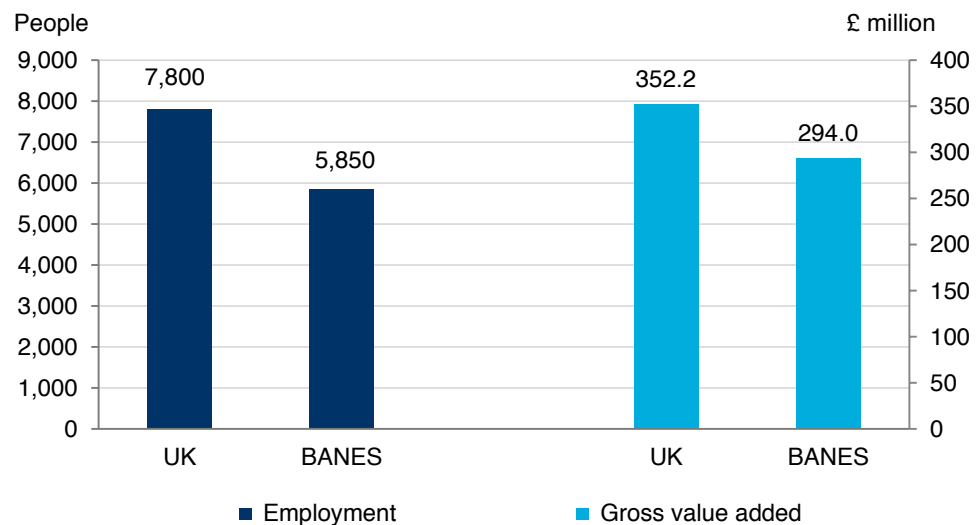
## 5. CONCLUSION

This study has assessed the impact of the expenditure that the University of Bath, its students and their visitors had on the Bath and North East Somerset and the UK economy in 2014/15. This was done by examining the University's own operations, its purchases from local and other UK suppliers, the wage-spending of its staff and the impact of its students' and their visitors' expenditure.

This analysis shows that, in total, the University of Bath, its students and their visitors are estimated to support one in every 17 people in employment in Bath and North East Somerset. The University also supported a value added contribution of £294.0 million to the district's GDP in 2014/15. This is equivalent to 6.2 percent of the local economy (Figure 13).

Taking account of the entire impact chain – direct, indirect, induced impacts and the activity supported by students and visitors – the University generated a £352.2 million value-added contribution to the UK economy. This activity supported 7,800 people in employment in the country and generated £95.9 million in tax receipts (Figure 14).

**Fig. 15: The economic impact of the University of Bath on Bath and North East Somerset and the UK, 2014/15**



Source: Oxford Economics

## 6. APPENDICES

### UNIVERSITY OF BATH'S CONTRIBUTION TO THE LOCAL ECONOMY THROUGH KNOWLEDGE EXCHANGE

The knowledge, expertise and research excellence of the University of Bath is supporting the local economy through the establishment of start-ups and the transfer of knowledge to companies and organisations through consultancy and other arrangements. A summary of these activities is provided in this section, written by Dr Jon Hunt, Director of Research & Innovation Services.

"The Innovation Centre is a flagship enabler of growth. As a founding partner of SETsquared, the University of Bath's Innovation Centre accounted for around 20% of an estimated £3.8 billion economic impact between 2004 and 2014. In 2015, SETsquared was ranked the world's leading university business incubator.

### NEW JOBS, COMPANIES AND INVESTMENT RAISED

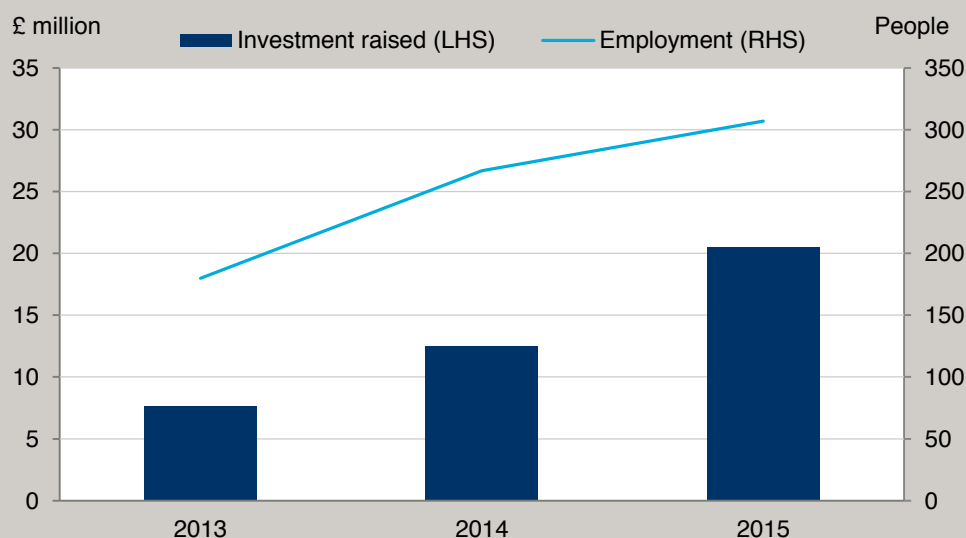
Since 2013, the numbers of new jobs, high value, highly productive jobs, has grown from 180 to 307 last year. The number of companies supported by the University of Bath has been about 50 each year, with a growing number of graduates coming from the campus to set up companies (Fig. 16).

**Fig. 16: Number of companies supported by the University, 2013-2015**

| Year | Total | ...of which coming from the Campus |
|------|-------|------------------------------------|
| 2013 | 54    | 10                                 |
| 2014 | 44    | 16                                 |
| 2015 | 56    | 25                                 |

The investment raised by these companies has grown to a substantial figure of £20 million, up from £8 million per year a few years ago. The investment is largely invested in new jobs, directly benefiting Bath (Fig. 17).

**Fig. 17: Investment and jobs created by companies supported by the University of Bath, 2013-2015**



Source: University of Bath



## CASE STUDIES



"Our time at the Innovation Centre was good, particularly during our early years where we were introduced to UKTI allowing us to build up contacts overseas which are now coming to fruition. The convenient location of the Innovation Centre was also very useful when it came to recruitment and setting up meetings."



"The Innovation Centre provided an ideal set of managed facilities at the early state of the growth of our business. Connectivity, including networking, was really important and contributed to our local customer base and knowledge."



"UBIC is valuable for any start up. Not only does it allow the team to be 100% focussed on building a business, it allows an instant sense of community before your company is big enough to have its own."



"The Innovation Centre was the perfect low-cost and flexible place for Purple to start life as a seedling company. Those early years of establishment and growth were critical in our development and the support from the IC allowed us to 'launch' into the wider world once we were established in our market."



"Our time at the IC was invaluable; we learnt a lot from the team and other companies. I'd recommend the IC and SETSquared to anyone setting up a company."



## UNIVERSITY OF BATH 'SPIN-OUT' COMPANIES

The University of Bath has created some outstanding companies. Spin-outs from University research have included world-class companies like LSE-listed Vectura, Atlas Genetics (which J&J has recently invested \$20m into) and Nano-Porous Solutions, which the University successfully exited from. Start-ups by University of Bath's graduates have also done very well; Fitronics made a \$multi-million exit a couple of years ago; Industrial Phycology has just raised a £1m in funding and has partners including Stirling Dynamics and Wessex Water; and Mountain-Trike has expanded to the US.

Two very recent companies remain in Bath (Fig.18).

**Fig. 18: UoB 'spin-out' companies in Bath**

| Company  | Location | Date   | Value                       | Academic        |
|----------|----------|--------|-----------------------------|-----------------|
| CiteAb   | Bath     | Aug-14 | £50,000<br>(company value)  | Andrew Chalmers |
| Diversus | Bath     | Mar-14 | £345,000<br>(company value) | Michele Meo     |

## LACK OF COMMERCIAL SPACE

A recent study showed that 16 of a sample of the 44 companies stayed in Bath (Fig. 19:).

**Fig. 19: Survey results**

| Gold* (Virtual) Members   | Where did they go?                           | Did they continue to grow?        | Did they stay in the Bath area? |
|---------------------------|--|-----------------------------------|---------------------------------|
| Aerotails                 | Independent office                           | Diversified                       | Yes, BA2 6PR                    |
| Akya                      | Unknown                                      | Unknown                           | No, YO32 9GW                    |
| AutoCAT one               | Unknown                                      | Unknown                           | No, GL6 6UR                     |
| Bardowl                   | In the Bath area                             | No - Closed Business              |                                 |
| Catalyst Social Media     | Trowbridge                                   | Yes                               | Yes, BA14 8HE                   |
| Chesterdeal/Topic Logic   | Tramshed, (CloudFind)                        | Yes                               | Yes, BA1 5BB                    |
| Eltek                     | Cambridge                                    | Unknown                           | No, CB23 1LL                    |
| Everything Parking        | Gloucestershire                              | Yes                               | No, GL2 2AT                     |
| Genasic                   | Swindon                                      | Unknown                           | No, SN25 1WJ                    |
| Gyphon MCS                | Chippenham                                   | Unknown                           | No, SN14 8LP                    |
| Imobigo                   | Closed company - but opened another business | No                                | Yes                             |
| Inergy Systems            | Wiltshire                                    | Yes                               | No, SN4 7HF                     |
| New Model Identity        | Stayed in Frome                              | Yes                               | No,                             |
| Optimum Environment       | Chippenham                                   | -                                 | No, SN14 6RR                    |
| Phytex                    | Hounslow                                     | Unknown                           | No, TW3 1LY                     |
| Portal 47/LocaleApp       | Chippenham                                   | No - Closed Business              | -                               |
| Prizm Games               | Stayed in Bath area                          | No - Closed Business              | -                               |
| SafetyNet Secure          | Business on hold - waiting for funding       | No – Closed Business              | -                               |
| Speakr Technologies       | Working from home, waiting for funding       | No                                | -                               |
| Sure Sense                | Working from home, looking for funding       | No – Considering closing business | Yes                             |
| Systemic Consult          | Bradford on Avon                             | Yes                               | Yes, BA15 1EJ                   |
| Tangerine Home Technology | Relocated to Bristol?                        | Yes?                              | No                              |
| Thalia Design Automation  | Moved the company to Wales                   | Yes                               | No, NP44 3AW                    |
| Trust Mico                | Cardiff                                      | Unknown                           | No, CF24 4AY                    |
| VizWho                    | Evolved to become Climbing Fish              | Yes                               | Yes                             |
| Earsoft                   | Newcastle Upon Tyne                          | Yes                               | No, NE1 6UF                     |
| Grid Scientific           | Reading / Berkshire                          | Yes                               | No, RG7 4TY                     |
| Rubber Regen              | Unknown                                      | Company Dissolved                 | No                              |
| 3Vision                   | Moved to larger office space                 | Yes                               | Yes, BA1 2PW                    |
| Astrum-IP                 | Merged with Bristol company                  | Yes                               | No, BS1 3BN                     |
| Aval Solutions            | Relocated to co-working                      | No                                | Yes, BA1 5EB                    |
| Caternet                  | Relocated, Hampshire                         | No                                | No, SO18 2RX                    |
| Climbing Fish             | Relocated                                    | Yes                               | New York                        |
| Cognisess                 | Started to work from home                    | Yes                               | Yes, BA1 5EB                    |
| Databank                  | Relocated                                    | Yes                               | Belize                          |
| Ether Mobile Publishing   | Stayed locally working for others            | No, Company                       | -                               |

|                           |  |         |                 |
|---------------------------|--|---------|-----------------|
| (Ether Books)             |  | Dormant |                 |
| Farncombe                 | Head office in Basingstock, Bath branch is in Gay Street.        | Yes     | Yes, Gay Street |
| hospitalityGEM            | Stayed locally   | Yes     | Yes, BA1 1ER    |
| Intohand                  | Stayed locally   | Yes     | Yes, BA1 2PW    |
| IUCN Species Survival     | Cambridge  | Yes     | No, CB3 0DL     |
| Mandika                   | Built an office at home  | Yes     | Bath area       |
| Search Star               | Moved to larger space, to move again to even larger office space | Yes     | Yes, BA1 1SR    |
| Scarab Distributed Energy | Closed the business  | Unknown | -               |
| Super User Studio         | Moved to larger office space                                     | Unknown | Yes, BA1 5DZ    |

## OTHER INTERACTIONS

| Company  | Location | Date   |
|--|----------|--------|
|  | Bath     | Aug-14 |
| Wessex Water Services Ltd                          | Bath     | Mar-14 |
| BANES, School Improvement and Achievement Services | Keynsham | Mar-14 |
| Beechcraft Ltd                                     | Radstock | Jan-15 |
| Bath Abbey   | Bath     | Apr-15 |

**Fig. 21: Research council funded secondments of academics to companies**

| Company               | Location | Date            |
|-----------------------|----------|-----------------|
|                       | Bath     | Aug 15 – Feb 16 |
| Bath Rugby            | Bath     | Dec 15 – May 16 |
| 3D Metal Printing Ltd | Bath     | Oct 15 – Mar 16 |

**Fig. 22: Research projects within the BANES region**

| Company                           | Location | Date   |
|-----------------------------------|----------|--------|
|                                   | Bath     | Jan-10 |
| Cross Manufacturing Co (1938) Ltd | Bath     | Jan-15 |
| Wessex Water                      | Bath     | Jul-13 |
| Bath Abbey                        | Bath     | Nov-14 |

**Fig. 23: £1,38m of partner funded research projects within the BANES region**

| Company       | Funder         | Location | Date   |
|---------------|----------------|----------|--------|
| Wessex Water  | EPSRC          | Bath     | Oct-12 |
| Wessex Water  | EU Commission  | Bath     | Oct-12 |
| BaNES Council | NIHR           | Bath     | Jan-11 |
| BaNES Council | Cabinet Office | Bath     | Apr-14 |

The University of Bath's engagement and economic impact on Bath and B&NES as a whole is significant. Many of the companies supported by University show that Bath is short of commercial space."

Dr Jon Hunt, Director of Research & Innovation Services

## METHODOLOGY

### Student subsistence spending

The University of Bath attracts students to Bath and North East Somerset and to the UK from other parts of the world and keeps students previously resident in the locality. The subsistence spending of these students would not otherwise occur in the Bath and North East Somerset economy and is, therefore, part of the overall impact of the University of Bath.<sup>11</sup>

Subsistence expenditure refers to all spending on goods and services except for tuition fees. It includes, for instance, the purchase of items required for facilitating their study – such as transport to University and books – as well as other consumer expenditure – including spending on food, leisure and social activities. Payments to the University in the form of tuition fees and for university accommodation are removed from the calculation so as not to double count.

The Department for Business Innovation and Skills regularly publishes data on subsistence expenditure by students. The latest available covered the 2011/12 academic year.<sup>12</sup> Students' expenditure is made up of:

- living costs, including food, drink, personal items etc.;
- housing costs, including rent, mortgage costs etc.;
- participation costs, including costs of books, stationery etc., and;
- spending on children, if any.

Making allowance for the change in living costs between 2011/12 and 2014/15 using the Consumer Price Index indicates that the average student at the University of Bath spends £11,100 per year, including housing costs.

To calculate how much expenditure the University of Bath brings into the district in the form of student subsistence spending, it is necessary to compare student term time and home locations. It suggests that 10,800 students came from outside Bath and North East Somerset to live in the area while studying in 2014/15. A further 270 students lived in the area while studying at the University of Bath, but as these students were originally from Bath and North East Somerset, their spending cannot be treated as 'additional' unless they would have left the area to go to other higher education institutions (HEIs). Using tracking data provided by the University, it has been estimated that nearly 100 percent of full-time students would have left Bath and North East Somerset to pursue higher education elsewhere.

---

<sup>11</sup> The spending of students domiciled in Bath and North East Somerset prior to attending university is not deemed to be additional to the local economy as the counterfactual scenario assumes that these students would be spending money in this economy if they were not attending the University of Bath.

<sup>12</sup> Department for Business Innovation & Skills, Student Income and Expenditure Survey 2011/12

### Visitors to students

The additional visitors the University attracts to the local area come from other parts of the UK and overseas. The spending profile of the two types of visitors – domestic and international – differs by a visitor's origin; therefore two methods are used to calculate the spending impact of these visitors in Bath and North East Somerset and in the UK as a whole.

- Visitors from overseas

ONS International Passenger Survey (IPS) provides detailed spending of international visitors to the UK and its regions, disaggregated by purpose of the trip and by nationality of the visitor. University data indicate that, for instance, there were 1,040 additional students from China living in Bath and North East Somerset in 2014/15. The 2011 Census data indicate that there were 9,600 people of Chinese nationality living in the South West. Therefore, 11 percent of all spending by Chinese visitors to the region who were visiting friends and relatives in the area is attributed to the University of Bath.

Applying this methodology to the University's 3,600 additional overseas students who were living in Bath and North East Somerset indicates that visitors to these students spent over £1.5 million in the area in 2014/15.

- Domestic visitors

The University's domestic students also attract visitors to Bath and North East Somerset. 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.<sup>13</sup> Using a similar approach to that employed for overseas visitors it is possible to estimate the level of spending that these domestic visitors introduce into the district. This study assumes, therefore, that each student from outside Bath and North East Somerset gets one visitor from their home region each year. With the likelihood that some students receive multiple family visits over the course of an academic year and that parents are often involved in the transport of personal effects at the beginning and end of session, this is probably a very conservative assumption.

Following this approach, the 7,260 additional students who came to Bath and North East Somerset to study at the University of Bath from elsewhere in the UK attracted visitors who spent over £1.0 million in the local area.

In total in 2014/15, domestic and international visitors to students at the University of Bath spent £2.5 million on local transport, accommodation, restaurants and bars and in the recreational sectors.

---

<sup>13</sup> Great Britain Tourism Survey (2014), online data browser



**Europe, Middle East,  
and Africa:****Global headquarters**

Oxford Economics Ltd  
Abbey House  
121 St Aldates  
Oxford, OX1 1HB  
UK  
**Tel:** +44 (0)1865 268900

**London**

Broadwall House  
21 Broadwall  
London, SE1 9PL  
UK  
**Tel:** +44 (0)20 7803 1418

**Belfast**

Lagan House Sackville Street  
Lisburn  
County Down, BT27 4AB  
UK  
**Tel:** + 44 (0)2892 635400

**Paarl**

12 Cecilia Street  
Paarl 7646  
South Africa  
**Tel:** +27(0)21 863-6200

**Frankfurt**

Mainzer Landstraße 41  
60329 Frankfurt am Main  
Germany  
**Tel:** +49 69 95 925 280

**Paris**

25 rue Tiphaine  
75015 Paris  
France  
**Tel:** +33 (0)1 56 53 98 52

**Milan**

Via Cadorna 3  
20080 Albairate (MI)  
Italy  
**Tel:** +39 02 9406 1054

**Americas:****New York**

5 Hanover Square, 19th Floor  
New York, NY 10004  
USA  
**Tel:** +1 (646) 786 1879

**Philadelphia**

303 West Lancaster Avenue  
Suite 2e  
Wayne, PA 19087  
USA  
**Tel:** +1 (610) 995 9600

**Mexico City**

Emerson 150, Despacho 802  
Col. Polanco, Miguel Hidalgo  
México D.F., C.P. 11560  
**Tel:** +52 (55) 52503252

**Boston**

51 Sawyer Road  
Building 2 - Suite 220  
Waltham, MA 02453  
USA  
**Tel:** +1 (617) 206 6112

**Chicago**

980 N. Michigan Avenue,  
Suite 1412 Chicago  
Illinois, IL 60611  
USA  
**Tel:** +1 (773) 372-5762

**Miami**

1090 Oysterwood Street  
Hollywood, FL 33019  
USA  
**Tel:** +1 (954) 815 0305

**Asia Pacific:****Singapore**

Singapore Land Tower  
37th Floor  
50 Raffles Place  
Singapore 048623  
**Tel:** +65 6829 7198

**Sydney**

Level 4, 95 Pitt Street  
Sydney, 2000  
Australia  
**Tel:** +61 (0)2 8249 8286

**Email:**

[mailbox@oxfordeconomics.com](mailto:mailbox@oxfordeconomics.com)

**Website:**

[www.oxfordeconomics.com](http://www.oxfordeconomics.com)