

Bournemouth
University

Bournemouth University Economic Impact Study 2013

Prof John Fletcher and Dr Yeganeh Morakabati (September 2013)

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Executive Summary

- BU spent £119.558M in 2013 of which 51.1% was on wages and salaries.
- In 2013 BU students and their visiting friends and families spent £114.006M in the local conurbation and more than £128.035M in the South West Region.
- BU paid wages and salaries of £61.074M of which 58% was in the local conurbation and 82% was in the South West region in 2013.
- BU Staff spent nearly £53.591M in 2013 and more than 58% of that spending takes place in the conurbation of Bournemouth, Christchurch and Poole.
- Students at Bournemouth University spent more than £125.436M and more than 88.4% of it was spent in the local conurbation of Bournemouth, Christchurch and Poole.
- The total effect of BU activities (including staff and students) on the levels of direct and secondary spending in the local economies of Bournemouth, Christchurch and Poole was £251.987M. This figure increases to £361.995M in expenditure for the South West region as a whole. If capital spending is included this amounts to more than £1M per day.
- The impact of BU on the levels of income in Bournemouth, Christchurch and Poole was £54.798M after taking into account the secondary effects generated by the spending of the University, its students and staff.

- BU directly created 1,390 FTE jobs in 2013 within Bournemouth, Christchurch and Poole and when the secondary effects are included this rises to 2,111 FTEs throughout all sectors of the local conurbation.
- Just under 1 FTE job is supported in the local conurbation for every 7.4 students at BU and at it only needs 6.5 students to support 1 FTE job in the economy of the South West Region.
- BU and its students spent £207.867M across the economies in the South West in 2013. When the secondary effects are included this level of spending increases to more than £361.955M.
- The activities of BU and its students increased income levels in the South West Region by almost £80.154M and supported 3,124 FTE job opportunities.
- In terms of export activities, the non-UK BU students and associated activities generated at least £84.814M spending (direct and secondary), £17.192M income and supported 642 FTEs throughout the South West regional economy.

Introduction

Bournemouth University continues to be a vital component of the local economy, injecting significant elements of demand into the economies of Bournemouth, Christchurch, Poole, Dorset and the South West Region. The University impacts on the local community and economy in a variety of ways:

- 1) The University brings a well-educated, highly paid work force into the community
- 2) It provides advice and support to local businesses and government
- 3) Direct expenditure on goods and services
- 4) Payment of salaries and wages
- 5) Student Expenditure
- 6) Visitors (to students and to University)
- 7) Indirect and induced expenditure as a result of the increased levels of demand
- 8) It adds to the life-time earning capabilities of its students
- 9) It retains creative forward thinking individuals in the local community

This study updates the previous economic impact study, which was undertaken in 2007, and examines the direct economic impacts included in 3-8 above. The secondary benefits (indirect and induced effects¹) are estimated using primary data collected from key suppliers to the University and utilising output and income multiplier values derived from studies in the local economy and other areas in the UK, including the Econ|i² regional economic (input-output) model. The secondary effects within the conurbation were calculated using local impact study data together with the information collected from major suppliers. However, to maintain consistency the secondary effects throughout the region were estimated using the same coefficients as those used in the previous study in 2008.

¹ See Appendix for definitions

² <http://www.economicssystem.co.uk/south-west/index.php>

Methodology

This study uses data that are available from the University accounting system for the financial year ending July 2013. These accounts are provisional and may be subject to refinement but any changes are unlikely to be significant or affect the results set out in this report. Data were extracted to show expenditure on the purchase of goods and services by postcode and these were then allocated to the main geographical sub-divisions relating to the local conurbation (Bournemouth, Christchurch and Poole), Dorset (excluding the conurbation), the rest of the South West Region and then to the rest of the UK. Major suppliers to the University, in terms of the value of payments made in 2012 and 2013, were contacted to establish what proportion of the money they received from the University was re-spent within the local economies. Staff wages and salaries together with other staff costs were extracted from the University accounts. An online survey (2013) was launched to establish the residential location of staff, by salary and their expenditure patterns, in each of the areas identified in this report, were derived from ONS data. Similarly, an online survey (2013) was launched to determine the expenditure volume and patterns of students (excluding payment of their fees) for each of the local economies. Estimates were made relating to the number of visitors and friends of students coming to the area periodically during the year and for graduation ceremonies. Local expenditure data for day visitors and staying visitors were then applied to the estimated numbers of visitors.

In this way the researchers calculated University expenditure, by postcode, staff income and expenditure by place of residence and area of expenditure and, finally, student expenditure by place of residence and area of expenditure (excluding University fees because the inclusion of University fees in student expenditure would have led to double counting as this sum is included in the expenditures made by the University).

Once the total expenditures by category and area were determined, together with the re-spending data from suppliers, multiplier values to estimate secondary income and spending effects were determined using these data and the outcomes from a number of sub-regional and regional studies. This approach allowed the researchers to calculate the secondary (indirect and induced) effects created by the expenditures made by the University, its staff and students.

The Economic Impact of BU, its Students and Staff on Each of the Geographical Regions

When the University, its students and staff spend money within an economy (in the local conurbation, Dorset, the SW Region, or the UK) it will have secondary or **“knock on”** impacts that percolate throughout all sectors of those economies. **These “knock on” effects** are created by spending money to purchase goods and services from suppliers and then those suppliers spending money on goods and services from their suppliers and so on. Clearly the University will have a major impact on the local economies in the surrounding area (Bournemouth, Christchurch and Poole) because this is where the students and the majority of staff reside and spend their income. However, when goods and services are bought outside the local conurbation they have impacts on other areas, such as Dorset, the South West Region and the UK economy as a whole.

The impacts are shown in terms of the effects of BU related activities on the levels of direct and secondary spending, income and the number of full-time equivalent job opportunities supported (FTEs). All effects are shown at 2013 prices.

University, Student and Staff (Expenditure and its distribution)

The year 2013 has been taken as the baseline of this study. For the year ending July 2013 **the University's** total recurrent expenditure was £119.558M and the breakdown of this expenditure is shown in Table 1.

The staff costs are clearly the largest component of the University's recurrent expenditure, as one would expect in the Higher Education sector, and expenditure on goods and services follows a close second with £49.63M being spent in the 2013 financial year.

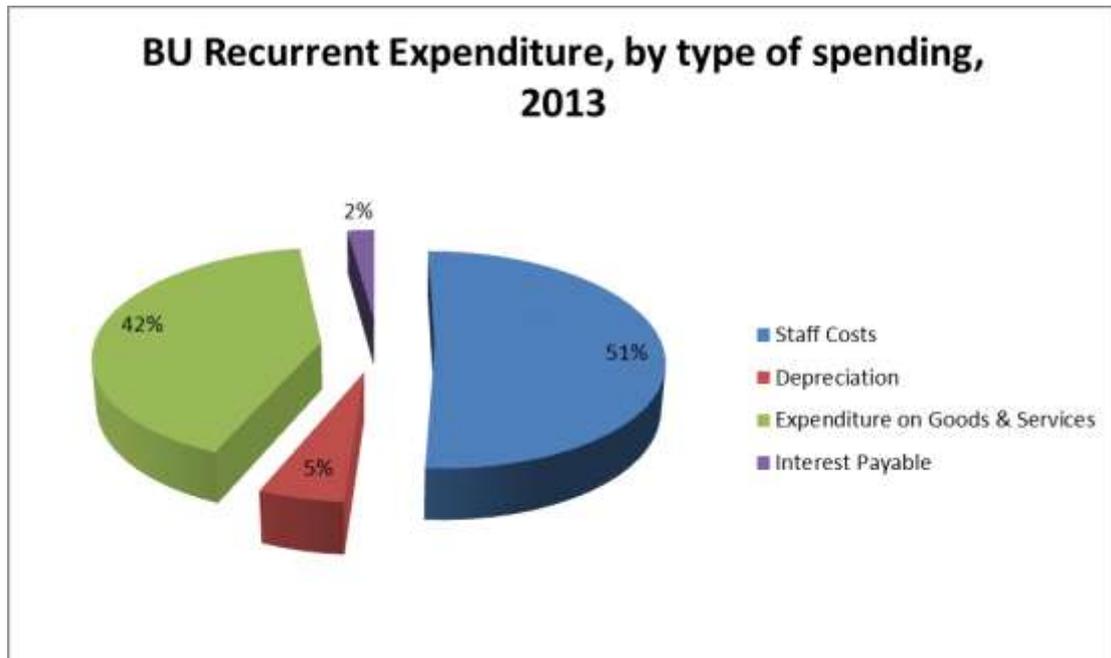
Table 1: BU Recurrent Expenditure 2013

Expenditure	£M	% of total
Staff Costs	61.074	51.1
Depreciation	6.253	5.2
Expenditure on Goods & Services	49.630	41.5
Interest Payable	2.601	2.2
Total	119.558	100.0

Source: BU Provisional Financial Accounts, 2013

Figure 1 shows the breakdown of spending by type of expenditure for 2013, showing what proportion of spending is on staff costs, expenditure on goods and services, depreciation and interest payments.

Figure 1:



If the £49.63M of expenditure on goods and services together with the expenditure on other staff costs such employer contributions, pensions etc., (£65.967M) is broken down into expenditure by geographical area it can be seen that the areas defined as Bournemouth, Christchurch and Poole (the conurbation) and the rest of Dorset together account for more than 41.2% of the **University's total expenditure on goods and services**. If the amount of money paid out in the form of wages and salaries is added to this then 43.4% of the £119.558M is injected into the conurbation and 55.8% is injected into the Dorset economy as a whole. Table 2 shows the breakdown of expenditure by BU plus wages and salaries during the financial year ending July 2013.

Table 2: BU Recurrent Expenditure, Wages and Salaries Paid, by Area, 2013

Area	£'s Goods & Services	£'s Wages & Salaries	% of total
The Conurbation ^a	20,686,643	31,208,476	43.4
Rest of Dorset	6,503,816	8,325,809	12.4
Rest of South West Region	8,960,819	4,145,672	11.0
Rest of UK	29,815,699	9,911,300	33.2
Total	65,966,976	53,591,257	100.0

Source: University Provisional Financial Accounts, 2013 and Payroll Data, 2013

A The Conurbation includes Bournemouth, Christchurch and Poole

Note: An element of the total staff costs is shown within the recurrent spending and the staff costs column reflects only the money paid out in wages and salaries.

The spending by BU students is a significant source of demand for the local economies and in the 2013 year this was estimated to be more than £125.436M (excluding fees). A recent study published by the NUS³ estimated the average student expenditure in the UK to be £9,204 whereas the survey of student spending that was undertaken at BU yielded a lower figure of £7,988. This study uses the lower figure as this

³ <http://www.nus.org.uk/Global/Student%20contribution%20to%20the%20UK%20economy.pdf>

is based on data derived from the BU student survey. Using the data from the online surveys it is possible to identify not only the value of student expenditure but also its geographical spread. Because Bournemouth has a variety of student categories, including nationality (home, the EU and overseas) whether they are undergraduates, postgraduate or postgraduate research degree candidates, full-time and part-time students, etc., it was decided to estimate the total expenditure associated with each category of students and then sum them to derive the total level of student expenditure and its distribution.

As in the previous study, the student expenditure data need to be adjusted to take account of those part-time students that were likely to have been in Bournemouth, Christchurch or Poole whether or not they were pursuing an academic qualification. If students would have been in the local conurbation irrespective of their programme at BU their spending was removed from the student expenditure calculations. However, local residents undertaking full-time BU programmes do have their expenditure included on the basis that if BU did not exist they would have had to undertake their studies outside of the conurbation. Finally, staff who are registered as part time PGR researchers were also excluded on the basis that their contribution to the levels of spending in the local economies would be included in the staff calculations. Table 3 shows how total (adjusted) student expenditure is distributed over each of the geographical areas.

Table 3: BU Student Expenditure by Area, 2013

Area	£'s	% of total
The Conurbation	110,449,663	88.1
Rest of Dorset	9,385,027	7.5
Rest of South West Region	4,644,705	3.7
Rest of UK	956,168	0.7
Total	125,435,564	100.0

Source: Online Student Survey, 2013

In addition to the direct student spending, account was taken of visits to students by family and friends (VFR) as they bring students to Bournemouth, Christchurch and Poole each term and also visit the conurbation for graduation ceremonies. This expenditure was calculated as follows:

It was assumed that 50% of the Home/EU students would be brought to BU on the basis of a day visit with an average number of 2 in the party (a conservative estimate). It was further assumed that 20% of Home/EU students would be brought to BU by family and friends who would stay one night. The remaining 30% of Home/EU and the non-EU students were assumed to travel to BU on their own without family or friends. Using the local expenditure data for staying and day visits to Bournemouth (£55.75 and £10.50 per person respectively) this yielded a total spending for the six visits per annum of £2.375M. Graduation ceremonies added to this figure on the basis of 4,750 graduands with each having VFR spending of £250 per party generating a further £1,181M of spending (£3.556M in total). This was assumed to occur in Bournemouth and the spending per person per day were taken from the local visitor spending surveys. This VFR spending was added to the total student expenditure making a grand total of £128.992M.

Table 4: BU Student Expenditure by Category of Student, 2013.

Student Category	Average Spend per Student	No. of Students	Total Spend £s	% of Total Spend
Full-Time UK UG	7,817	10,471	81,854,482	65.26
Part-Time UK UG	7,500	1,511	11,333,250	9.04
Full-Time Non-UK UG	8,700	2,024	17,608,800	14.04
Part-Time Non-UK UG	8,000	132	1,056,000	0.84
Full-Time UK PGT	10,050	250	2,512,500	2.00
Part-Time UK PGT	7,000	202	1,415,736	1.13
Full-Time Non-UK PGT	8,239	768	6,327,468	5.04
Part-Time Non-UK PGT	8,000	89	712,000	0.57
Full-Time UK PGR	10,819	132	1,428,154	1.14
Part-Time UK PGR ⁴	10,660	35	373,100	0.30
Full-Time Non-UK PGR	9,273	81	751,081	0.60
Part-Time Non-UK PGR	8,000	8	64,000	0.05
All Students	7,988	15,703	125,435,564	100.00

Source: Online Student Survey 2013

Note: Percentages do not add exactly to 100.0 because of rounding errors.

In terms of what the students spend their money on whilst at the University Table 5 provides a breakdown of all student expenditure by type of spend.

⁴ The part-time PGRs were adjusted to discount those researchers who were also staff at BU

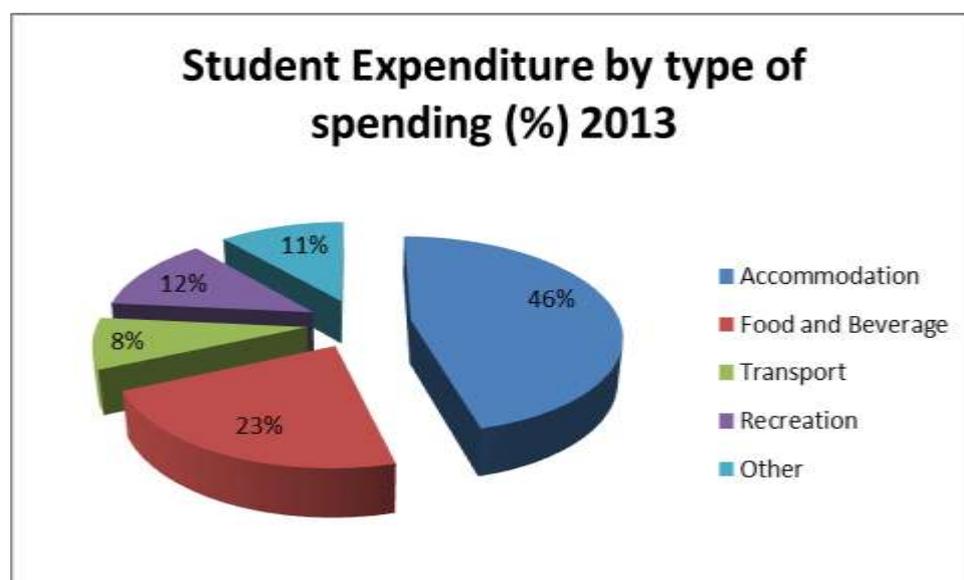
Table 5: Student Expenditure by Type of Spend, 2013.

Type of spend	£ million	% of Total Spend
Accommodation	57.618	45.93
Food and Beverage	28.068	22.38
Transport	10.325	8.23
Recreation	15.228	12.14
Other	14.196	11.32
Total	125.435	100.00

Source: Online Student Survey 2013

Table 5 shows that by far the greatest proportion (45.93%) of student spending is on accommodation (£57.618M), with food and beverage accounting for the next largest category (£28.068M). Together these two types of expenditure account for 68.31% of all spending. Figure 2 shows the proportions of spending by each category.

Figure 2: BU Student Expenditure by type of spending, 2013



It can be seen from Table 4 that just over 65% of all student expenditure is attributable to full-time UK undergraduates (UG) with a further 12.5%

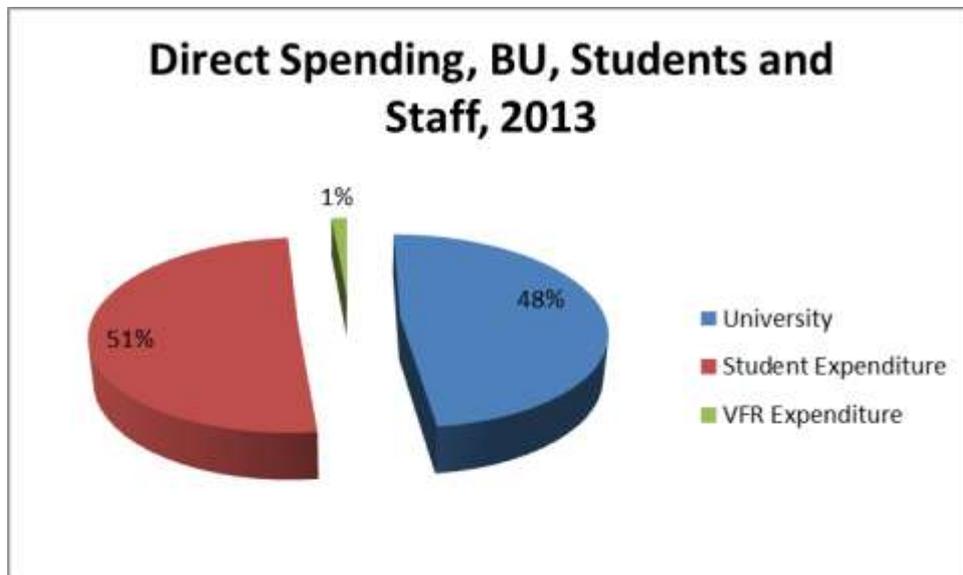
of UK students in other categories. This means that approximately 22% of all student spending is from non-UK students.

Therefore, the direct expenditure associated with Bournemouth University (including staff wages and salaries) and its students is as follows:

Table 6: University and Student Expenditure, 2007

Nature of spending	£ million
University	119.558
Student Expenditure	125.436
VFR Expenditure	3.556
Total	£248.550

Figure 3: BU, Student and Staff Expenditure, 2013



BU Staff Expenditure by Geographical Area

During 2008 and 2009 the average propensity to consume was 97% and 98% respectively and when economic recessions such as the 2008 crisis occurs people tend to maintain consumption levels as best they can by dipping into savings. For the purpose of this study the wages and salaries paid out to contractual and non-contractual staff was assumed to reflect the level of expenditure as it does not include spending from savings or from income earned elsewhere such as royalties and consultancy. Therefore, in 2013 staff at BU spent approximately £53.591M of their earnings (this figure includes part-time and temporary staff earnings). The distribution of that expenditure by geographical area is shown in Table 7. It can be seen that the majority of the expenditure (60.3%) was made within Bournemouth, Christchurch and Poole and for the area of Dorset as a whole £39.535M was spent (73.8% of the total). However, many elements of this expenditure are difficult to allocate to a geographical region (expenditure on utilities, mortgage payments, licenses, etc).

Table 7: BU Staff Expenditure by Area 2013

Area	£ million	% of total
The conurbation	31.209	58.23
Rest of Dorset	8.326	15.54
Rest of South West Region	4.146	7.74
Rest of UK	9.911	18.49
Total	53.591	100.00

Source: Online Staff Survey

University Direct Income Effects

In 2013 the University spent £67.890M on total staff costs of which £53.591M was paid out in actual wages and salaries to contracted and non-contracted staff. When the economic impact of these staff costs are calculated at the local and regional level, the add-on costs that go to central government are deducted so that attention is focused on the

amount of expenditure that staff make within each of the geographical regions to measure the true economic impacts.

The direct income effect of Bournemouth University in 2013 will be £67.89M

University Direct Employment Effects

The University employed 1,794 Full-Time-Equivalent (FTE) staff in 2013 and 1,432 (79.8%) of them lived within the BH postcode area and of them 1,390 live in the conurbation. This is the direct employment effect of Bournemouth University. Thus the direct employment effect of BU in the local conurbation is 1,390 FTEs and at the UK level the direct effect is 1,794 FTEs.

The direct employment effect of Bournemouth University is 1,794 FTEs

The Economic Impact of Bournemouth University on the Economies of the Bournemouth, Christchurch and Poole Conurbation

Expenditure Levels

Bournemouth University and its students spent £248.550M within the local conurbation (see Table 6). This is a significant amount of aggregate demand being injected into the conurbation. A further £58.065M of secondary spending is generated as a result of the indirect effects within the conurbation and the induced effects add a further £28.021M to the total level of expenditure. Thus, the total effect of Bournemouth University on the spending levels of the Bournemouth, Christchurch and Poole conurbation amounts to £251.987M (see Table 8).

Table 8: The Expenditure Effects of the University, Staff and Student Expenditure on the Economies of Bournemouth, Christchurch and Poole, 2013.

Total Expenditure Effects		(Students, University and Staff)		
	Direct	Indirect	Induced	TOTAL
The Conurbation	165,900,822	58,065,288	28,020,649	251,986,758

If capital expenditure is included in the analysis the £251.987M increases to £268.117M assuming that the distribution of its expenditure is geographically similar to the recurrent expenditure. Given that a large proportion of the capital spend was on building and construction the local content may be higher and this suggests that this assumption errs on the conservative side.

Income

As identified in Table 9, the University paid wages and salaries amounting £39.535M million to staff residing in the conurbation area of Bournemouth, Christchurch and Poole. This is the direct income effect of the University within the local economy.

The indirect effect of expenditure by the University and its students in the area generates an indirect income effect of a further £9.904M for residents of the conurbation. The induced effect, when the income that is earned within the local economy is re-spent on goods and services, adds a further £5.359M. Therefore, the total income effect for the conurbation is £54.798M.

Table 9: The Income Effects of the University, Staff and Student Expenditure on the Economies of Bournemouth, Christchurch and Poole, 2013.

	Direct	Indirect	Induced	TOTAL
	£M	£M	£M	£M
The Conurbation	39.535	9.904	5.359	54.798

If the £16.13M capital expenditure is included in these calculations then the income generated by BU increases a further £4.839M to £59.637M.

Employment

The direct employment within Bournemouth, Christchurch and Poole as a result of Bournemouth University is estimated to be 1,390 FTEs. The indirect employment brought about by the secondary effects of expenditure by the University, its staff and students adds a further 487 FTEs and the induced impact another 235 making a total employment effect in the conurbation of 2,111 FTEs throughout all sectors of the local economy (see table 10).

Table 10: The Employment Effects of the University, Staff and Student Expenditure on the Economies of Bournemouth, Christchurch and Poole, 2013.

	Direct	Indirect	Induced	TOTAL
	FTEs	FTEs	FTEs	FTEs
B,C & P Conurbation	1,390	487	235	2,111

The Economic Impact of Bournemouth University on the South West Regional Economy

In order to estimate the economic impact of Bournemouth University on the South West Region the goods and services purchased by the University, its staff and students were derived from the University accounts and the online surveys. These were then subjected to regional output and income multipliers (derived from the regional input-output model) and the researchers' experience from other studies within the UK.

Expenditure Levels

The University spent £79.83M (including staff costs) within the South West regional Economy. The expenditures made by the University students within the South West Region amounts to £128.035M making a total spend of £207.867M. This is a significant injection of demand into the regional economy. The indirect spending resulting from this initial expenditure raises the level of spending in the South West Region by a further £103.933M and when the induced effects are taken into account this figure increases by a further £50.155M, making a total expenditure effect for the South West region of £361.955M (see Table 11). If the capital expenditure is included the total level of spending increases to £378.05M.

BU is responsible for generating more than £1M spending per day throughout the South West Regional economy.

Table 11: The Expenditure Effects of the University, Staff and Student Expenditure on the South West Regional Economy

(Students, University and Staff)				
	Direct	Indirect	Induced	TOTAL
	£'s	£'s	£'s	£'s
South West Region	207,866,670	103,933,335	50,155,258	361,955,264

Income

In addition to the direct expenditure made by the University and its students, the total staff costs at Bournemouth University amounted to £67.89M of which £55.334M was paid out as gross wages and salaries to staff that live within the South West Region. When the indirect income effects are taken into account the level of income within the South West Regional Economy increases to £72.005M and when the induced effects are brought into consideration there is a further £8.148M added to the total regional income impact (see Table 12), making a total regional income effect of £80.154M.

If the capital spending is included this figure increases further to £84.993M.

Table 12: The Income Effects of the University, Staff and Student Expenditure on the South West Regional Economy, 2013.

	Direct	Indirect	Induced	TOTAL
	£M	£M	£M	£M
South West Region	55.334	16.671	8.148	80.154

Employment

The University's activities in the South West region directly employ 1,794 FTEs plus there are another 897 FTE jobs indirectly supported within the region as a result of the University's activities. Finally, once the induced effects are taken into account this adds support for another 433 FTE jobs making a total regional employment effect of 3,124 FTE jobs.

Table 13: The Employment Effects of the University, Staff and Student Expenditure on the South West Regional Economy, 2013.

	Direct	Indirect	Induced	TOTAL
	FTEs	FTEs	FTEs	FTEs
South West Region	1,794	897	433	3,124

The economic impact of non-UK students at BU.

BU is a relatively young institution and therefore does not have a high proportion of non-UK students. In 2013 there were 3,102 students registered (full and part-time) and they made a total expenditure of £25.788M (£22.706M in the conurbation).

If we assume that the expenditures of the university as well as staff income are linearly related to student numbers (an heroic assumption as it is likely to be a non-linear relationship) we can estimate the value of non-UK students to the conurbation, the South West and to the UK economy. Because linearity has been assumed the following figures are likely to present quite a conservative estimate of the economic impact of these students as it ignores the economies of large scale activity that comes along with having larger student numbers.

Table 14: Expenditure Effects associated with non-UK students, 2013

Total Expenditure Effects	(Students, University and Staff)			
	Direct	Indirect	Induced	TOTAL
	£M	£M	£M	£M
The Conurbation	36.932	12.926	6.238	56.096
South West Region	48.708	24.354	11.753	84.814
UK	57.072	48.294	40.509	145.875

Table 14 shows that £56M of spending is generated in the conurbation purely as a result of the non-UK student-related activities of BU. At the regional level this figure rises to £84.814M and the total to the UK is £145.875M in 2013.

Table 15 shows how this impact on spending levels translates into income effects.

Table 15: Income Effects Associated with Non-UK Students, 2013.

Total Income effects				
	Direct	Indirect	Induced	TOTAL
	£M	£M	£M	£M
The Conurbation	8.128	2.205	1.193	11.526
South West Region	11.376	3.906	1.909	17.192
UK	13.957	16.237	12.784	42.978

There is £11.526M worth of income generated in the local conurbation as a result of non-UK students and their associated spend. This impact increases to £17.192M at the regional level and £42.978M at the national level.

A Further Word on the Impact of BU in a Wider Context

As stated at the outset a university has much wider impacts than its economic impacts and many of these are difficult to quantify, such as the social and cultural impacts that a university, its staff and students bring to an area. There are many intangibles such as attracting an educated workforce to the local communities, the retention of graduates when they have completed their studies and the support provided to local businesses directly, through spending or advice and indirectly by making the area more attractive to businesses and their staff. None of these intangibles have been estimated in this report.

Recent publications have attempted to estimate the economic benefits to students as a result of their degrees. This is reflected in their increase in life-time earnings over those workers who do not have degrees. Such estimates require heroic assumptions as they tend not to take into account that those members of society that choose to undertake university education may be more motivated and have greater aspirations on average than those who do not. Furthermore, the economic calculations do not attempt to quantify job satisfaction levels of graduates compared with non-graduates. Recent estimates of the value of a degree on lifetimes earnings are as follows:

“We simulate the predicted earnings (and employment status) of individuals in our data and then average these to show that the private benefit of a degree, in terms of lifetime earnings net of tax and loan repayments, is large - in the order of £168k (£252k) for men (women) on average. The social benefit to the government is also large (of the order of £264k (£318k) from men (women) graduates – far in excess of likely exchequer costs.” (Walker and Zhu, 2013 p.5)

On this basis and with 5,879 graduands a year (54% of them females and 46% males) BU can be seen to develop lifetime earning capabilities of more than £1.3 billion per year for our students and a social benefit to the national government of £1.7 billion over the lifetime of each cohort

that graduates. These are clearly figures that are way in excess of the cost to government for providing the investment in our students.

APPENDIX

Definitions and concepts

Levels of economic impact

When the University, its students and staff spend money within an economy (be it in the local conurbation, the SW Region or the UK) it will have secondary impacts that percolate throughout all of those economic sectors that either support the University, student and staff spend **directly or indirectly**. These “knock on” effects are generally referred to as the secondary effects. Generally, economic impact studies break the levels of impact down into three categories:

Direct Effects

These are the effects that come directly from the first round of expenditure made by the University and its students. Therefore the University made a recurrent expenditure of £119M. This is direct spending. Similarly students were associated with spending of £128M (including visits from friends and relatives) and these will be made to local landlords, food and beverage outlets, entertainment attractions, transport etc as part of the living costs. These are all direct effects.

Indirect Effects

The businesses and individuals that receive the money directly from the University and its students will re-spend a significant proportion of it on goods and services necessary for them to produce their output. For example, a shop that receives money from students will spend money on goods from their wholesalers, transport, electricity and heating for the shop, accountants etc as well as pay their staff wages and draw profits from the business. Similarly, businesses that receive money from the shop will purchase goods and services from other businesses so that they can function, they will also pay out money to staff and owners as wages and profits etc. All of these transactions that percolate

throughout the local economies, the region and the UK economy are known as the indirect effects.

Induced Effects

During the direct and secondary indirect effects as money is used in transactions a portion of that money will accumulate as income in the form of wages, salaries, profits, rent and interest. The recipients of that money will at some stage re-spend the vast majority of it on goods and services as consumption expenditure. The act of re-spending this **income that initially came as a result of the University and its student's** activities creates a further injection of demand into the economy and increases the total effects. This aspect of the impact is known as the induced effect.

Multiplier

The term multiplier, from an economic perspective, refers to the factor by which you multiply the original expenditure to estimate the direct and indirect effects associated with that original expenditure. There is a variety of multipliers relating to output, income and employment as well as variations in whether they include the direct and indirect effects, or the direct, indirect and induced effects.

Input-Output Models

There are a number of approaches that can be used to calculate the economic impacts of an exogenous change in final demand and these include Export Base Theory, Keynesian Multipliers, Ad Hoc Multiplier Models, Input-Output Models and Computer General Equilibrium Models. This study makes use of input-output multiplier values. The input-output approach is a general equilibrium model that is based upon the sectoral linkages that exist within a given economy. The researchers

have extensive experience of input-output models, being responsible for constructing such models for governments and international agencies around the world, including within the UK. They were responsible for the Scottish Tourism Multiplier model which was a benchmark study for the UK and its results have been used to calculate the economic impact of changes in various service demands for the past 20 years.

These terms are used extensively throughout this report.

Survey Data

The data used in this study were collected using 2 online surveys, one for staff of BU and one for our students. Both survey sets were asked questions relating to the location of their normal place of residence, where they spent their money and on what. Staff were asked detailed questions about expenditure in particular post-code areas and the nature of their employment at BU e.g. part-time or full-time. Students were asked where their normal residence was when they were not at BU, where they lived whilst at BU and where they spent their money and on what items. They were also asked demographic questions such as whether they were full-time, part-time, undergraduate or post-graduate etc.

These data provided a very detailed breakdown relating to income and expenditure by staff and students.

Staff Survey:

A total of 406 questionnaires were completely completed, 79.3% of respondents were full time staff and 20.7% part time and this sample amounted to almost a quarter of all staff (22.6%). Staff were asked to identify their income range, from less than £10,000 to over £70,000 as shown in table A1. The income categories show almost a normal distribution with 81.5 of all the respondents ranging from £10 to £49,999. The respondents were asked to identify where they reside and to estimate their expenditure in Bournemouth, Poole, Christchurch, Dorset ,South West, elsewhere in the UK and finally outside of the UK. Nearly half of all respondents lived in Bournemouth followed by 18.7% who lived in Poole, and 4.7% who lived in Christchurch thus the conurbation accounted for 70.2% of all respondents.

Table A1: Descriptive statistics of staff survey

	Frequency	Percentage
Full-time	322	79.3
Part-time	84	20.7
Income Group	Frequency	Percentage
Less than £10k	17	4.2
10-10,999	72	17.7
20-29,999	97	23.9
30-39,999	80	19.7
40-49,999	82	20.2
50-59,999	33	8.1
60-69,999	13	3.2
70+K	12	3.0
Place of normal residence	Frequency	Percentage
Bournemouth	190	46.8
Poole	76	18.7
Christchurch	19	4.7
Dorset	70	17.2
South West	14	3.4
Rest of UK	37	9.1

The staff survey contained 5 questions

1. Are you a full-time or part-time member of staff?
2. If part-time what proportion of time are you contracted to work? Eg 1 day per week
3. Please indicate the income group that applies to you in terms of your contract with BU? Less than £10K £10-19,998 £20-29,999 £30-39,999 £40-49,999 £50-59,999 £60-69,999 £70K+
4. What is your normal place of residence? (Please enter the first part of your postcode).
5. What % of your total household expenditure is made in each of these areas? (i) Bournemouth (ii) Poole (iii) Christchurch (iv) Dorset (v) South West Region (vi) Rest of UK (vii) Outside of UK

Student survey

A total of 533 questionnaires were completed by full time students and a further 15 questionnaires by part-time students. The poor response rate from part-time students suggests that the part-time results are indicative rather than statistically significant. However, the expenditure figures derived for both full-time and part-time students are below those recently published by the NUS suggesting that the estimates here are conservative. The off-campus spending ranges from £1,000 per annum to over £40,000 (excluding university fees). Students were asked to identify their place of residence whilst studying at BU. Some 90 % of full-time students lived in the conurbation and overall 98.7 in Dorset.

Table A2: Descriptive statistics of student survey (full-time)

Study mode	Frequency	Percentage
Full-time	533	100
Level of study	Frequency	Percentage
Undergraduate	107	75.8
Postgraduate	418	24.2
Place of residence term time	Frequency	Percentage
Bournemouth	408	76.5
Poole	74	13.9
Christchurch	3	0.6
Dorset	25	4.7
South West	16	3.0
Rest of the UK	5	1.3

There is some evidence that non-UK students spend more than home students. The Mann Whitney shows that Mean UK students= 251.60 < mean non UK students=305.41 and $p=002 < 0.05$

Ranks

	nationality	N	Mean Rank	Sum of Ranks
What is your approximate annual expenditure during the year? (do not include your university fees)	Home	434	251.60	109195.00
	International	86	305.41	26265.00
	Total	520		

Test Statistics^a

	What is your approximate annual expenditure during the year? (Please do not include your university fees)
Mann-Whitney U*	14800.000
Wilcoxon W	109195.000
Z	-3.039
Asymp. Sig. (2-tailed)	.002

a. Grouping Variable: nationality

* normality was tested using Kolmogorov-Smirnova and $p < 0.05$

In terms of those BU students who had previously studied at one of the Language Schools in Bournemouth, 6.4% of the sample suggested that this was the case.

The finding also shows the biggest proportion of spending by students is on accommodation, averaging £98.86, followed by food and beverage £42.34 per week, £14.78 on transport, £22.11 recreation and £21.53 on other goods. Overall, on average it seems that students off-campus spends is around £855 monthly (excluding university fees).

Table A3: Weekly Spending by BU full-time student students

Expenditure of Full-Time Students		
Weekly expenditure on:	£'s	% of Total
Accommodation	98.86	49.52
Food & Beverage	42.34	21.21
Transport	14.78	7.40
Recreation	22.11	11.08
Other Goods and services (clothing, beauty etc)	21.53	10.79
TOTAL	199.62	100.0

With respect to part-time students the survey suggests that the average weekly off-campus expenditure is £153.76 with the largest component being on accommodation (£66.03) followed by food and beverage (£38.88).

Table A4: Weekly Spending by BU part-time student students

Expenditure of Part-Time Students		
Weekly expenditure on:	£'s	% of Total
Accommodation	82.03	40.51
Food & Beverage	46.87	23.15
Transport	23.80	11.75
Recreation	24.80	12.25
Other Goods and services (clothing, beauty etc)	25.00	12.35
TOTAL	202.5	100.0

Part time students

Table A5: Descriptive statistics of student survey (part-time)

Study mode	Frequency	Percentage
Part-time	15	0
Level of study	Frequency	Percentage
Undergraduate	5	33.3
Postgraduate	10	66.7
Place of residence term time	Frequency	Percentage
Bournemouth	8	53.3
Poole	1	6.7
Christchurch	0	0
Dorset	3	20
South West	0	0
Rest of UK	3	20

The student survey contained 8 questions

1. At what level are you studying (UG/PG)?
2. Are you studying full-time or part-time?
3. Please tick the category which applies to you: Year 1 Year 2 Year 3 (placement) Final year PGT PGR
4. What is the first part of your residential post code whilst at the University? For example, BH1
5. What is your approximate annual expenditure during the year? (Please do not include your university fees)
6. What is your normal place of residence when not studying at the University?
7. If you responded that you are normally resident outside the UK, did you come to Bournemouth to study English prior to joining your BU course?
8. If you studied English in Bournemouth prior to joining your BU course, can you estimate how much you spent whilst studying for the English qualification (including Language School fees)?
8. On average, when at the University, how much do you spend per week on the following items? Accommodation? (i) Food & Beverage? (ii) Recreation (iii) transport (iv) Other Goods and Services (clothes, personal items etc?)

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