

BiGGAR Economics

Edinburgh Napier University Economic Impact
Study

A report to

Edinburgh Napier 
UNIVERSITY

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BiGGAR Economics

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EXECUTIVE SUMMARY

Edinburgh Napier University asked BiGGAR Economics to assess the economic impact of its activities in 2012/13. Economic impact was considered on two levels: through increased Gross Value Added (GVA) in the economy and through the number of jobs supported by the organisation. This study found that in 2012/13 Edinburgh Napier University supported an estimated impact of **£201.9 million GVA and 2,897 jobs in Edinburgh, £254.9 million GVA and 3,871 jobs in South East Scotland and £291.2 million GVA and 4,520 jobs in Scotland.** *Including the estimated impact of graduate productivity* resulting from students graduating in 2012/13 the economic impact is estimated to be **£347.4 million GVA in Edinburgh, £428.5 million GVA in South East Scotland and £486.8 million GVA in Scotland.**

The University is located over three main campuses at Craiglockhart, Merchiston and Sighthill. There has been a £100 million investment in estates, with a new Sighthill campus opened in 2011 and a refurbished Merchiston campus opened in 2013. This has resulted in high quality unique facilities that strengthen the University's key academic activities such as life like hospital wards and sports facility which, in addition to a gym and sports hall, includes a biomechanics laboratory and an environmental chamber. In addition the University has attracted capital spend into the economy to invest in student accommodation. This capital spend together with the University's direct employment and turnover, the spending of wages by staff in the economy and the spending of the University on supplies supported in 2012/13 an estimated £122.7 million GVA and 2,411 jobs in Scotland and in Edinburgh it was £97.4 million and 1,720 jobs.

Edinburgh Napier University has over 17,000 students of which almost 14,000 students are studying in the UK. The University is organised into three faculties: the Business School; Engineering, Computing & Creative Industries; and Health, Life & Social Sciences. The impact of these students through The impacts through their spending and part time work generated £104.1 million GVA and 1,467 jobs for the Scottish economy. Of this £75.5 million GVA and 928 jobs are in Edinburgh.

The University has a strong focus on employability, entrepreneurship and internationalisation. These three aspects reinforce each other to contribute to a skilled workforce that can support Scotland in responding to the challenges of an increasingly globally competitive economy. These activities help the University work with hundreds of SMEs in wide variety of ways.

Student and graduates are encouraged to start up their own businesses both during study and after study. There is a wide range of support for developing entrepreneurship skills from formal modules to dedicated free start up space through Bright Red Ventures and the Moffat Centre and informal talks and workshops as well as business advice and mentoring. These facilities to date have supported over 1,200 students since 2004, of which 253 businesses have started up and 158 are still active. In addition there are 1,136 students enrolled on 22 different entrepreneurship modules which form part of students courses. New initiatives to develop entrepreneurship and employability include the Bright Red Triangle which recruits undergraduate, postgraduate and doctoral students as junior consultants. They are paired with a staff member to complete projects for external organisations. Over the last year, Bright Red Triangle has taken on 60 junior consultants and almost 40 projects have been delivered for mostly SMEs in the local area.

The University's strength in student entrepreneurship is shown in 2011/12, the University had supported 42% of the total number of the recorded graduate start ups in Scotland.

The University's emphasis on employability is shown by its partnerships with e-skills UK and Scotland IS on the Scottish Funding Council project e-Placement Scotland. Between 1 August 2010 and 30 April 2013, the project created 530 paid placement opportunities, of which about 300 are at Edinburgh Napier University. 53% of the placements are with SMEs, 26% large national companies and 21% multinationals. Another example is the recent establishment of the Biological Sciences Skills Passport, a skills programme in association with Charles River Laboratories. This was driven by a demand from industry for graduates to possess a greater range of both hard and soft skills. This has potential to be extended wider through the sector. These placements have additional benefits to businesses particularly SMEs in making the recruitment of new staff more efficient as many of the students undertaking placements with the company end up working for the company which reduces hiring costs such as retention costs. In addition placements through nursing and midwifery contributes labour to the health sector.

The University helps Scottish students fulfil their potential by providing them a route to a university degree for example through partnership arrangements with many Scottish colleges to facilitate the transition of their students onto its degree programmes. This particularly contributes to widening access to higher education and is reflected in the fact that the University has the fifth best record for students from deprived background despite being located in a geographical area that has low deprivation relative to other Universities. Once students have entered a degree, the University undertakes activities to support students from a non traditional background to progress through higher education and into graduate employment.

The activities to support employability and entrepreneurship support economic activity estimated to be £40.9 million GVA and 318 jobs in Scotland and is £20.8 million GVA and 122 jobs in Edinburgh.

The University also provides a range of other ways to work with industry and the public sector such as through consulting and contract research. The University's staff also exchange knowledge with the public sector, for example by staff participating on boards of other organisations such as further education colleges and advisory bodies to the Scottish and UK Government. This is reflected that the University estimates 20% of its staff have directly provided services to commercial partners/clients, 5% have provided services to public sector/clients and 2% have provided services to social, community and cultural partners.

The wide range of activities include the Business Innovation Exchange (BIE) which is a collaborative initiative with Queen Margaret University and the University of St Andrews aimed at forging stronger engagement and commercial links with the Scottish SME business base. Over the first 30 months that the BIE has been in operation, it has assisted over 500 Scottish SMEs, establishing over 250 innovation based projects with SME clients that have in-turn collectively stimulated over £7m of SME investment in Research and Technology Development. Another example is Edinburgh Institute which provides a range of bespoke accredited programmes for clients and a range of non accredited programmes for example master classes and workshops. It has engaged over 50 businesses and organisations in all these activities including the Royal Navy, IPSOS Mori, Royal Botanic Gardens, Biffa Waste Services and ASDA.

Other research and knowledge exchange activity includes the social and economic returns on investment in healthcare and medical research, licensing and spinouts. These activities contribute £19.7 million GVA to the economy of Scotland and supports 235 jobs. In Edinburgh £5.9 million GVA and 68 jobs were supported.

The University through its staff, students and facilities attract in visitors such as visits from friends and family and visits to conferences and sporting events. This is estimated to support £3.8 million GVA and 89 jobs in Scotland and £2.2 million GVA and 58 jobs in Edinburgh.

Totalling the quantitative impacts results in an estimated impact of £201.9 million GVA and 2,897 jobs in Edinburgh, £254.9 million GVA and 3,871 jobs in South East Scotland and £291.2 million GVA and 4,520 jobs in Scotland.

Edinburgh Napier University's relocation to new accommodation at the Sighthill campus provided an opportunity to have a positive impact on the communities surrounding this site. Neighbouring the Sighthill campus are 11 areas that fall within the top 10% of areas of multiple-deprivation in Scotland. Supported by a grant from The Robertson Trust, the University has implemented a programme of community outreach work in Sighthill and surrounding areas. This enabled the University to work with a number of young people who experience a range of different disadvantages, with vulnerability and isolation being the common themes. All of this activity has been endorsed by a range of partners including Edinburgh Leisure, the City of Edinburgh Council and Police Scotland

The learning that the students undertake in during their time at Edinburgh Napier University enhances their future productivity in the economy. The graduate premium is used as a proxy to estimate the contribution of this future productivity to the economy. It is estimated that Edinburgh Napier University's graduates in 2012/13 will contribute £195.7 million to Scotland and £145.5 million to Edinburgh over their life time. Adding this to the economic impact results in a total economic impact of £347.4 million GVA in Edinburgh, £428.5 million GVA in South East Scotland and £486.8 million GVA in Scotland.

The activities undertaken by the University also have an international dimension which contributes to the Scottish economy's international linkages and brand recognition for example by delivering CPD to multinational companies to providing an international experience for its students. This experience occurs in both in terms of activities such as placements overseas and providing an opportunity to engage with international students, as 29% of the University's total student body are international students from over 110 countries. This helps the University contribute a globally engaged and linked workforce to the economy. In addition the University has a significant overseas presence such as its delivery of programmes overseas to over 4,000 students. These activities also have a current economic impact that can be quantified as they result in money from outside Scotland entering the Scottish economy and supporting jobs and businesses in Scotland. These earnings can be considered as export earnings and are measured in additional turnover. This includes the contribution to the University's income from tuition fees, delivering overseas programmes and research and knowledge exchange income from partners and businesses outside of Scotland and also the spending of overseas visitors and students. In 2012/13 these export earnings contributed £50.3 million of additional turnover to Scotland.

1 INTRODUCTION

The objective of this study is to describe and quantify the benefits of Edinburgh Napier University and to deliver a better understanding of its impacts. It examines the importance of the University to the Edinburgh, South East Scotland and Scottish economies.

A description of the main activities of Edinburgh Napier University is given in Chapter 2.

1.1 Sources of Impact

The economic impact of Edinburgh Napier University derives from many sources. Some of these impacts can be quantified. The impacts of Edinburgh Napier University quantitative and qualitative have been grouped into the following themes:

- Chapter 3 discusses the core university impacts and those associated with the staff of the institution. This includes the University's direct supplier and capital spending impacts along with the spending of staff salaries;
- Chapter 4 covers the impacts associated with students at Edinburgh Napier University, including their spending and their part time work;
- Chapter 5 describes the impacts associated with employability and entrepreneurship. This covers a wide range of activities, which produce graduates with the skills that employers want and with an entrepreneurial attitude that benefits both employers and creates new companies;
- Chapter 6 discusses the impacts from the knowledge exchange and commercialisation activities of the University including activities such as consultancy, continued professional development and knowledge transfer partnerships as well as commercialisation activity such as spin-out companies and licencing;
- Chapter 7 discusses the additional impact that Edinburgh Napier University has on the tourism sector through attracting additional visitors to the area;
- Chapter 8 covers the impact of teaching and learning through describing the additional productivity of graduates from Edinburgh Napier University;
- Chapter 9 discusses how some of the economic activity of Edinburgh Napier University could be considered exports and how the University makes a wider contribution to developing international economic links;
- Chapter 10 describes the work undertaken by Edinburgh Napier University to engage the local community; and
- Chapter 11 presents our summary and the conclusions of the study.

The total economic activity associated with each type of quantifiable impact has been estimated by using the economic impact methodology described below.

1.2 Economic Impact Methodology

Economic impact is reported in two ways:

- Gross Value Added (GVA) measures the monetary contribution of the organisation and individual to the economy; and
- employment, measured in full time equivalent (fte) jobs supported.

The study has considered the economic impacts that the University has in the regional and national economies. The three study areas that are used in the analysis are:

- the City of Edinburgh;
- South East Scotland¹; and
- Scotland.

Each area of impact requires the use of three types of economic assumptions:

- turnover to GVA ratio – this is used to estimate the GVA impact of the spend in an area. This is obtained from the UK Annual Business Survey 2011, published in 2013;
- turnover per employee – this is used to estimate the employment impact of the spend in area. This is obtained from the UK Annual Business Survey 2011, published in 2013; and
- GVA and employment multipliers – this is used to estimate supplier and income impact created by businesses that directly benefit from additional spend in area. For the Scottish economy, this is obtained from Scottish Input Output Tables 2009. Adjustments for the other study areas have been based on assumptions made by BiGGAR Economics based on previous work.

¹ This is equivalent to the Strategic Development Planning Authority for Edinburgh and South East Scotland, which covers the administrative boundaries City of Edinburgh, East Lothian, Midlothian, Scottish Borders and West Lothian Councils, and the southern half of Fife Council.

2 EDINBURGH NAPIER UNIVERSITY

Edinburgh Napier University has over 17,000 students from 110 countries. Almost 14,000 students are studying in the UK, and in addition the university delivers programmes to over 4,000 students overseas. The University is organised into three faculties: the Business School; Engineering, Computing & Creative Industries; and Health, Life & Social Sciences. This section describes the University’s key activities.

2.1 Location and Facilities

The University has three main campuses at Craiglockhart, Merchiston and Sighthill, with smaller sites outside the city at Livingstone and Melrose, which are used for nursing placements. There has been a £100 million investment in estates, with a new Sighthill campus opened in 2011 and a refurbished Merchiston campus opened in 2013. This has resulted in high quality unique facilities such as:

- 9 clinical skills laboratories – including life-like Hospital Wards including High Dependency Unit simulator suites which mimic intensive care treatment areas for training nurses, , a midwifery suite and scrubs area;
- state-of-the-art crime scene and forensics rooms;
- specialist labs for computing such as Cisco lab, digital media mac labs, embedded & wireless systems lab, digital forensics lab, audio lab and games development lab; and
- sports facility which, in addition to a gym and sports hall, includes a biomechanics laboratory and an environmental chamber which can recreate high altitude conditions with controllable temperature and humidity levels to simulate varying climatic conditions. The chamber can also replicate high altitude conditions up to the equivalent of Everest Base Camp.

2.2 Income

The total income of Edinburgh Napier in 2012/13 was £107.9 million. The income came from five main sources which are listed in the following table.

Table 2.1 – Edinburgh Napier University Revenue Income 2012-13

	Value	Proportion
SFC Grants	£55,216,000	51%
Tuition fees and education contracts	£32,669,000	30%
Research grants and contracts	£4,718,000	4%
Other income	£14,727,000	14%
Endowment and investment income	£540,000	1%
Total Revenue Income	£107,870,000	

Source: *Edinburgh Napier University*

2.3 Student profile

Table 2-2 shows the profile of undergraduate and postgraduate students for 2012-13, studying in the UK. There were almost 14,000 students, of which over 11,000 are undergraduates (82% of all students) and over 2,000 postgraduates studying with the University in 2012/13.

Table 2.2 – Student profile, Delivery in the UK 2012-13

Undergraduate	
Full-time	9,538
Part-time	1,694
Total	11,232
Taught Postgraduate	
Full-time	1,042
Part-time	1,188
Total	2,230
Research Postgraduate	
Full-time	106
Part-time	101
Total	207
Total student numbers	13,669

Source: *Edinburgh Napier University*

The table below shows that in terms of student headcount, the Faculty of Health, Life & Social Sciences is the largest faculty, with 4,885 students (36% of the student body). The Business School has the largest body of taught post-graduates, with 946 students.

Table 2.3 – Student Headcount by Faculty, 2012-13

Faculty	Undergraduate	Taught postgraduate	Research postgraduate	Total	Proportion of student body
Business School	3,136	946	62	4,144	30%
Faculty of Engineering, Computing & Creative Industries	3,755	706	80	4,541	33%
Faculty of Health, Life & Social Sciences	4,341	480	64	4,885	36%
Academic Development		98	1	99	1%
Total	11,232	2,230	207	13,669	

Source: *Edinburgh Napier University*

2.4 International students

Edinburgh Napier University delivers its courses abroad as well as attracting foreign students to study in Scotland. In 2012/13 there were almost 3,500 non-UK students studying in Scotland, 25% of the student body. Their countries of origin are shown in the following table.

Table 2.4 – Non UK Students Domiciled by Region

Origin	Number of students
Europe (EU)	1,917
Asia	892
North America	261
Africa	212
Europe (Non-EU)	82
South America	35
Oceania	18
Total	3,417

Source: *Edinburgh Napier University*

Edinburgh Napier University works in partnership to deliver its programmes in a number of other countries. There are almost 3,000 people studying Edinburgh Napier programmes in Hong Kong, over 700 in Singapore and many in other countries, including India, Sri Lanka and Malta.

Table 2.5 – Students with Overseas Partners

Delivery nation	Number of students
Hong Kong	2,910
India	327
Malta	16
Singapore	720
Sri Lanka	19
Switzerland	78
Overseas, non specific	96
Total	4,166

Source: *Edinburgh Napier University*

3 CORE IMPACTS

The core impacts associated with Edinburgh Napier University are those that occur through the day-to-day operations of the organisation. The core impacts that are covered in this section include:

- direct impacts (University income and employment);
- supplier impact (spending on supplies and services and jobs supported by this spend);
- staff spending impact (impact of the spending of employees); and
- impact of capital spending (impact of the capital spending of the University).

3.1 Direct Impact

The income of Edinburgh Napier University in the academic year 2012/13 was £107.9 million. In the same period, the University spent £28.7 million on supplies.

Edinburgh Napier University employed 1,676 members of staff in 2012/13, equivalent to 1,266 full time equivalents (ftes).

Table 3.1– Direct Impact – Assumptions

	Value
Income of University	£107.9m
Amount spent on supplies (non-staff costs)	£28.7m
Employees (jobs)	1,676
Employees (ftes)	1,266

Source: Edinburgh Napier University

The direct operational Gross Value Added (GVA) of the University was calculated by subtracting all of the non-staff expenditure from the total operational income of the University. In this way it can be estimated that the direct GVA impact of Edinburgh Napier University was £79.1 million and the direct employment impact was 1,266 jobs.

Table 3.2 – Core Impact

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	79.1	79.1	79.1
Total Employment (ftes)	1,266	1,266	1,266

Source: BiGGAR Economics

3.2 Supplier Impact

Edinburgh Napier University has an impact on the wider economy through the purchase of goods and services. This will increase turnover and support employment in the companies that supply the University. In 2012/13 Edinburgh Napier University spent £28.7 million on supplies.

The location of spend on supplies is given in Table 3.3. This shows that 22% of supplies were sourced from within the City of Edinburgh, 29% from South East Scotland and 44% from Scotland (56% were sourced outside Scotland).

Table 3.3 – Expenditure by Location

	City of Edinburgh	South East Scotland	Scotland
% of expenditure by location	22%	29%	44%

Source: Edinburgh Napier University

GVA impact of the spend on supplies is estimated by considering the spend on supplies by sector. The spend in each sector supports different GVA depending on the turnover to GVA ratio for that sector (the UK Annual Business Survey² gives a breakdown of these figures for industries and smaller sectors). The impact throughout the economy is estimated by applying GVA multipliers appropriate to the sector.

The employment impact of the spend on supplies is estimated by applying the turnover per employee in the industries relevant to the spend. The impact throughout the economy is estimated by applying employment multipliers appropriate to the sector.

The economic impact of Edinburgh Napier University's expenditure on supplies amounts to £3.9 million GVA and 124 jobs in Edinburgh, £6.6 million GVA and 210 jobs in South East Scotland and £11.1 million GVA and 355 jobs in Scotland.

Table 3.4 – Supplier Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	3.9	6.6	11.1
Total Employment (ftes)	124	210	355

Source: BiGGAR Economics

3.3 Staff Spending Impact

The staff who are employed by Edinburgh Napier University have an impact on the wider economy through spending their wages. In the period 2012/13, Edinburgh Napier University spent £51.0 million on staff salaries. The economic impact of staff spending depends on where they live. The majority of staff (62%) live within Edinburgh and most of the others (25%) live elsewhere in South East Scotland. The level of salary paid in each study area was assumed to be proportional to the number of staff that live in each area.

Table 3.5 – Staff by Area of Residence

	City of Edinburgh	South East Scotland	Scotland
Area of residence (headcount)	1,044	1,470	1,652
Area of residence (%)	62%	25%	11%

Source: Edinburgh Napier University

² ONS, UK Annual Business Survey 2010, 2012

Although staff live in different areas, it was assumed they spend their wages in different places, not just where they live. Particularly given the city location of the University it was assumed that people commuting to Edinburgh from elsewhere spent a proportion of their income in the city. The location of this spend is given as an estimate in Table 3.6.

Table 3.6 – Staff Spending Assumptions

	Staff Location		
	City of Edinburgh	South East Scotland	Elsewhere in Scotland
Spending Edinburgh	50%	40%	25%
Spending South East Scotland	60%	60%	50%
Spending Scotland	70%	70%	70%

Source: BiGGAR Economics Assumption

Staff spending in each of the different areas was calculated using these proportions. Of the £51.0 million that was paid in salaries to staff, £22.5 million was spent in Edinburgh, £29.6 million was spent in South East Scotland and the remainder, £35.2 million was spent elsewhere in the Scotland.

Table 3.7 – Total Spend in Each Area

	City of Edinburgh	South East Scotland	Scotland
Total Spend (£m)	22.5	29.6	35.2

Source: BiGGAR Economics

The economic impact of staff spending as measured by GVA and employment supported, is estimated by applying economic assumptions appropriate to the sector as described in the previous section (i.e. turnover/GVA ratio, turnover/employee ratio, GVA multiplier and employment multipliers). This results in an estimation of staff spending supporting an economic impact of £8.3 million GVA and 189 jobs in Edinburgh, an economic impact of £14.8 million GVA and 346 jobs in South East Scotland and in Scotland £19.4 million GVA and 457 jobs.

Table 3.8 – Staff Spending Impact

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	8.3	14.8	19.4
Total Employment (ftes)	189	346	457

Source: BiGGAR Economics

3.4 Capital Spending

The capital spending of Edinburgh Napier University supports economic activity. A five year average figure has been used in this analysis due to the high yearly variation in capital spending. The average annual capital spend in the last five years is £17.2 million.

The location of the capital contracts was assumed to be the same as that for the supplies (Table 3.3).

In addition to the direct capital spending of the University, Napier is also responsible for £55.0 million private capital investment in student accommodation. This investment will occur over a three year period and so an additional £18.3 million capital spend was included in this impact.

The economic impact of this spending on capital projects was estimated by applying turnover/GVA, turnover/employee ratios and GVA and employment multipliers for the construction and civil engineering sectors. This results in capital spending supporting an estimated £6.1 million GVA and 141 jobs in Edinburgh, £10.4 million GVA and 262 jobs in South East Scotland and £13.0 million GVA and 332 jobs in Scotland.

Table 3.9 – Capital impact

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	6.1	10.4	13.0
Total Employment (ftes)	141	262	332

Source: BiGGAR Economics

3.5 Core Impacts Summary

The total core impacts are shown in Table 3.10 and Table 3.11 for each of the study areas. These summarise the impacts described above (direct, supplier, staff spending and capital impacts).

The total core impact of Edinburgh Napier University in Scotland in 2012/13 was £122.7 million GVA and 2,411 jobs (fte). In South East Scotland the total core impact was £110.0 million GVA and 2,084 jobs and in Edinburgh it was £97.4 million and 1,720 jobs.

Table 3.10 – Core impacts – GVA supported (£m)

	City of Edinburgh	South East Scotland	Scotland
Direct Impact (£m)	79.1	79.1	79.1
Supplier Impact (£m)	3.9	6.6	11.42
Staff Spending Impact (£m)	8.3	14.8	19.4
Capital Spend Impact (£m)	6.1	10.4	13.0
Total Core Impact (£m)	97.4	110.1	122.7

Source: BiGGAR Economics – Figures may not total due to rounding

Table 3.11 – Core impacts - Employment supported(ftes)

	City of Edinburgh	South East Scotland	Scotland
Direct Impact	1,266	1,266	1,266
Supplier Impact	124	210	355
Staff Spending Impact	189	346	457
Capital Spend Impact	141	262	332
Total Core Impact	1,720	2,084	2,411

Source: BiGGAR Economics – Figures may not total due to rounding

4 STUDENT IMPACTS

The impacts associated with Edinburgh Napier University’s students include:

- student spending impacts; and
- the impacts of students’ part time work.

4.1 Student Spending

Students have an impact on the economy through their spending in the same way that staff have an impact through the spend of their wages (Section 4.3). This impact considers:

- how much students spend;
- where they spend it; and
- what they spend it on.

The amount of money that students spend was based on cost of living from the Department of Business Innovation & Skills³, broken down into categories based on information provided on the University’s website and adjusted to take account of whether they are undergraduate or post graduate which determines how long they spend studying in the area. In addition the analysis takes excluding money spent on University accommodation as this will have been accounted for in the University’s turnover and therefore part of the direct impact analysis.

The economic impacts of student spend were estimated by applying appropriate economic assumptions to the living costs. Student spending is estimated to contribute £48.1 million GVA and supports 852 jobs in the Edinburgh economy and £69.4 million GVA and 1,199 jobs in the Scottish economy.

Table 4.1 – Student Spend Impact

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	48.1	63.9	69.4
Total Jobs	852	1,110	1,199

Source: BiGGAR Economics

4.2 Part Time Work of Students

The part-time work that students undertake also contributed to the economy. The economic impact of students’ paid employment comes from the additional GVA of the businesses that employ them and the multiplier effect that these additional workers have on those businesses’ supply chains.

Table 4.4 shows the assumptions used to calculate student impacts. The study assumes that 52% of full students take up part time employment, working an average of 17.5 hours per week. We assume that 50% of this labour is additional: this means that in the Edinburgh labour market in 2012/13, 50% of student jobs

³ Department for Business Innovation & Skills, Student Income and Expenditure Survey 2011/12, June 2013

would have been unfilled without the availability of student labour. Therefore, 50% of the economic impact of this labour has been attributed to the University.

Table 4.2 – Student Work Assumptions

Assumption	Value	Source
Proportion of full-time students who work part-time	52%	BiGGAR Economics Assumption
Average number of hours worked	17.5	NUS “Still in the Red”
Additionality of labour	50%	BiGGAR Economics Assumption

By applying these assumptions to the number of full time students at Edinburgh Napier University in 2012/13 and their location, we can estimate that the additional hours worked (and fte equivalent jobs supported).

The additional GVA that this amount of student labour generates for the businesses in which they are employed is calculated using the GVA per employee ratios for the industries in which students most frequently find work.

In this way it can be shown that the total economic impact of student part time work was £27.3 million GVA and 76 jobs in Edinburgh and £34.7 million GVA and 267 jobs in Scotland.

Table 4.3 – Part-Time Work Impact

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	27.3	33.0	34.7
Total Employment (ftes)	76	214	267

Source: BiGGAR Economics

4.3 Summary of Student Impacts

The impacts that are associated with student spending and student work generated £104.1 million GVA and 1,467 jobs for the Scottish economy. Of this £75.5 million GVA and 928 jobs are in Edinburgh.

Table 4.4 – Student Impacts – GVA supported (£m)

	City of Edinburgh	South East Scotland	Scotland
Student Spending	48.1	63.9	69.4
Student Part-Time Work	27.3	33.0	34.7
Total Student Impact	75.5	96.9	104.1

Source: BiGGAR Economics – Figures may not total due to rounding

Table 4.5 – Student Impacts – Employment supported

	City of Edinburgh	South East Scotland	Scotland
Student Spending	852	1,110	1,199
Student Part-Time Work	76	214	267
Total Student Impact	928	1,324	1,467

Source: BiGGAR Economics – Figures may not total due to rounding

5 EMPLOYABILITY AND ENTREPRENEURSHIP

Edinburgh Napier University's focus on employability and entrepreneurship feed through the delivery of its activities. These two themes have a strong connection as the focus on entrepreneurship provides students with skills that make them more employable. For example the experience of starting a company whilst a student makes students more attractive to prospective employers and provides them with skills that make them more effective employees.

This is reflected in statistics from the Destination of Leavers from Higher Education (DLHE) datasets for 2011/12⁴ graduates, which show that 92.4% of Napier graduates surveyed were in work or further study within six months of graduating. Of those in full time work:

- 79% were working in professional / managerial roles;
- 58% were employed in Edinburgh and the Lothians;
- 20% were employed in the rest of Scotland; and
- 8% were employed in the EU or overseas.

The top industries that graduates securing full time work entered were:

- human health and social work activities (20%);
- professional, scientific and technical activities (11%);
- information and communication (10%);
- wholesale and retail trade (9%);
- financial and insurance services (7%); and
- accommodation and food service activities (7%).

The initiatives developed at Edinburgh Napier University that lead to these strong employment outcomes include are discussed in this Chapter.

5.1 Start-Up Companies - Bright Red Ventures and the Moffat Centre

Edinburgh Napier University has a strong focus on entrepreneurship, as discussed later in this report. Student and graduates are encouraged to start up their own businesses both during study and after study.

Edinburgh Napier University is unusual in providing free incubator space as well as business advice and mentoring. The key activities undertaken by the University to support start-up companies are through the Moffat Centre at Craiglockhart and Bright Red Ventures at Merchiston are incubator spaces for students and graduates of Edinburgh Napier who want to set up and run their own businesses. The University aims to encourage all its students to consider self-employment as a realistic choice. These two facilities are open 7 days a week and students can access hot desks, phones, printers and other general office supplies.

⁴ DLHE data for the 2012/13 cohort will be published in June 2014 and so is not available for this report.

These facilities to date have supported over 1,200 students since 2004, who have currently started up 253 businesses and 158 are still active. The magnitude of this activity can be shown by the fact that in 2011/12, 42% of the total number of graduate start ups in Scotland that are recorded by Universities.

In addition a wide range of activities are carried out such as:

- staff from Harper McLeod comes in every annually to deliver a session on legal issues for creative arts businesses;
- network of lawyers and accountants who will offer free advice in 1-1 clinics
- seminar on relevant topics such as the Angel Investment scene in Scotland; and
- promoting business events run by various organisations such as Business Gateway.

Some students and graduates remain self employed, while others have established larger businesses. The estimated turnover of these companies in 2012/13 was £8.2 million. Information gathered by the University for the Higher Education Statistics Agency (HESA) to compile the Higher Education Business and Community Interaction Survey (HE-BCI) give the average employees per start up is 1.42. The analysis has assumed that 75% are based in Edinburgh, 80% in South East Scotland and 90% in the rest of Scotland.

Within employment generated the graduate starting up the company has been excluded so that our analysis does not double count future graduate employment impacts discussed later on in this study.

Table 5.1 – Employment in Start Up Companies

	City of Edinburgh	South East Scotland	Scotland
Total employment	613	174	195
Total employment excluding graduate	48	51	58

Source: BiGGAR Economics

It was assumed that the majority of these start up companies would be providing professional services, therefore economic assumptions appropriate to this industry were used to estimate the economic impact of these additional employees.

In this way it was estimated that the student and graduate start up companies of Edinburgh Napier University contributed £1.8 million GVA and 70 jobs in Edinburgh, £3.1 million GVA and 115 jobs in South East Scotland and £4.1 million GVA and 147 jobs in the Scotland.

Table 5.2 – Start-up Companies Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	1.8	3.1	4.1
Total Employment (ftes)	70	115	147

Source: BiGGAR Economics

In addition the University is a partner in Entrepreneurial Spark. This is an incubator model supported by some of Scotland's leading entrepreneurs where entrepreneurs supported in the incubator receive six months of intensive support, advice and networking connectivity. These models are located across Scotland and Edinburgh Napier University provided the incubator space to enable the network to open its operations in Edinburgh.

5.2 Confident Futures and Stand Out

All Edinburgh Napier University's courses aim to develop confident, employable graduates with effective attitudes to knowledge, learning, citizenship and the world of work. Edinburgh Napier's Graduate Attributes Model captures what it thinks makes a graduate both unique and valuable. It produces a graduate attribute profile for each subject area, to help students to understand the personal and professional qualities they have developed throughout their period of study.

The Confident Futures initiative was originally developed in 2005. Confident Futures is a set of personal and professional development workshops that are designed to equip students to be more successful in their academic studies and be more competitive and productive in employment. The initiative includes group work, placements, project work and making a presentation.

All Edinburgh Napier University students are able to attend workshops that are part of the open programme, free of charge. These workshops are also available to the University's alumni. Confident Futures is promoted under Edinburgh Napier's 'stand out campaign'⁵.

Stand Out is a programme of events, support and advice to help students and graduates secure a job. The activities offered include:

- one to one advice and guidance;
- CV Doctor;
- online contact with a careers adviser;
- assessment centre preparation;
- access to current graduate vacancies; and
- workshops to help secure a graduate job on topics such as: social media to make career connections; how to sell your strengths; how to make Stand Out job applications; self employment.

5.3 Widening Participation – employment destinations

Towards a Confident Future (TACF) is a three year project sponsored by the Big Lottery Fund with an aim to bridge the gap in employability outcomes for students from non traditional backgrounds.

Students from non traditional backgrounds are sometimes disadvantaged through transitions; into university, throughout their studies and ultimately into graduate employment. Later on in this chapter impacts of the University's work on widening access are discussed. This additional reach through the university

⁵ <http://www.napier.ac.uk/study/support/careers/stand-out/About-Stand-Out/Pages/home.aspx>

careers of students from disadvantaged backgrounds ensures that the work on widening access follows through to employment destinations.

Towards a Confident Future is aimed at third and fourth year Scottish Domiciled Students who also fall into at least one of the following categories: over 25; first generation at university; direct entrant from FE; home postcode area has lower participation in HE.

The target outcome is for a 15% increase in disadvantaged students gaining graduate level employment by the end of the project. There has been an improvement in TACF participants gaining 'full time paid work only' from 48% in DLHE January 2011 to 53% in DLHE January 2012. However, the most marked improvement relates to graduate occupations, where there has been a very considerable increase in TACF participants who are in 'full time paid work only' entering graduate occupations, from 47% in DLHE January 2011 to 84% in DLHE January 2012.

The project also supports progression into year 4 for year 3 students. 57.3% of TACF year 2 participants have progressed from year 3 into year 4 of their programme in comparison to 49.6% for the overall UK population. Students who were in the target population but did not participate in any initiative achieved a progression rate of 41.4%.

5.4 Bright Red Triangle

Bright Red Triangle is based in the Business School at Edinburgh Napier University. Bright Red Triangle recruits undergraduate, postgraduate and doctoral students as junior consultants. They are paired with a staff member to complete projects for external organisations. Bright Red Triangle is intended to create and develop relationships which could provide career paths for graduates and at the same time enhance the competitive edge of the local business community: an important element of economic impact. Services offered include: market research; market analysis; growth analysis; business advice; marketing; sales; administration and PR.

Over the last year, Bright Red Triangle has taken on 60 junior consultants and almost 40 projects have been delivered for mostly SMEs in the local area.

The impact of this is much wider than students who success in becoming junior consultants. The application process attracts over 500 applicants who go through an assessment process to apply for the position of junior consultants. The process of going through the assessment contribute to their employability. In the process of creating awareness of this activity over 100 companies have been engaged with.

5.5 Entrepreneurship modules

As well as informal activities that are organised by the incubator spaces there are 1,136 students enrolled on 22 different entrepreneurship modules which form part of students courses. These range from general topics such as exploring entrepreneurship to specific course such as selling for entrepreneurs.

5.6 e-Placements

e-Placement Scotland is a “Learning to Work 2” project funded by the Scottish Funding Council⁶. It is a partnership between Edinburgh Napier University, e-skills UK and Scotland IS, designed to increase the number of paid placements for computing and IT students studying at Scotland’s universities and colleges.

Between 1 August 2010 and 30 April 2013, the project created 530 paid placement opportunities, of which about 300 are at Edinburgh Napier University. The brand is now well established in the higher education and college sectors. According to the project evaluation, a programme of events has been rolled out at universities and colleges with employer input and technical talks from industry benefit not only the students who gain a placement, but bring the tech sector to life for all students. Businesses have also taken advantage of a series of short training courses staged in colleges and aimed at building connections.

e-Placement Scotland has 130 employers actively involved in the project and in total it has reached 974 employers in the following sectors:

- 70% IT/Technology;
- 18% Higher Education;
- 6% finance; and
- 5% other sectors.

53% of the placements are with SMEs, 26% large national companies and 21% multinationals. 58% of placements are for three months full-time over the summer break. 18% of placements last three to six months and 24% of placements are between six and 12 months long.

5.7 Biological Sciences Skills Passport

Edinburgh Napier University has established a skills programme in association with Charles River Laboratories. This was driven by a demand from industry for graduates to possess a greater range of both hard and soft skills.

Primary qualitative research with a cross-section of life science companies was undertaken, identifying skills gaps in biological sciences graduates. An employer liaison panel was established comprising of academic staff, industry representatives and student representatives. The aim of the panel is to discuss skills gaps, programme changes, skills provision and the development of a Skills Passport.

Programme teams within the School of Life, Sport and Social Sciences are very aware of the importance of supporting students to become competent, confident graduates. The Skills Passport project is focussed on enhancing the employability of biological sciences graduates and its economic impacts will be on improved probability of employment, graduate productivity and saving employers the cost of re-training graduates to meet company requirements.

⁶ <http://www.sfc.ac.uk/skills/LearningtoWork/LearningtoWorkProjects.aspx>

5.8 Student Placements

5.8.1 Non Health Placements

The University’s Academic Strategy 2009-15 states that Edinburgh Napier programmes are characterised by ‘an applied, professional or vocational focus which contributes directly to employability’. At the same time, the University ‘seeks to promote and encourage the development of new approaches to programme delivery - for example, employer-linked and work-based learning programmes’.

Information regarding placements outside of nursing and midwifery placements was difficult to source. It is assumed that a student will make a contribution to an organisation if the placement is long enough for the organisation to invest in training or provide the student with a project to carry out, therefore only longer term placements are considered. The table below lists the assumptions made about student numbers, placement length and student productivity for each faculty.

Table 5.3 – Student Placement Assumptions

	Business School	FECCI	FHLSS – exc Health
Proportion of students who undertake placements annually	5%	5%	5%
Number of students on placement annually	414	454	100
Student productivity as % of employed worker	38%	38%	38%
Average Length of placements (weeks)	13	13	13
Proportion of placements in City of Edinburgh	50%	50%	50%
Proportion of placements in SE Scotland	75%	75%	75%
Proportion of placements in Scotland	100%	100%	100%

Source: BiGGAR Economics

The economic impact associated with the productivity of the student placements was estimated based on the industries in which these placements occurred. The time spent on placements was converted into the equivalent additional staff numbers at the companies in order to estimate output. The number of weeks that a student was on placement and the student productivity as percentage of employed worker enabled the staff output equivalent for each of the faculties to be estimated. The direct GVA was then estimated by multiplying this staff output equivalent by the GVA per member of staff in the appropriate sectors. The indirect impacts associated with this were calculated by applying the appropriate multipliers for these sectors.

Many students who undertake placements at a company go on to paid employment with these companies after graduation. This analysis has used the estimate provided in the previous section of the number of e-placement participants who go on to work for their host organisation. Savings to businesses from placements include recruitment and training costs saved and the initial productivity of new employees that are employed from placements. The recruitment costs and training costs per graduate are given in are taken from a

survey by Kent County Council⁷. It was assumed that a proportion of these costs would be avoided if a student on placement was employed at the company.

Table 5.4 –Businesses of Hiring Students who have been on Placements: assumptions

	Value
Recruitment cost per graduate	£3,252
Training and other costs per graduate	£3,963
% of training costs saved	50%
Proportion of placement students who are offered permanent employment with host company	25%

Source: BiGGAR Economics

5.8.2 Practice Learning Experiences

The training nature of placements undertaken by students of health and social care courses means they are known as Practice Learning Experiences (PLE). The University of Napier provided details of the number of students on these courses who were on placements and the number of hours which these placements were undertaken for. The productivity of these students are assumed to be higher than non health students due to the length of this training.

Table 5.5 – Student Placement Assumptions

	Value
Number of students undertaking PLE	1,625
Hours of PLE generated	1,126,762
Student productivity as % of employed worker	75%

Source: BiGGAR Economics, *Napier University

The economic impact associated with the productivity of PLE was the same methodology as described for the non-health impacts. The time spent on placements was converted into the equivalent additional staff numbers at the companies in order to estimate output. The number of weeks that a student was on placement and the student productivity as a percentage of nemployed worker enabled the staff output equivalent for each of the faculties to be estimated. The direct GVA was then estimated by multiplying this staff output equivalent by the GVA per member of staff in the health sector. The indirect impacts associated with this were calculated by applying the appropriate multipliers for these sectors.

It was assumed that there was no savings in recruitment and training costs associated with students undertaking placements in the health sector because a placements programme is mandatory in all accredited health courses that feed into the NHS.

5.8.3 Placements Impact

The total placements impact of placements was calculated by summing the productivity of both the health and non-health placements with the savings to business impacts of the non-health placements. The estimated impacts are given in Table 5.6. This shows that the total impact in Scotland was £31.9 million GVA

⁷ Kent County Council Graduate Recruitment Scheme, 2010

and 171 jobs and the impact in the City of Edinburgh was £14.3 million and 51 jobs.

Table 5.6 – Student Placements Impact

	City of Edinburgh	South East Scotland	Scotland
GVA (£m)	14.3	24.3	31.9
Total employment (ftes)	51	137	171

Source: BiGGAR Economics

5.9 Widening Participation

5.9.1 Cost of a spell of youth unemployment

The University’s commitment to providing access to a wide range of students has led it to recruit students from a wide range of backgrounds. The Scottish Index for Multiple Deprivation (SIMD) is the Scottish Government’s official tool for identifying those places in Scotland suffering from deprivation. Edinburgh Napier University has 10% of students coming from a postcode within Scotland’s 20% most deprived areas (SIMD).

Although the SIMD is an imperfect measure of the background of a student, this measure can give a rough estimation of deprivation. Edinburgh Napier University had the fifth best record for entrants from deprived backgrounds by the SIMD 20 measure. This is to be expected given the local reach of the University and Edinburgh and the Lothians has a significantly less deprivation than the local areas of the Universities that perform better on this measure. For example the Community Health Partnerships (CHP) within the Greater Glasgow & Clyde area contain 45.4% of the most 15% deprived areas while the CHPs within the Lothian area have 7.5% of these areas.⁸

⁸ A National Statistics Publication for Scotland, Scottish Index of Multiple Deprivation 2012, , 18 December 2012

Table 5.7: Scottish Domiciled Entrants to Full-Time Undergraduate Degree Courses at Scottish Universities, by Deprivation Level, 2010/112

Higher Education Institution	% of entrants from SIMD 20
University of West of Scotland	25.4
Glasgow Caledonian University	20.7
Abertay Dundee University	16.8
University of Strathclyde	13.0
Edinburgh Napier University	12.2
University of Glasgow	10.4
University of Dundee	10.1
Queen Margaret University	9.3
University of Stirling	9.3
Royal Conservatoire of Scotland	8.7
Heriot-Watt University	8.6
University of Highlands and Islands	8.3
Scottish Agricultural College	8.1
Glasgow School of Art	7.0
Edinburgh College of Art	5.6
Robert Gordon University	5.4
University of Edinburgh	5.0
University of Aberdeen	3.1
University of St Andrews	2.7
Average	12.7

Source: NUS Scotland, *Unlocking Scotland's Potential: Promoting Fairer Access to Higher Education*

Some of these students may otherwise have been unemployed as they face barriers in applying to Universities and there are “too few high-quality progression routes to follow as they make the transition from being in full time education to being in full time work”⁹. The costs of unemployment ranges from cost to exchequer of benefits, to future costs in terms of earnings due to increased risk of not being in work¹⁰, increased risk of depression¹¹ to estimated lifetime costs of £97,000¹². There are many reasons for students to be not in education, employment and training, therefore this report has made a conservative

⁹ Third Sector Leaders ACEVO, “Youth unemployment: the crisis we cannot afford: (2012) and NUS Scotland, *Unlocking Scotland's Potential: Promoting Fairer Access to Higher Education*

¹⁰ The ACEVO Commission on Youth Unemployment ‘ Youth unemployment: the crisis we cannot afford’ 2012

¹¹ Princes’ Trust ‘ The Cost of Exclusion – Counting the cost of youth disadvantage in the UK’ 2007

¹² Godfrey, C., Hutton, S. Bradshaw, J. Coles, B., Craig, C., and Johnson, J., ‘Estimating the Cost of being “Not in Education, Employment or Training” at Age 16-18, Department for Education and Skills (2002)

assumption based on the above sources of lifetime costs of having a spell of youth unemployment is £16,000¹³.

The number of young people this impact affects is estimated by applying the following assumptions together:

- number of students in the City of Edinburgh and Scotland that come from deprived backgrounds – this is estimated by applying the percentage of the full time undergraduates in 2012/13 who were from deprived areas to the number of students coming from the City of Edinburgh and Scotland;
- assumption of unemployment – 33% of undergraduates from SIMD 20 areas are assumed would otherwise face a spell of unemployment.

Table 5.8: Widening Participation Impact

	City of Edinburgh	South East Scotland	Scotland
Students who could have a spell of unemployment	295	307	307
Cost of a spell of unemployment (£m)	4.7	4.9	4.9

Source: BiGGAR Economics

5.9.2 Articulation from colleges

Scottish colleges also contribute significantly to supporting students from deprived backgrounds to enter higher education. Edinburgh Napier University has partnership arrangements with many Scottish colleges to facilitate the transition of their students onto its degree programmes. These pathways from colleges are known as articulation and progression routes. In particular articulation, which is defined as those students progressing from Higher National Certificate (HNC) level or Higher National Diploma (HND) level to the second or third year of degree-level study respectively are recognised by Scottish Government as an important driver for widening participation as shown by recent measures such as expanding funding places for articulation students.

In 2012/13, 560 students articulated into the university from HNC or HND programmes, as shown in the following table which shows that while the benefits of articulation is local, the reach of Edinburgh Napier University is across Scotland.

¹³ Based on data on earnings only, in 2013 prices, extracted from: Godfrey, C., et.al.

Table 5.9: Widening Participation – Articulating Students (no.) 2012/13

Row Labels	HNC Advanced Standing	HND Advanced Standing	Grand Total
Ayrshire College	1	7	8
Borders College	5		5
City of Glasgow College	5	67	72
Coatbridge College	1	7	8
Dundee and Angus College	1	3	4
Edinburgh College	100	180	280
Fife College	15	37	52
Forth Valley College	7	15	22
Glasgow Clyde College		5	5
Glasgow Kelvin College	3	8	11
New College Lanarkshire	1	10	11
North East Scotland College	3	7	10
South Lanarkshire College		1	1
West College Scotland	1	2	3
West Lothian College	33	35	68
Total	176	384	560

Source: Edinburgh Napier University

5.10 Employability and Entrepreneurship Summary

The quantifiable summary of the employability and entrepreneurship impacts are given in the two tables below. These show that the impact in Edinburgh is £20.8 million GVA and 122 jobs and the impact in Scotland is £40.9 million GVA and 318 jobs.

Table 5.10 – Employability and Entrepreneurship Impacts GVA (£m)

	City of Edinburgh	South East Scotland	Scotland
Placements	14.3	24.3	31.9
Start Ups	1.8	3.1	4.1
Widening participation	4.7	4.9	4.9
Total Student Impact	20.7	32.4	40.9

Source: BiGGAR Economics – Figures may not total due to rounding

Table 5.11 – Employability and Entrepreneurship Impacts Jobs

	City of Edinburgh	South East Scotland	Scotland
Placements	51	137	172
Start Ups	70	115	147
Widening participation	-	-	-
Total Student Impact	122	252	318

Source: BiGGAR Economics – Figures may not total due to rounding

6 RESEARCH AND KNOWLEDGE EXCHANGE

Edinburgh Napier University undertakes a variety of activities designed to facilitate knowledge transfer, some of which can be quantified and others, such as the impact of public engagement in science, that cannot. The impacts that can be quantified are discussed in this chapter.

6.1 Commercialisation

The application of academic discoveries to industry can occur as the result of commercialisation, where the right to use intellectual property (IP) developed at the University is sold to industry. The commercialisation of intellectual property can be achieved in two main ways. The first is through the use of licence agreements and the second is through the creation of spin-out companies.

6.1.1 Licencing

The starting point for calculating the impact generated by licensing activity is to consider the royalties or licence fees that Edinburgh Napier University receives from licence holders; this reflects the value of the licence to the licence holder. In 2012/13 data supplied by the Edinburgh Napier University showed that the University received £417,197 in licence income. However, as licence holders retain a proportion of the income generated by the licence this income only reflects a proportion of the total value of the technology. In order to estimate the full impact of the technology, we need to estimate how much turnover the licences generate within the license holding company.

The relationship between the royalty paid for a technology and the turnover it generates depends on the details of the licensing agreement and can vary considerably from company to company. In order to agree a licence, negotiators must first form a view of how much the IP is worth to the prospective licensee. There are a wide variety of variables that may inform this judgement but a training manual issued by the World Intellectual Property Organisation states that a common starting point is the “well known and widely quoted” 25% rule.

The 25% rule is a general rule of thumb according to which the licensor should receive around one quarter to one third of the profits accruing to the licensee and has been used by IP negotiators for at least 40 years. The rule is based on an empirical study first undertaken in the 1950s and updated in 2002. The study found that royalty rates were typically around 25% of the licensee’s profits, which equates to around 5% of sales from products embodying the patented technology. This implies that royalties paid for a technology typically represent around 5% of the total turnover generated by that technology.

By applying this to the amount of licence income received by the Edinburgh Napier University in 2012/13, it was estimated that these technologies generated £8.3 million of additional turnover for licence holding businesses based in the Scotland. The proportion of Scottish licence holders by study area was assumed to be the same as that for CPD clients.

The employment supported by this turnover was estimated by dividing the additional turnover generated by an estimate of turnover per employee. The GVA of the licensing activity was estimated by multiplying employment by an estimate of GVA/employee.

In this way it can be estimated that the economic impact of the licenced technologies was £6.2 million GVA and 86 jobs in Scotland.

Table 6.1 – Licencing Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	1.3	3.2	6.2
Total Employment (ftes)	17	44	86

Source: BiGGAR Economics

6.1.2 Spin-out companies

Another way in which research undertaken at Edinburgh Napier University is converted into economic activity through commercialisation is through the creation of spin-out companies.

There are currently six operational companies that are spin-outs of Edinburgh Napier University, listed in the table below. Three of these are based in Edinburgh, two in South East Scotland and one elsewhere in Scotland.

Table 6.2 – Spin Out And Start Up Companies

	Study Area	Industry
CardioDigital Ltd	South East Scotland	Manufacture of medical and dental instruments and supplies
Toposphere Ltd	City of Edinburgh	Manufacture of basic pharmaceutical products and pharmaceutical preparations
Recylatech Ltd	Scotland	Manufacturing
Surface Active Solutions Holdings Ltd	South East Scotland	Support activities for petroleum and natural gas extraction
Surface Materials Engineering Ltd	City of Edinburgh	Professional, Scientific and Technical services
Celtic Renewables Ltd	City of Edinburgh	Manufacture of chemicals and chemical products

Source: Edinburgh Napier University

As none of these businesses would have been created were it not for the research activity at Edinburgh Napier University, all of the GVA they generate and jobs they support can be attributed to the University. The impact of the spin-out companies is calculated based on previous studies carried out by BiGGAR Economics and an analysis of employment and turnover data from Edinburgh Napier University.

Table 6.3 – Spin Out Companies

Company	Direct Employment	Direct GVA
CardioDigital Ltd	0	£-
Toposphere Ltd	2	£427,136.36
Recylatech Ltd	5	£325,416.67
Surface Active Solutions Holdings Ltd	6	£668,608.70
Surface Materials Engineering Ltd	1	£-
Celtic Renewables Ltd	4	£322,700.85
Total	18	£1,743,862.58

Source: *Edinburgh Napier University*

The indirect multiplier impacts were calculated using the employment and GVA multipliers for the relevant industries, and the regional impacts were calculated from the area of operation of each company.

In this way it can be estimated that the spin-out companies of Edinburgh Napier University contributed £0.9 million GVA and 10 jobs in Edinburgh, £1.8 million GVA and 20 jobs in South East Scotland and £2.6 million GVA and 33 jobs in the Scotland.

Table 6.4 – Spin-Out Companies Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	0.9	1.8	2.6
Total Employment (ftes)	10	20	33

Source: *BiGGAR Economics*

6.2 Services to industry and the public corporations

The University’s staff also exchange knowledge with the public sector, for example by staff participating on boards of other organisations such as further education colleges and advisory bodies to the Scottish and UK Government.

This is reflected that the University estimates 20% of its staff have directly provided services to commercial partners/clients, 5% have provided services to public sector/clients and 2% have provided services to social, community and cultural partners.

The scale of these activities and in particular the activities with SMEs can be seen through the number of knowledge exchange partnerships which are facilitated through Interface, a central hub connecting businesses to Scottish higher education and research institutes. Edinburgh Napier University has the sixth highest number of partnerships and the number of partnerships it undertakes is of similar magnitude to the Universities ranked higher.

Table 6.5 – Number Of Interface-Facilitated Collaborative Knowledge Exchange Partnerships

	Number
University of Strathclyde	99
University of Edinburgh	98
Heriot-Watt University	93
Glasgow Caledonian University	81
University of West Scotland	81
Edinburgh Napier University	78
University of Glasgow	57
University of Abertay Dundee	56
University of Aberdeen	33
Robert Gordon University	32
University of Dundee	32

Source: Interface January 2014-03-13

These knowledge exchange partnerships from Interface are some of over four hundred consultancy contracts Edinburgh Napier University carry out each year. These services range from contract research to business improvement projects to product and service development projects. In 2012/13 Edinburgh Napier received £2 million for consultancy services and £1.3 million from industry, commerce and public corporations for research grants and contracts.¹⁴ The figures show that £1.6 million of this comes from Scottish sources and it is assumed that it will benefit organisations in Scotland.

BiGGAR Economics undertook an evaluation of Interface. This evaluation provides an assumption of what the annual GVA supported for every £1 spent on these type of projects which is then applied to the £1.6 million spent by industry and public corporations on commissioning services from Edinburgh Napier University. Economic assumptions are then applied to estimate how much employment this additional GVA supports.

In this way it was estimated that services to industry and the public corporations provided by Edinburgh Napier University in 2012/13 contributed £5.9 million GVA to the Scottish economy and supported 57jobs.

Table 6.6 – Consultancy Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	2.0	3.4	5.9
Total Employment (ftes)	19	33	57

Source: BiGGAR Economics

The strength of the University’s interaction with SMEs is shown by the Business Innovation Exchange (BIE) which is a collaborative initiative with Queen Margaret University and the University of St Andrews aimed at forging stronger engagement and commercial links with the Scottish SME business base. It is a

¹⁴ Scottish Funding Council, Knowledge transfer income metrics, academic year 2012-2013

three year programme targeted at Scottish SMEs within 7 of Scotland's priority industry sectors. Over the first 30 months that the BIE has been in operation, it has assisted over 500 Scottish SMEs, establishing over 250 innovation based projects with SME clients that have in-turn collectively stimulated over £7m of SME investment in Research and Technology Development. The SME based projects supported by the BIE have to-date resulted in the creation of over 50 new products and services and the significant improvement of over a further 150. To-date a total of 26 new jobs have been created and a further 60 safeguarded as a result of these projects. These impacts are expected to increase in the market for example as products developed reach the marketplace.

6.3 Continuing Professional Development

Another type of service provided by Edinburgh Napier University to industry and the public sector are a variety of courses for professionals to continue their professional development include:

- distance learning;
- continuous work-based learning;
- short bespoke courses for businesses on campus; and
- short bespoke courses at business premises.

This is done in a wide range of ways, for example Edinburgh Institute provide a range of bespoke accredited programmes for clients and a range of non accredited programmes for example master classes and workshops. This includes in 2012/13:

- two open programmes the BA Business and Enterprise and the Masters In Entrepreneurial Leadership – this has 76 students sponsored by their organisations including the Royal Navy, IPSOS Mori, Royal Botanic Gardens, Biffa Waste Services and ASDA;
- customised programmes for businesses – this includes programmes for the Scottish Police College and Public Leadership. These programmes had 235 students in 2012/13;
- a range of consultancy projects such as a HR Review for Greater Glasgow and Clyde NHS; and
- engaging over 50 businesses in all these activities.

In 2012/13 Edinburgh Napier University received almost £2.5 million for delivering continuing professional development (CPD), of which £1.1 million was income from clients based in Scotland.

These courses include a leadership courses which have helped participants make their businesses and organisations more productive. For example it is estimated the attendance by management staff of NHS Lothian on a leadership programme run by the Edinburgh Institute management resulted in staff creating ideas which has lead to savings to the organisation worth an estimated tens of millions. This demonstrates the wider impact of CPD activity. For example the Edinburgh Institute has just launched an Executive Certificate for Tourism Professionals which is the UK's first Destination Leadership Programme which will help tourism destinations such as Edinburgh and St Andrews strengthen their competitiveness

and therefore help contribute to the competitiveness of the tourism sector and the economy as a whole. Therefore the impact of CPD is estimated using the same method as the other services to industry and public corporations provided by the University as described in the previous subsection.

Therefore the continuing professional development courses that were offered by Edinburgh Napier University was £4.2 million GVA and 41 jobs in Scotland and £1.4 million GVA and 13 jobs in Edinburgh.

Table 6.7 – Continuing Professional Development Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	1.4	2.4	4.2
Total Employment (ftes)	13	23	41

Source: BiGGAR Economics

6.4 Knowledge Transfer Partnerships

Edinburgh Napier University participates in the knowledge transfer partnership (KTP) programme, which exists to facilitate knowledge between academia and industry across the UK. A strategic review of the KTP programme undertaken in 2010¹⁵ found that on average, KTPs undertaken in Scotland contributed £713,000 GVA to the Scottish economy, equivalent to an annual impact of £119,000 in the six years after the KTP is completed. It is assumed that the annual impacts for the duration of the project are only 10% of the impacts after the KTP has been completed, as the outputs of the knowledge exchange will not have been realised. The same study found that on average, each KTP projects support the creation of three jobs.

By multiplying the impacts from this strategic review by the number of KTP projects undertaken by the University it was possible to estimate the economic impact that the KTPs have in each area.

Edinburgh Napier University has been involved in nine KTPs in the past three years. One of these was not completed because the company went into receivership. Four companies were in the construction/timber sector, two in the pharmaceutical sector one in IT/marketing and two were in manufacturing. Three companies were in Edinburgh, one in South East Scotland and two elsewhere in Scotland. Three companies were elsewhere in the UK.

In this way it can be estimated that these partnerships contributed £0.7 million to the Scottish economy and supported 18 Scottish jobs. The KTPs delivered in Edinburgh contributed £0.4 million GVA and supported 9 jobs.

Table 6.8 – Knowledge Transfer Partnership Impacts

	City of Edinburgh	South East Scotland	Scotland
Number of KTPs by area	3	4	6
Total GVA (£m)	0.4	0.5	0.7
Total Employment (ftes)	9	12	18

Source: BiGGAR Economics

¹⁵ Regeneris Consulting (February 2010), Knowledge Transfer Partnerships Strategic Review

6.5 Returns to Medical Research

A number of international studies have shown that the social and economic returns on investment in healthcare and medical research can be substantial and long lasting.

A 2008 research report¹⁶ for the Medical Research Council, the Wellcome Trust and the Academy of Medical Sciences compared the economic benefits accruing to the UK from UK publicly and charitably funded medical research with the cost of that research. The study focused on two areas of research, cardiovascular disease and mental health and found that there were two main elements to the economic benefits:

- health gains, net of healthcare costs (estimated return of 9% for cardiovascular disease and 7% for mental health); and
- wider economic benefits (estimated return of 30% for cardiovascular disease and for mental health).

Across the two areas of research measured, the study concluded that the economic returns on medical research in the UK were 38%, that is, every £1 invested produced a stream of benefits equivalent in value to earning £0.38 per year in perpetuity. Over twenty years this generates a return of £4.63 NPV.

This finding has been used to estimate the economic returns on research undertaken by Edinburgh Napier University, which had research income of £243,156 million in 2012/13.

Table 6.9 – Returns to Medical Research Assumptions

	Source	Value
Income to health and medical research	Edinburgh Napier University	£243,156
Return on research development (%)	Research report: Medical Research: What's it worth?	38%
£ of impact over 20 years, in net present value (NPV) for each £1	Calculated using 5% discount rate	£4.63

On the basis of these assumptions, the total GVA impact associated research spill-over effects is estimated as an estimated £1.1 million GVA in the UK in 2012/2013. It is assumed that the research outcomes would be shared equally throughout the UK and therefore the impact in Scotland would be proportional its population share of the UK, as with South East Scotland and Edinburgh. These impacts are summarised in Table 6.10.

¹⁶ Health Economics Research Group, Office of Health Economics, RAND Europe. Medical Research: What's it worth? Estimating the economic benefits from medical research in the UK. London: UK Evaluation Forum; November 2008.

Table 6.10 – Returns to Medical Research Impacts

	Glasgow City	Scotland	UK
Population as % of UK population	0.8	1.8%	8.3%
Value (£m)	<0.1	<0.1	0.1

6.6 Research and Knowledge Exchange Summary

The research and knowledge exchange activity described in this chapter contributes £5.9 million GVA to the economy of Edinburgh and supports 68 jobs. The impact in Scotland was £19.7 million GVA and 235 jobs. The impacts are summarised in Table 6.11 and Table 6.12.

Table 6.11 – Research and Knowledge Exchange Impacts GVA (£m)

	City of Edinburgh	South East Scotland	Scotland
Licencing	1.3	3.2	6.2
Spin-Outs	0.9	1.8	2.6
Services to Industry	2.0	3.9	5.9
Continuing Professional Development	1.4	2.4	4.2
KTPs	0.4	0.5	0.7
Returns to Medical Research	<0.1	<0.1	0.1
Total Research & KT impact	5.9	11.3	19.7

Source: BiGGAR Economics – Figures may not total due to rounding

Table 6.12 – Research and Knowledge Exchange Impacts (jobs)

	City of Edinburgh	South East Scotland	Scotland
Licencing	17	44	86
Spin-Outs	10	20	33
Services to Industry	19	33	57
Continuing Professional Development	13	23	41
KTPs	9	12	18
Returns to Medical Research	-	-	-
Total Research & KT Impact	68	131	235

Source: BiGGAR Economics – Figures may not total due to rounding

7 TOURISM IMPACTS

Edinburgh Napier University supports economic activity by attracting visitors and visitor spend to Edinburgh. Tourism impacts are generated by:

- friends and family visiting students and staff;
- people attending conferences and events hosted at Edinburgh Napier University;
- people attending sporting events at the University’s sports facilities; and
- the role of University accommodation in increasing the tourism sector’s capacity at peak times.

7.1 Visits from Friends and Family

It is expected that friends and family who are not normally resident in the local area will visit staff and students of the university. These trips are referred to as visiting friends and relatives (VFR). The expenditure of these visitors generates GVA and supports jobs in the tourism sector.

The first step towards calculating this impact is to estimate the number of visits from friends and family that students and staff of Edinburgh Napier University will receive. VisitScotland compiles data on the number of VFR trips that are taken to different areas within Scotland and where the visitors come from, either domestic or from overseas¹⁷. The number of domestic VFR trips per person is multiplied by the number of students and staff at the University to provide an estimate of the visits stimulated by Edinburgh Napier University, as shown in the table below.

VisitScotland also provides data on the visitor spend per trip, number of nights per trip and spend per night for UK and overseas VFR visitors. This has been applied to the number of visitors to the University’s staff and students, also shown in the table below.

Table 7.1 – Number of VFR trips and spend stimulated by Edinburgh Napier University

	City of Edinburgh	South East Scotland	Scotland
VFR Trips by Area			
Domestic	6,515	7,071	7,180
Overseas	5,546	6,019	6,112
VFR Spend by Area			
Domestic	£811,604	£880,829	£894,405
Overseas	£2,186,821	£2,373,344	£2,409,925
Total	£2,998,425	£3,254,173	£3,304,331

Source: BiGGAR Economics

The economic impacts the visits from friends and family was estimated by using economic assumptions. In this way was estimated that VFR trips contributed £1.2 million GVA and supported 31 jobs in the Edinburgh economy and £2.1 million and 49 jobs in the Scottish economy.

¹⁷ Visit Scotland, Visit Scotland Tourism in Edinburgh 2011

Table 7.2 – VFR Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	1.2	1.8	2.1
Total Employment (ftes)	31	44	49

Source: BiGGAR Economics

7.2 Conferences and Events

Edinburgh Napier University holds a number of academic and professional conferences, corporate and social events. These have an impact on the tourist economy by attracting people to Edinburgh.

Table 5.3 shows that in total Edinburgh Napier University hosted 299 events in 2012/13, which attracted almost 13,000 people.

Table 7.3 – Conference And Event Assumptions

	Number of events	Attendees
University	271	10,426
Private	28	2,800
Total	299	13,226

Source: Edinburgh Napier University

We have assumed that each attendee from outwith Scotland is In Edinburgh for two days and those from overseas are in Edinburgh for three days. Attendees from Scotland were assumed to be in Edinburgh for 1 day. Therefore the average visit lasts 1.38 days and that there is an average spend per day of £134 (source: VisitScotland data¹⁸). Applying these assumptions to the number of events held at the University, finds that there were almost 20,000 visitor nights spent in Edinburgh and a total spend of £2.4 million. the total number of nights and visitor spend associated with conferences and events is as shown in the table below.

Table 7.4 – Conference And Events: Visitor Nights And Total Spend

	Value
Total Visitor Nights	18,252
Total Spend (£m)	2.4

Source: BiGGAR Economics

The economic impact of this additional spend was calculated by dividing the additional turnover by the GVA/turnover ratio and the turnover/employee ratio for tourism and related sectors. The multipliers for these sectors were then applied to include the indirect benefits of this increased spend. This method estimated the total impact of conferences and events of £1.6 million GVA and 37 jobs in Scotland, of which £1.0 million GVA and 25 jobs are in Edinburgh.

¹⁸ Ibid.

Table 7.5 – Conference And Event Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	1.0	1.4	1.6
Total Employment (ftes)	25	33	37

Source: BiGGAR Economics

7.3 Sports Events

Edinburgh Napier University hosts a number of sporting events throughout the year, attracting players and spectators to its facilities at Sighthill. In 2012/13 the University hosted events which attracted 450 attendees from outwith Edinburgh. Assuming that each visitor stays one night and with a visitor spend per night as indicated by Visit Scotland¹⁹, this stimulated a total visitor spend of £48,397 in Edinburgh, East of Scotland and Scotland. The economic impact of this spend is shown in Table 5.7 below.

Table 7.6 – Sporting Event Impacts

	City of Edinburgh	South East Scotland	Scotland
GVA (£m)	<0.1	<0.1	<0.1
Jobs	1	1	1

Source: BiGGAR Economics

7.4 Accommodation Impacts

Edinburgh Napier University also supports the local tourist economy through the provision of rented student accommodation for visitors. By adding additional capacity to Edinburgh’s tourist infrastructure it allows people to visit who would otherwise not be able to do so.

For the majority of the year its rooms are occupied by students, however during the holidays these rooms are leased out to tourists and visitors to events. Edinburgh Napier University generated 3,933 leisure bookings in its accommodation in 2012/13. It was assumed that 25% of bookings are from overseas visitors and 50% of all visits are additional. This means that half of the visitors would not have come to Edinburgh if they had been unable to get accommodation at Edinburgh Napier University.

The economic impact of these additional visitors was calculated by multiplying the average daily spend of domestic and overseas leisure tourists by the number of additional bednights. The additional spend was split between Edinburgh and the rest of Scotland based on the proportion of the visit that was spent in each area.

In this way it can be estimated that the additional spending in Scotland associated with the additional visitors was £0.2 million. Economic assumptions were applied in order to estimate the economic impact of this spend.

In this way it can be estimated that the University’s accommodation contributed £108,000 GVA to the Scottish economy and supported 3 jobs, of this £54,000 GVA and 1 job was in Edinburgh.

¹⁹ Ibid.

Table 7.7 – Accommodation Impacts

	City of Edinburgh	South East Scotland	Scotland
Total GVA (£m)	0.1	0.1	0.1
Total Employment (ftes)	1	2	3

Source: BiGGAR Economics

7.5 Summary of Tourism Impacts

The total impact from tourism activity associated with Edinburgh Napier University is summarised in Tables 5.9 and 5.10 below.

This amounted to £2.2 million GVA and 58 jobs in Edinburgh, £3.4 million GVA and 80 jobs in South East Scotland and £3.8 million GVA and 89 jobs in Scotland.

Table 7.8 – Tourism Impacts GVA (£m)

	City of Edinburgh	South East Scotland	Scotland
Visiting Friends & Relatives	1.2	1.8	2.1
Conference & Events	1.0	1.4	1.6
Sporting Events	<0.1	<0.1	<0.1
Accommodation	0.1	0.1	0.1
Total Tourism Impact	2.2	3.4	3.8

Source: BiGGAR Economics – Figures may not total due to rounding

Table 7.9 – Tourism Impacts Jobs

	City of Edinburgh	South East Scotland	Scotland
Visiting Friends & Relatives	31	44	49
Conference & Events	25	33	37
Sporting Events	1	1	1
Accommodation	1	2	3
Total Tourism Impact	58	80	89

Source: BiGGAR Economics – Figures may not total due to rounding

8 TEACHING AND LEARNING

The learning that the students undertake in during their time at Edinburgh Napier University enhances their future productivity in the economy.

8.1 Graduate productivity

One of the main ways in which knowledge is transferred from Edinburgh Napier University into industry is when its graduates start working and begin applying what they have learned in the work place. The skills students learn and the experiences they have while at University directly enhance their future productivity. This enables them to contribute more to their employer and generate a greater benefit for the UK economy than they would otherwise be able to. The GVA of this productivity gain includes the additional profits that graduate employers are able to generate by employing graduates and the additional employment costs they are willing to pay in order to generate these additional profits.

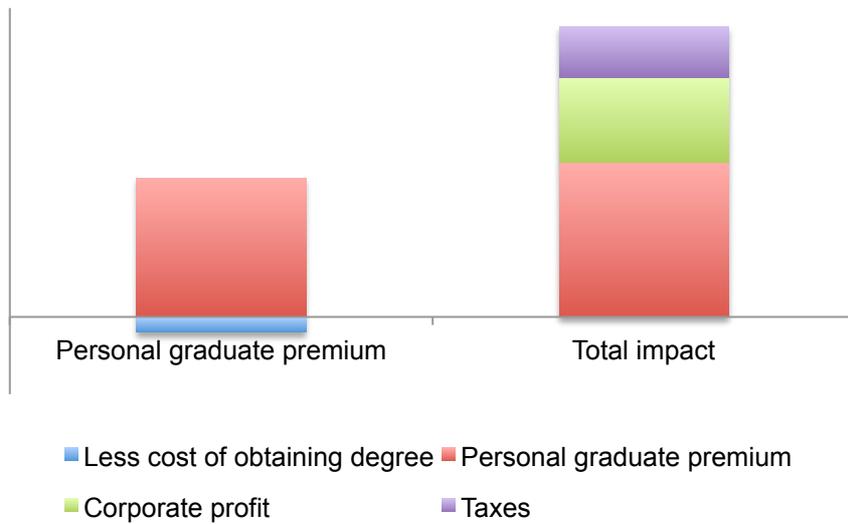
The subject of graduate earnings premiums has been well researched so information about the earnings premium of graduates is readily available and can be used to provide a measure of the additional contribution graduates make to the economy each year. Unfortunately information about the additional profits of graduate employers is not readily available so the impact presented in this section is likely to underestimate the true productivity impact of learning.

Information about the graduate premium for different subject areas is provided in a research paper produced by the Department for Business Innovation & Skills²⁰, which considered data from the Labour Force Survey between 1996 and 2009. The analysis considered the after tax earnings of a graduate compared to the after tax earnings of a non-graduate. The direct and indirect costs were then subtracted from the gross graduate premium for each degree subject to give the net graduate premium. In this way the total graduate premium gives the combined personal economic benefit that the years graduates will obtain rather than the increase in national productivity associated with the degree, which will be higher.

The national benefits from the increased productivity of graduates will also include the corporate profit associated with each graduate as well as the taxes paid to the Treasury.

²⁰ Department for Business Innovation & Skills (June 2011), The Returns to Higher Education Qualifications.

Figure 8-1 – Personal Graduate Premium Benefit Vs. Economic Benefit



8.1.1 Graduate Premium of Edinburgh Napier University Students

The subject that a student graduates in determines the earnings premium that they can expect to achieve over the course of their working life, as shown below. The average for all undergraduate degrees is £101,442.

Table 8.1 – Graduate Premium By Degree Subject

	Graduate Premium (£)
Agriculture	60,131
Architecture, building and planning	125,337
Biological sciences	65,788
Business and administrative studies	115,295
Creative arts and design	5,945
Education	115,843
Engineering	128,120
European languages	61,501
Historical and philosophical studies	21,843
Law	161,436
Linguistics, classics and related	49,036
Mass communication	19,460
Mathematical and computing sciences	136,629
Medicine and dentistry	371,432
Non-European languages	45,165
Physical /environmental sciences	92,063
Social studies	98,793
Subjects allied to medicine	145,633
Technologies	62,512
Veterinary sciences	146,181
Average Undergraduate	101,442
Postgraduate degree	50,195

Source: Department of Business, Innovation and Skills, *The Returns to Higher Education Qualifications, 2011*

When we apply the graduate premium for each degree subject to graduate numbers across each of the schools in Edinburgh Napier University, we find that the total graduate premium for the University is in excess of £250 million.

Table 8.2 – Graduate Premium Assumptions by Degree Subject (£m)

	Undergraduate	Postgraduate	Total
Business and Administrative studies	84.9	6.8	91.7
Law	8.4	-	8.4
Agriculture	1.6	0.3	1.9
European Languages	4.5	-	4.5
Creative Arts and Design	1.2	0.2	1.4
Mass Communications and Documentation	2.3	-	2.3
Social Studies	9.5	0.2	9.7
Technologies	14.7	0.8	15.5
Architecture, building and planning	11.2	0.5	11.7
Subjects Allied to Medicine	47.8	0.5	48.2
Engineering	30.9	1.9	32.7
Biological Sciences	22.0	0.9	22.9
Total	238.9	12.0	250.8

Source: BiGGAR Economics

The majority of the University's graduates, 78%, remain in Scotland, 68% remain in the South East Scotland and 58% remain in Edinburgh²¹. The total graduate premium is divided by the location of the graduates. Through using this graduate premium the additional productivity of graduates from Edinburgh Napier University in 2012/13 supports economic activity in Edinburgh worth an estimated £145.5 million, in South East Scotland this was estimated to be £170.1 million and in Scotland it was estimated to be £195.7 million.

Table 8.3 – Location Of Graduate Premium By Study Area (£m)

	City of Edinburgh	South East Scotland	Scotland
Total	145.5	170.1	195.7

Source: BiGGAR Economics

²¹ Edinburgh Napier University, Destination of Edinburgh Napier Graduates, 2012

9 INTERNATIONALISATION AND EXPORTS

A significant part of the University's activities are exports. Internationalising its activities is one of the University's core strategic objectives. Around 29% of its total student body are international students coming from over 110 countries. The largest numbers come from Ireland, China, France, India, Poland and Germany.

There are also over 4,000 students who are taught overseas. These courses are delivered through collaborative partnerships with institutions such as the School of Continuing and Professional Education (SCOPE) at City University of Hong Kong, and the School of Professional and Continuing Education (HKU SPACE) at Hong Kong University. In India the University delivers an undergraduate programme in collaboration with the Institute of Advanced Management in Kolkata in Goa. The University also offers a range of Business School and Faculty of Health, Life and Social Sciences courses in Singapore with its partners CSM Academy, Asia Global Business School and SHRI.

9.1 Value of Exports

The value of Edinburgh Napier University's exports has been estimated by considering the inflow of money into the Scotland from outside the Scottish economy: the increase in spend/turnover rather than GVA. This value has been estimated by looking at:

- university income – tuition fees from non Scottish students;
- spend by non Scottish students– this is calculated using the same methodology as in section 4.1, Student Spending Impacts. The proportion of full time students that are from outside Scotland is 17%. This proportion is applied to the total spend of the students rather than the turnover because exports are measured in turnover;
- spend by non Scottish visitors in Scotland – this is calculated using the same methodology as in chapter 5, Tourism Impacts. The methodology for visits from friends and relatives earlier in this report calculates visits and bednights from both UK and overseas as its first step. Therefore this analysis only considers overseas visitors. The total spend of these visitors is used to calculate value of exports;
- research and knowledge exchange income from partners and businesses outside of Scotland; and
- provision of transnational education.

In this way it can be shown that the value of exports associated with the Edinburgh Napier University in 2012/13 was £50.3 million. The breakdown of this figure is given in Table 9.1. Of this figure 80% came from outside the UK which is higher than the estimated figure for Scottish Universities as a whole where 60% of the exports come outside the UK.²²

²² Universities Scoland, 'Growth, Export, Attract, Support'

Table 9.1 – Value of Exports

Source	Value (£m)
University income - tuition fees from rest of UK	1.4
University income - tuition fees from EU	5.4
University income - tuition fees from international students	13.4
Student spending	17.4
Overseas visitors spending	2.4
External research grants and contracts	1.3
CPD	1.4
Consultancy	0.8
Outreach	2.2
Overseas Programme	4.6
Total Export Income	50.3

9.2 Wider Contribution to Exports

Edinburgh Napier University makes a wider contribution to Scotland’s exports, that is not captured by our quantitative analysis.

The Edinburgh Institute, part of the University’s Business School, hosts the English as a Foreign Language (EFL) division. It offers a variety of courses, ranging from 4 weeks to one year long, for students with an English language condition in their offer letter. These help to improve English and academic skills, while giving the student the chance to familiarise him/herself with the University. The courses also offer organised trips to local tourist attractions and a day trip to another part of Scotland. Without this provision, these students may not come to the UK at all.

A recent study from the Department for Business Innovation and Skills²³ identifies the range of wider economic benefits from internationalisation of higher education, all of which are relevant to Edinburgh Napier University and should hold for impacts on the Scottish economy. The BIS research found:

- additional HE exports – the great majority of alumni with a positive experience of their personal participation in UK HE had influenced or would recommend others to undertake a similar experience. The scale on which they had done so varied greatly with their circumstances and personality.
- indirect economic benefits - these comprise a range of tangible business-to-business transactions benefiting the UK, other than additional education

²³ The Wider Benefits of International Higher Education in the UK, BIS Research Paper Number 128, September 2013
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/240407/bis-13-1172-the-wider-benefits-of-international-higher-education-in-the-uk.pdf

exports or the personal consumer behaviour of the alumni, arising directly through the activity of the alumni since graduation.

- professional networks – almost all the alumni retain friends and contacts made while they were in the UK, now located worldwide including some in the UK. As potential professional networks these offer the possibility of future business transactions and collaborations of economic value to the UK. The extent to which alumni utilise these contacts for business is likely to increase as they progress to more senior positions.
- personal consumer behaviour – distinct trade benefits to the UK arise from alumni as purchasers or consumers of UK products and especially as travellers who return to the UK for leisure purposes. The value of the personal consumer behaviour of a single graduate may be limited, but multiplied across hundreds of thousands of alumni could collectively be substantial. Alumni with loyalty to UK brands may also influence the behaviour of others.
- skilled migration – some alumni were still in the UK when interviewed for the BIS study, of whom about half expected soon to return to their home country. Those few that hoped to remain in the UK permanently were either working in highly skilled occupations or, in a few cases, had married UK citizens. The proportions broadly reflected evidence that the dominant motivation was for study in the UK to lead to impact once they returned home.

10 COMMUNITY

Edinburgh Napier University's relocation to new accommodation at the Sighthill campus provided an opportunity to have a positive impact on the communities surrounding this site. Neighbouring the Sighthill campus are 11 areas that fall within the top 10% of areas of multiple-deprivation (Scottish Index of Multiple Deprivation). Supported by a grant from The Robertson Trust, the University has implemented a programme of community outreach work in Sighthill and surrounding areas.

A range of initiatives has enabled the university to work with a number of young people who experience a range of different disadvantages, with vulnerability and isolation being the common themes. In partnership with two local community groups university offer's outreach to young carers between the ages of 7 and 18 and young mums between the ages of 13-18. These are priority groups who experience social isolation and find few opportunities to spend time with their peers.

The project also offers a fitness programme for young girls who struggle with issues of self-worth and confidence and who have been identified through social services as being vulnerable. In addition, its Friday evening Open All Hours sessions are open to young people in the area between the ages of 10-16 and has been very successful in tackling issues of boredom and unsociable behaviour among this age group.

All of this activity has been endorsed by a range of partners including Edinburgh Leisure, the City of Edinburgh Council and Police Scotland:

- introduction of Open All Hours and Get Fit programmes using the University's sports and leisure facilities;
- hosting international indoor hockey tournaments;
- hosting international events such as Edinburgh International Korfball Tournament and the Scottish Chinese Basketball Tournament;
- establishment of partnerships with a range of stakeholders in South West Edinburgh, the City of Edinburgh Council, Lothian and Borders police, National Governing Bodies of Sport, Edinburgh Leisure, ClubSportEdinburgh and Sportscotland;
- hosting of sports days with high profile sporting personalities to introduce local school children to new sports;
- development and delivery of the Active Childr[EN] summer camp programme;
- increasing the volunteering opportunities through key organisations and increasing the student volunteering database; and
- increased the number of community clubs using the University facilities at ENGAGE including boxing, trampolining, table tennis and wrestling.

The following targets have been identified to increase engagement with the community through:

- delivery of training courses for student volunteers to increase their Continuing Professional Development;

- further developing a programme for exercise referrals, utilising the skills and expertise that the university has on offer; and
- working with the Napier Students' Association to establish an intramural style league that incorporates community involvement and increases the opportunities to participate in sport in the local community.

11 SUMMARY IMPACT

The total quantitative economic baseline impacts are given in the following tables.

The baseline economic impact of Edinburgh Napier University for 2012/13 has been estimated as:

- £201.9 million GVA and 2,897 jobs in Edinburgh;
- £254.9 million GVA and 3,871 jobs in South East Scotland; and
- £291.2 million GVA and 4,520 jobs in Scotland.

When the increased future productivity (graduate premium associated with a one year cohort of graduates) the total economic impacts are estimated at:

- £347.4 million GVA in Edinburgh;
- £428.5 million GVA in South East Scotland; and
- £486.8 million GVA in Scotland.

Table 11.1 – Impact Summary GVA (£m)

	City of Edinburgh	South East Scotland	Scotland
Core impact	97.4	111.1	122.7
Student Impact	75.5	96.9	104.1
Employability and Entrepreneurship	20.8	32.4	40.9
Knowledge Transfer Impact	6.3	11.3	19.7
Tourism Impact	2.2	3.4	3.8
Total Impact	201.9	254.9	291.2
Graduate Premium	145.5	170.6	195.7
Total Impact inc Grad Premium	347.4	428.5	486.8

Source: BiGGAR Economics – Figures may not total due to rounding

Table 11.2 – Impact Summary Jobs

	City of Edinburgh	South East Scotland	Scotland
Core impact	1,720	2,084	2,411
Student Impact	928	1,324	1,467
Employability and Entrepreneurship	122	252	318
Knowledge Transfer Impact	68	131	235
Tourism Impact	58	80	89
Total Impact	2,897	3,871	4,520

Source: BiGGAR Economics – Figures may not total due to rounding

In 2012/13 Edinburgh Napier University had an income of £107.9 million. Of this, £55.2 million was accounted for by grants from the Scottish Funding Council (SFC). The table below also shows that for every pound of SFC grant income (a common comparative measure across universities), £5.27 is supported in the Scottish economy and, including the increased future productivity, £8.82 is supported.

Table 11.3 – Value For Money And Impact Multipliers

	Without future productivity	With future productivity
Total Income : Impact	2.70	4.51
SFC Grant Income : Impact	5.27	8.82
Direct GVA : Total GVA	3.68	6.15
Direct Jobs : Total Jobs	3.57	3.57

Source: BiGGAR Economics