

BiGGAR Economics

Economic Impact of the University of St Andrews

A Final Report to the
University of St Andrews

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1 INTRODUCTION

The University of St Andrews was founded in 1413 and continues to make a significant contribution to the economies of St Andrews, Fife, Dundee City Region, Scotland and worldwide. In 2008-2009, the University had a turnover of over £147 million and employed 2,157 staff.

In 2010, the University commissioned BiGGAR Economics to undertake a study of the impact of the University on the wider economy and demonstrate its value to Scotland as an international institution.

1.1 Study Objectives

This study covers the various impacts of the University of St Andrews including the impacts associated with teaching, research, commercialisation, knowledge transfer and other activities.

The University will be able to use the outputs from the study to:

- consider the variety of impacts it has on the local, regional and national economy and how it might increase this impact; and
- demonstrate the return for investment in the University to Government and other stakeholders.

1.2 Structure

The remainder of this report is structured as follows:

- Chapter 2 provides an executive summary of the report;
- Chapter 3 describes the economic and strategic context;
- Chapter 4 introduces the economic impact methodology;
- Chapters 5 to 11 describe the assumptions and results of the quantitative economic impact assessment;
- Chapter 12 summarises the contribution to exports;
- Chapter 13 quantifies the scale of the graduate premium;
- Chapters 14 to 16 discuss the qualitative impact of the University of St Andrews; and
- Chapter 17 places the findings of the economic impact analysis in context.

2 EXECUTIVE SUMMARY

The **economic impact in Scotland** of the University of St Andrews in 2008-2009 is estimated to be **£305.3 million Gross Value Added (GVA)** and **9,197 full-time equivalent jobs** (ftes). This derives from the following sources:

- core University (£202.4 million and 5,581 ftes) – direct impacts (including employment provided by the University itself), supplier impacts (benefits to suppliers of goods and services) and income impacts (impact of the spending of employees);
- student (£63.3 million and 2,759 ftes) – student spending, part time work and international students staying to work;
- tourism (£4.9 million and 223 ftes) – visits from friends and family, events and accommodation;
- commercialisation (£18.7 million and 328 ftes) – knowledge transfer partnerships, consulting and spin-outs;
- capital project investment (£15.3 million and 306 ftes) – the impact from capital projects; and
- community interaction (£0.7 million) – the value of wider community involvement.

The lifetime graduate premium is used as a proxy measure of the productivity gain associated with a university education. The value of this is estimated as £22.7 million in Scotland.

There is also a substantial local and regional impact:

- £181.2 million GVA and 4,633 ftes in St Andrews;
- £211.3 million GVA and 5,739 ftes in Fife; and
- £217.0 million GVA and 5,854 ftes in Dundee City Region.

This impact represents the University of St Andrews supporting:

- 59% of employment in St Andrews, 4% in Fife and 3% in Dundee City region; and
- 47% of tourism related employment in St Andrews, 8% in Fife and 5% in Dundee City Region.

The productivity gain associated with a university education is estimated as £5.1 million in the St Andrews economy, £7.3 million in the Fife economy and £7.9 million in the Dundee City Region economy.

The key findings show that the University of St Andrews is a key contributor to:

- renewable energy sector – contributing to Fife Energy Park and Hydrogen Office and providing the research base for the sector;
- working in deprived areas – Fife Energy Park and Hydrogen Office are located in Levenmouth, the Medical School engages with the Levenmouth Regeneration Initiative and working with school pupils in deprived areas;

- knowledge economy – more efficient than Scottish average at spinning out companies and patents;
- addressing decline in school pupil's interest in science – wide variety of activities from ChemBus, Chemistry at Work to university laboratory visits for partners schools;
- tourism market – providing through its museums and collections, particularly the Museum of the University of St Andrews, the fourth most popular visitor attraction in St Andrews and eighth in Fife;
- sustainable economy – providing the opportunity for staff, students and the community to improve their well being;
- provision of heritage, cultural services and activities – owning nationally important collections and engaging the public with these collections, student events and public lectures;
- music – hosting concerts by national and international groups, providing high quality music lessons and operating and supporting a wide variety of music groups; and
- healthier society – training healthcare professionals.

3 CONTEXT

3.1 Geography

The University of St Andrews is unusual for a Scottish university being located, not in a city, but in a small coastal settlement in North East Fife. The town of St Andrews has a population of 16,680 (mid-year estimates from General Register Office for Scotland).

While North East Fife is a largely rural area, there are concentrations of population to the south and west. The southern half of Fife has three of the twenty largest settlements in Scotland (Dunfermline, Kirkcaldy and Glenrothes). North East Fife is also bordered by two large settlements: Dundee to the north (population 152,320) and Perth in the west (population 44,829).

3.2 Economic Context

The economic impact analysis quantifies the University's impact in four areas:

- St Andrews – the wards of St Andrews Central, St Andrews South, St Andrews South East and Strathkinnes and St Andrews West;
- Fife – the area covered by Fife Council;
- Dundee City Region – covering the council areas of Dundee, Angus and Perth & Kinross and the Scottish Parliamentary Constituency of North East Fife; and
- Scotland.

3.2.1 Population and Employment

St Andrews is a small part of Fife and the Dundee City Region in terms of population (5% and 4% respectively). St Andrews contributes to 21% of the population in North East Fife. However, it contributes significantly more jobs, providing almost a third of North East Fife's employment.

Table 3.1: Population and employees of businesses located in the area

Area	Population*	St Andrew as % area	Employees	St Andrew as % area
St Andrews	16,680		7,914	
North East Fife	79,155	21%	26,273	30%
Fife	361,890	5%	130,300	6%
Dundee City Region	476,115	4%	198,873	4%
Scotland	5,168,500	0.3%	2,420,400	0.3%

Source: **Scottish Neighborhood Statistics 2008 and Mid 2008 Population Estimates Scotland* (General Register Office for Scotland)

3.2.2 Unemployment

St Andrews has very low unemployment while Fife has a slightly higher unemployment rate than Scotland as a whole.

Table 3.2: Claimant Count Unemployment

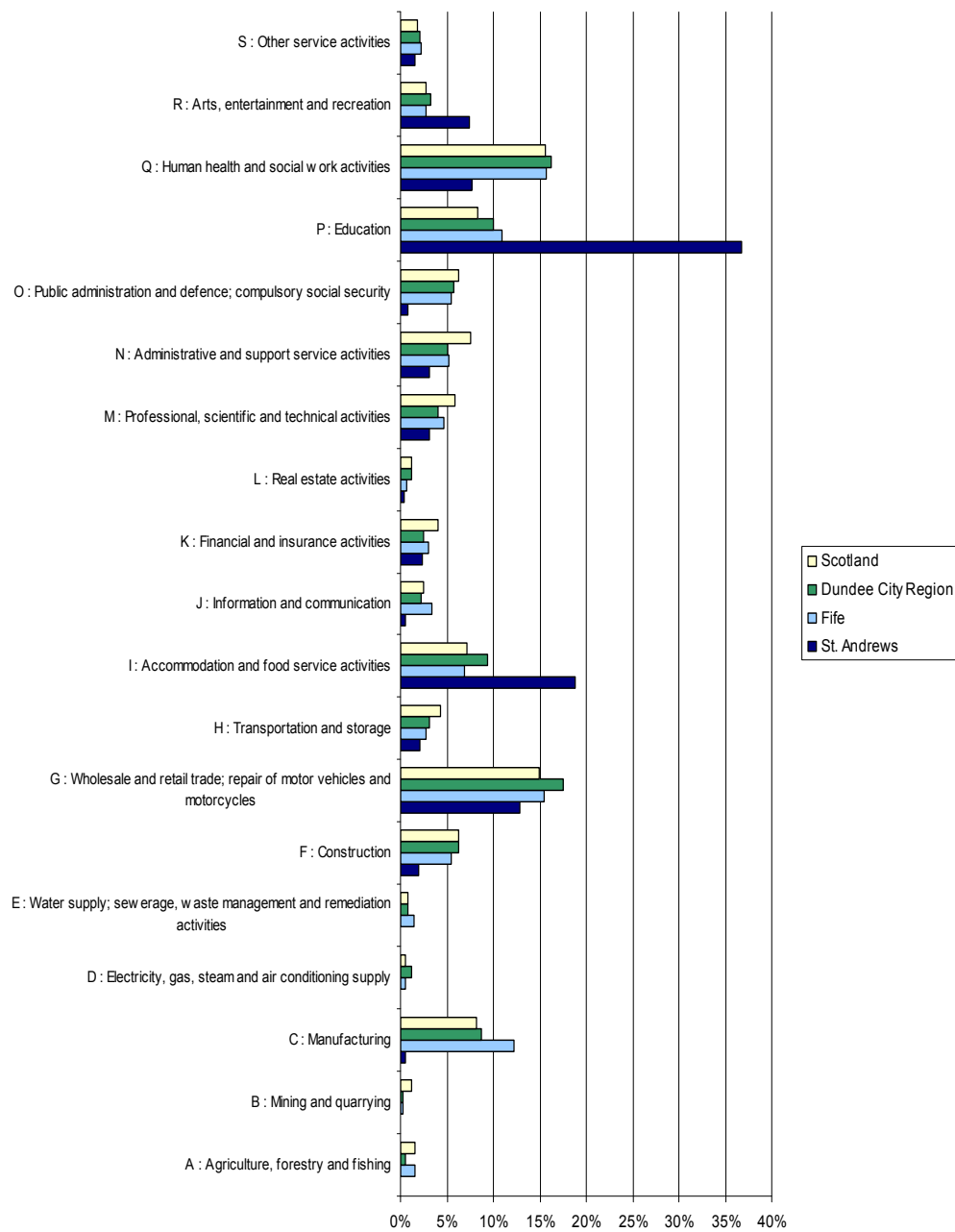
Area	Proportion of working age population (%)
St Andrews	0.9
Fife	4.7
Dundee City Region	3.6
Scotland	4.5

Source: *Claimant Count February 2010* (ONS)

3.2.3 Key Sectors

The structure of the economy of St Andrews is quite different from Fife, Dundee City Region and Scotland. As the figure below shows, the sectors of education, accommodation and food service activities and arts, entertainment and recreation employ a significantly greater proportion of people in St Andrews than in the other study areas.

Figure 3.1 – Key Sectors of Employment by Study Area



Source: Annual business inquiry 2008 – employee analysis SIC 2007 (ONS)

3.3 Tourism

The diagram above shows that the accommodation and food service sector is significant in St Andrews, pointing to the importance of the tourism sector.

Visitor spend and tourism related activity statistics are not available for St Andrews or North East Fife as only regional data is available. However, the Annual Business Inquiry published by the Office of National Statistics (ONS) shows the number of tourism related jobs¹ at these levels. By using these tourism related employment statistics as a proxy for tourism activity, it is therefore

¹ As defined by the Scottish Annual Business Statistics

estimated that 16% of tourism activity in Fife occurs in St Andrews and 38% of tourism activity in Fife occurs in North East Fife. The amount spent by visitors on tourist trips to St Andrews is estimated as £29 million.

Table 3.3: Visitor Spend

Area	Estimated Visitor Spend (£m)
St Andrews	29
Fife	183
Dundee City Region	267

Source: BIGGAR Economics, from Visit Scotland 2008 & Annual Business Inquiry

Tourism related activity is a significant component of the Scottish economy. In St Andrews, tourism related activity is a greater component of the economy than in the Scottish economy as a whole as it contributes over a quarter of the employment in the area.

Table 3.4: Tourism Related Activity

Area	GVA (£) millions		Employment	
		No.*	% total employees**	
St Andrews	41	1,849	26%	
Fife	257	11,500	9%	
Dundee City Region	494	20,657	12%	
Scotland	4,051	208,800	9%	

Source: *Scottish Business Statistics, ** Annual business inquiry 2008 employee analysis SIC 2007(ONS)

Fife is a significant contributor to the Scottish sector as it is the 4th largest local authority in terms of its contribution to tourism related GVA and employment (Table 3.5).

Table 3.5: Top 6 local authorities in 2007 in terms of shares of tourism-related Gross Value Added and employment

Area	GVA as % of total Scottish Sector	Employment as % of total Scottish Sector
City of Edinburgh	16	15
City of Glasgow	15	15
City of Aberdeen	7	5
Fife	6	6
Perth and Kinross	5	4
Highland	4	7

Source: Scottish Business Statistics

St Andrews is a significant contributor to the Fife sector, contributing 17% of all tourism related employment in Fife (Table 3.6) as well as the Dundee City region sector by providing 9% of the tourism related employment in the area. The

relative importance of tourism related employment is shown by the fact that St Andrews only contributes 6% of all employment in Fife.

Table 3.6: St Andrews Employment as % of Employment of other study areas

Area	All employment	Tourism Related Employment
Fife	6%	17%
Dundee City Region	4%	9%
Scotland	0.3%	0.9%

Source: Annual business inquiry 2008 employee analysis SIC 2007(ONS)

The importance of St Andrews to the North East Fife tourism economy and the importance of North East Fife to the Fife tourism economy can be seen by analysing the most popular attractions in Fife. These figures are produced by the Visitor Attraction Monitor for 2008 by VisitScotland and show that five out of the ten most popular attractions are in St Andrews and eight are in North East Fife.

3.4 Summary

The University of St Andrews is unusual for a Scottish university being located, not in a city, but in a small coastal settlement in North East Fife, with a population of 16,680.

Unemployment is very low in St Andrews, while Fife has slightly higher claimant count than the Scottish level. Tourism related activity is an important sector for all study areas, particularly in St Andrews itself, where it contributes more than a quarter of the employment.

This sector, together with education contributes almost two thirds of the employment in St Andrews.

4 METHODOLOGY

4.1 Sources of Economic Impact

The economic impact of the University of St Andrews derives from many sources. The following impacts have been included in the quantitative impact assessment:

- core University (Chapter 5):
 - direct impacts (University income and employment);
 - supplier impacts (spending on supplies and services and jobs supported by this spend); and
 - income impacts (impact of the spending of employees);
- student (Chapter 6):
 - student spending;
 - part time work; and
 - international students staying to work;
- tourism (Chapter 7):
 - visits from friends and family;
 - conferences; and
 - accommodation services;
- commercialisation and knowledge transfer (Chapter 8):
 - impacts on businesses associated with knowledge transfer partnerships;
 - spin-out companies; and
 - licensing;
- capital project investment (Chapter 9) – the impact from capital projects;
- community involvement impacts (Chapter 10).

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

In addition, contribution of the University to exports is quantified (Chapter 12) and the impacts on the economy associated with the University's core teaching activity is quantified in the chapter on the "graduate premium" (Chapter 13).

This report also considers the wider impact of the University of St Andrews, including those impacts that cannot be easily quantified.

4.2 Economic Impact Methodology

There are three types of quantifiable economic impact considered in this assessment:

- direct effects – economic activity directly supported by the organisation or individual, including economic output (i.e. the turnover of the University or the spend of the tourist) and employment (i.e. staff employed by University or employment supported by the direct spend of the tourist such as hotel, restaurants and tourist attraction staff);
- supplier (or indirect) multiplier effects – the purchases of supplies and services made by the organisation or individual and all the resulting purchases of supplies and services down the supply chain that has occurred because of the original purchase; and
- income (or induced) multiplier effects – the expenditure of employees created by the direct effect and supplier effect.

The total of these effects is the gross impact. This needs to be converted to net impact by considering the following factors:

- leakage – this considers how much of the economic activity occurs in the study area. This study considers the economic impact for St Andrews local economy, Fife, Dundee City Region and Scotland as a whole. Leakage is taken account of by considering the geographical source of the impact, the location of the impact and adjusting Scottish multipliers to the study area; and
- displacement – this takes into account whether the activity of the University has resulted in the reduction of activity elsewhere in the study area (i.e. would visitors renting University accommodation have stayed elsewhere in St Andrews if the University did not exist, thus reducing the economic impact of other accommodation providers). The unique nature of the University of St Andrews activity means that displacement is not an issue in most of the sources of impact; the main exception is for conferences and accommodation activities.

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.

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 Scottish Annual Business Statistics 2007, published in 2009;
- turnover per employee – this is used to estimate the employment impact of the spend in area. This is obtained from the Scottish Annual Business Statistics 2007, published in 2009;
- 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 2004. Adjustments for the other study areas have been based on assumptions made by BiGGAR Economics based on previous work.

The following chapters summarise the quantitative impacts, by source.

5 CORE UNIVERSITY IMPACTS

The Core University impacts covered in this Chapter include:

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

5.1 Core University Direct Impact

The direct GVA of the University of St Andrews is estimated by subtracting supplies and services from the income of the University of St Andrews. The University's turnover for 2008/09 was £147.06 million and expenditure on supplies was £45.72 million, giving direct GVA of £101.34 million. Full time equivalent employment for 2008/09 is 1,890. This is summarised in Table 5.1.

Table 5.1: Direct Impact – Assumptions & Total Impact

	Source	Value
Income of University	UoStA Reports and Financial Statements 2008/09	£147,061,000
Amount spent on supplies and services (other operating expenses)	UoStA Reports and Financial Statements 2008/09	£45,717,000
GVA (£) – All Areas	BE Economic Impact Model	£101,344,000
Employees (ftes) – All Employees	Human Resources	1,890

5.2 Core University Supplier Impact

The supplier GVA impact of the University of St Andrews is calculated by analysing the amount of supplies sourced from each of the four study areas, by category.

This results in a supplier impact of £0.8 million and 25 ftes in St Andrews, £1.4 million and 39 ftes in Fife, £3.4 million and 88 ftes in Dundee City Region and £12 million and 297 ftes in Scotland (Table 5.2).

Table 5.2: Supplier Impact – Total Impact

	St Andrews	Fife	Dundee CR	Scotland
GVA (£)	788,409	1,361,428	3,423,763	11,994,902
Employees (ftes)	25	39	88	297

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

5.3 Core University Income Impact

The income impact estimates the effect of the impact of the spending of employees of the University. The steps in calculating the income impact are set out below:

- the starting point is the wages paid by the University (£ million) to staff living in St Andrews, Fife, Dundee City Region and Scotland;
- estimates are then made on the proportion of these employee wages which are re-spent in the economies of St Andrews, Fife, Dundee City Region and Scotland;
- these spending figures are then converted to GVA by using an appropriate turnover to GVA ratio sourced from the Scottish Annual Business Statistics;
- the spending figures for each area is converted to employment is then estimated by applying turnover per employee figures sourced from the Scottish Annual Business Statistics; and
- the wider effect is added by applying GVA and employment multipliers appropriate to income spend and the study area.

Table 5.3: Salaries and location of spend of salaries

	St Andrews	Fife	Dundee CR	Scotland
Salaries to staff living in: (£)*	30,850,064	54,064,306	60,245,368	66,037,318
% of wages spent by employees living in St Andrews in:**	40%	55%	55%	70%
% of wages spent by employees living in Fife & DCR in:**	20%	55%	55%	70%
% of wages spent by employees living in Rest of Scotland in:**	15%	35%	35%	70%

Source:* University of St Andrews Human Resources, **BiGGAR Economics Assumption based on previous work

This gives an income impact of £17.6 million and 619 ftes in St Andrews, £42.8 million and 1,532 ftes in Fife, £42.8 million and 1,532 ftes in Dundee City Region and £89.03 million and 3,394 ftes in Scotland (Table 5.4).

Table 5.4: Income Impact – Total Impact

	St Andrews	Fife	Dundee CR	Scotland
GVA (£)	17,572,668	42,842,987	42,842,987	89,026,389
Employees (ftes)	619	1,532	1,532	3,394

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

5.4 Summary of Core University Impact

The total core University impact is estimated at of £119.7 million and 2,534 ftes in St Andrews, £145.5 million and 3,461 ftes in Fife, £147.6 million and 3,511 ftes in Dundee City Region and £202.4 million and 5,581 ftes in Scotland (Table 5.5 and Table 5.6).

Table 5.5: Summary of Core University Impact - GVA impacts (£)

	St Andrews	Fife	Dundee CR	Scotland
Direct	101,344,000	101,344,000	101,344,000	101,344,000
Supplier	788,409	1,361,428	3,423,763	11,994,902
Income	17,572,668	42,842,987	42,842,987	89,026,389
Total Core University GVA	119,705,077	145,548,415	147,610,750	202,365,291

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Table 5.6: Summary of Core University Impact - Employment Impacts (ftes)

	St Andrews	Fife	Dundee CR	Scotland
Direct	1,890	1,890	1,890	1,890
Supplier	25	39	88	297
Income	619	1,532	1,532	3,394
Total Core University Employment	2,534	3,461	3,511	5,581

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

6 STUDENT IMPACT

The student impact summarised in this Chapter includes:

- student spending;
- part-time work; and
- international students staying to work.

6.1 Student Spend

The calculation of student spending is subdivided into four broad groups as each type of spend requires different assumptions regarding where it is spent and who it is spent by: accommodation, food, social spend and other spending. The analysis for student spend considers the number of full-time students by type of accommodation and by location (Table 6.1).

Table 6.1: Full time students by type of accommodation and location of accommodation

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	1,861	0	0	0	0
Catering	1,774	0	0	0	0
Flat Rented	3,234	51	17	68	34
Flat Owned	136	24	22	19	15
Living at Home	24	14	40	50	20

Source: University of St Andrews – Registry

Full time students spend a different number of weeks a year in term time accommodation depending on the type of accommodation. In addition, the amount of weeks a student will spend in university accommodation and private rented accommodation will depend on whether they are an undergraduate or post graduate. To accurately capture this, the figure for weeks spent in term time accommodation has been weighted for the number of undergraduates and post graduates living in this type of accommodation.

Table 6.2: Weighted weeks spent in term time accommodation

Type of Accommodation	Weighted Weeks
Self Catering	37.41
Catering	37.41
Private Flat Rented	39.52
Private Flat Owned	52
Living at Home	52

Source: BiGGAR Economics analysis based on information provided by University of St Andrews Registry

6.1.1 Accommodation

Accommodation spend is based on an average spend of £100 per week as given by the University of St Andrews Student Experience Office.

This is the largest category of spending by students. Not all students spend in this category can be included because spend on University accommodation has already been included as part of University's income. Therefore in this category only spend on private flats (both rented and owned) has been considered. The total GVA impact is estimated using the following methodology:

- number of students in private flats in each location X weekly housing costs X weighted weeks = yearly amount spent on private housing in each of the five locations;
- calculate yearly amount spent on private housing in each study area;
 - St Andrews;
 - Fife (*St Andrews + Other NE Fife + Other Fife*);
 - Dundee City Region (*St Andrews + Other NE Fife + Other Dundee City Region*);
 - Scotland (*sum of all five locations*);
- yearly amount spent on private housing in each study area ÷ turnover to GVA ratio = direct GVA impact of students renting in area; and
- direct GVA impact of students renting in study area X GVA multiplier = **total GVA impact of students renting in study area.**

Employment is estimated using the following methodology:

- yearly amount spent on private housing in each study area ÷ turnover per employee X employment multiplier = total **fte employment impact of students renting in each study area.**

6.1.2 Food

Food spend is based on an average spend of £40 per week as given by the University of St Andrews Student Experience Office. The weekly amount spent on food by student varies depending on whether the student is staying in catered accommodation or in their parental home or elsewhere. This analysis also considers where the student purchases food as those who live outside St Andrews will purchase some food in St Andrews and some from the area where they live.

Table 6.3: Spend on food in St Andrews by type of residence and location of residence

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	40	20	20	20	20
Catering	10	5	5	5	5
Flat Rented	40	20	20	20	20
Flat Owned	40	20	20	20	20
Living at Home	20	10	10	10	10

Source: University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

Table 6.4: Spend on food by non St Andrew residents in their home location

	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	20	20	20	20
Catering	5	5	5	5
Flat Rented	20	20	20	20
Flat Owned	20	20	20	20
Living at Home	10	10	10	10

Source: University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

The number of students for each accommodation type and location type (Table 6.1) is multiplied to the spend on food in each location by each type of student (Table 6.3 and Table 6.4). This gives weekly spend on food in each location. This is then multiplied to the number of weeks that type of student lives in their location (Table 6.2) to give annual spend on food.

The amount spent on food in each of the four study areas is estimated from totalling the appropriate locations as shown in the accommodation section. As in previous sections the same method for converting to total GVA and total ftes employment is applied using the appropriate ratios and multipliers.

6.1.3 Social Spend

Social spend is based on an average spend of £25 per week as given by the University of St Andrews Student Experience Office. This analysis assumes that students residing in St Andrews will spend all their social spend in the location, while students who reside outside St Andrews will spend some social spend in St Andrews and some in the location of their term time residence.

Table 6.5: Spend on social activities in St Andrews by type of residence and location of residence

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	25	17	17	17	17
Catering	25	17	17	17	17
Flat Rented	25	17	17	17	17
Flat Owned	25	17	17	17	17
Living at Home	25	17	17	17	17

Source: *University of St Andrews - Student Experience Office & BiGGAR Economics Assumptions*

Table 6.6: Spend on social activities by non St Andrew residents in their home location

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	-	8	8	8	8
Catering	-	8	8	8	8
Flat Rented	-	8	8	8	8
Flat Owned	-	8	8	8	8
Living at Home	-	8	8	8	8

University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

The number of students for each accommodation type and location type (Table 6.1) is multiplied by the spend on social activities in each location by each type of student (Table 6.5 and Table 6.6). This gives weekly spend on social activities in each location. This is then multiplied to the number of weeks that type of student lives in their location (Table 6.2) to give annual spend on social activities in each location.

The amount spent on food in each of the four study areas is estimated from totalling the appropriate locations as shown in the accommodation section. As in previous sections the same method for converting to total GVA and total ftes employment is applied using the appropriate ratios and multipliers.

6.1.4 Other Spend

Other spend is based on an average spend of £51.25 per week as given by the University of St Andrews Student Experience Office. This includes utilities, telephone, travel and retail. Students living in university accommodation will not have to pay utilities so their average spend is £36.25. As in previous sections, assumptions have been made regarding the location of where this amount is spent as shown in the following three tables which shows the spend of different types of students in St Andrews (Table 6.7), the spend of students resident in Other Fife and Other Dundee City Region in their home location (Table 6.8) and the spend of different types of student in Scotland (Table 6.9).

Table 6.7: Spend on other types of spend in St Andrews by type of residence and location of residence

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	18	-	-	-	-
Catering	18	-	-	-	-
Flat Rented	26	26	10	10	10
Flat Owned	26	26	10	10	10
Living at Home	26	26	10	10	10

Source: *University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions*

Table 6.8: Spend on other types of spend by Other Fife and Other Dundee City Region residents in their home location

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	0	-	-	-	-
Catering	0	-	-	-	-
Flat Rented	0	0	10	10	0
Flat Owned	0	0	10	10	0
Living at Home	0	0	10	10	0

University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

Table 6.9: Spend on other types of spend in Scotland by type of residence and location of residence

	St Andrews	Other NE Fife	Other Fife	Other Dundee CR	Other Scotland
Self Catering	18	-	-	-	-
Catering	18	-	-	-	-
Private Flat Rented	26	26	31	31	41
Private Flat Owned	26	26	31	31	41
Living at Home	26	26	31	31	41

University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

As in previous sections the above tables are applied to the number of students for each accommodation type and location type (Table 6.1) and the number of weeks spent in term time residence (Table 6.2) to give annual spend in each location.

The amount spent on other spend in each of the four study areas is estimated from totalling the appropriate locations as shown in the accommodation section.

As in previous sections the same method for converting to total GVA and total ftes employment is applied using the appropriate ratios and multipliers.

6.1.5 Summary of Student Spend Impact

The total impacts of the four types of spend can be seen in the tables below which also total the impacts to produce an overall figure for the total GVA and employment created by student spending.

Table 6.10: Impact of Student Spend – Total GVA (£)

	St Andrews	Fife	Dundee CR	Scotland
Accommodation	6,497,410	6,954,849	7,047,253	8,794,049
Food	2,565,485	2,747,763	2,760,314	3,831,123
Social Spend	2,611,927	2,788,297	2,796,095	3,894,552
Other Spend	2,154,582	2,325,774	2,334,933	7,038,721
Total	13,829,403	14,816,682	14,938,595	23,558,444

University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

Table 6.11: Impact of Student Spend – Total employment (ftes)

	St Andrews	Fife	Dundee CR	Scotland
Accommodation	223	269	272	552
Food	110	115	115	141
Social Spend	117	125	125	178
Other Spend	57	62	62	205
Total	506	571	576	1,076

University of St Andrews - Student Experience Office and BiGGAR Economics Assumptions

6.2 Part Time Work

The impact from students working part-time is an important contribution to the St Andrews economy and the local labour market. The model assumes that 95% of student part-time employment is additional, given the limited labour market supply in St Andrews.

The analysis of the impact of part time work is based on the number of full time students living in each area as it is assumed that part time jobs are taken in the area which they reside. To this number assumptions have been applied for:

- % of students that have a part-time job (based on the University of St Andrews Student Survey which suggests that 50% of students have a part time job);
- % of labour supply that is additional (95%); and
- ratio of annual term time student working hours (based on the RBS Student Living Index, 2009, which suggests students with a part time job work on average 14 hours per week and the number of weeks student reside in their term time location) to annual fte working hours.

The GVA associated with this employment is estimated by multiplying the fte employment by the average GVA per employee for Retail and Hotel and Restaurants and Social Spend sectors.

Type I multipliers are used to estimate the overall number of fte jobs supported by the effect of students' part-time work. Type I multipliers are used to as only the supplier impact of student's part time work is being considered here since the income effect of students spending their wages included is part of the impact of student spend estimated in the previous section.

The table below gives total GVA and employment created by student spending in each of the four study areas.

Table 6.12: Part time work impact – Total Impact

	St Andrews	Fife	Dundee CR	Scotland
GVA (£)	25,863,589	27,654,432	27,877,296	36,889,690
Employees (ftes)	1,135	1,202	1,211	1,523

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

6.3 International Student Imports

International students who stay and work in Scotland can be thought of as imports into the economy much as Scottish students who leave can be thought of exporting Scottish talent. The number of non-EU international students who graduated in 2008/09 was 625.5.

The proportion of these students who are likely to live and work in Scotland has been estimated based on the proportion of international students who applied to live and work during the Fresh Talent Initiative (annual average of 2,805 between June 2005 and April 2008) as a proportion of all international students in Scotland (24,000). This proportion was applied to the international students at the University. Where these students live was based on the destinations of all graduates.

An assumption of the average graduate wage per student was then applied (£21,000 per annum) and this was assumed to be the direct GVA impact of these international students working in Scotland for a year after completing their course. Appropriate GVA and employment multipliers were then applied to estimate the wider impact on the economy.

Table 6.13: International Student Import Impact - Assumptions

	Source	Value
Number of international students graduating from the University of St Andrews 2008/09	HEFCE Data	625.5
Average Annual Fresh Talent Initiative Applications	Fresh Talent: Work in Scotland Scheme - an evidence review, Scottish Government Social Research 2008	2,805
Number of International (Non-EU) students in Scotland	HEFCE Data	24,000
Average Graduate Wage (£)	The Economic Costs & Benefits of International Students, Higher Education Policy Institute (HEPI), July 2007	£21,000

The international student import impact is estimated at £0.57million and 29 ftes in St Andrews, £0.79 million and 41 ftes in Fife, £0.89 million and 46 ftes in Dundee City Region and £2.8 million and 160 ftes in Scotland.

Table 6.14: International Student Import Impact – Total Impact

	St Andrews	Fife	Dundee CR	Scotland
GVA (£)	573,295	792,651	890,845	2,883,803
Employees (ftes)	29	41	46	160

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

6.4 Summary Student Impact

The types of student impacts are summarised in the tables below. The impacts for student spend, part time work and international student imports have been totalled to show the total GVA created and the total employment supported by the presence of University of St Andrew students in the economy.

The total student impact is estimated at £40.3 million and 1,670 ftes in St Andrews, £43.3 million and 1,813 ftes in Fife, £43.7 million and 1,833 ftes in Dundee City Region and £63.3 million and 2,759 ftes in Scotland.

Table 6.15: Impact of Students – Total GVA (£)

	St Andrews	Fife	Dundee CR	Scotland
Student Spend	13,829,403	14,816,682	14,938,595	23,558,444
Student Work	25,863,589	27,654,432	27,877,296	36,889,690
International Students	573,295	792,651	890,845	2,883,803
Total	40,266,287	43,263,765	43,706,735	63,331,937

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Table 6.16: Impact of Students– Total employment (ftes)

	St Andrews	Fife	Dundee CR	Scotland
Student Spend	506	571	576	1,076
Student Work	1,135	1,202	1,211	1,523
International Students	29	41	46	160
Total	1,670	1,813	1,833	2,759

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

7 TOURISM

Universities can be a significant player in the tourism place in two ways. Firstly universities are not just tourism providers they also complement the local market by increasing the supply of accommodation in an area at peak times. Therefore the University provision of bedspace enables an area to accommodate additional visitors. As these visitors are additional, the University is not taking business away from other providers. Universities are also generators of visitors and visitor spend through:

- visits to staff and students from friends and family;
- bringing in business through their conferences and events and graduate related weddings

These two sources of impacts are captured in the quantitative analysis below, covering:

- people visiting friends and relatives (VFR) who work or study at the University;
- visitors who attend conferences and events at the University; and
- leisure visitors staying in University accommodation.

7.1 Visiting Friends and Relatives

The VFR segment is an important category of the tourism market accounting for 7% of the value of tourism by domestic tourists (tourists from the UK) and almost a quarter of the value of overseas tourists (VisitScotland – Tourism in Scotland 2008).

The impact of visiting friends and family is estimated by dividing the population of Scotland by the annual number of domestic and overseas VFR trips to obtain an average number of each type of VFR trips per resident.

This number is applied to the number of University staff and students to obtain the number of domestic and overseas VFR trips attributable to University staff and students. This number is then multiplied by average spend per domestic VFR trip and the average spend per overseas VFR trip to obtain the total spend by UK and overseas VFR. These two categories of spend are added together to give the total spend by VFR of £900,787 (Table 7.1). It is assumed that all of this is spent in Scotland.

Table 7.1: Visiting Friends and Families – Assumptions and Calculations

		Value
UK VFR trips per resident of Scotland ¹		0.31
Overseas VFR trips per resident of Scotland ¹		0.15
	Staff	Students
Number of Staff & FT Students		2,157 7,404
Spend per UK VFR Trip (£) ²		130
Spend per Overseas VFR Trip (£) ²		353
Total spend by UK VFR (£)		384,731
Total spend by Overseas VFR (£)		516,057

Source: 1. VisitScotland, *Tourism in Scotland, 2008 and Mid 2008 Population Estimates Scotland*. 2. VisitScotland, *Tourism in Scotland 2008*

The methodology used to estimate the impact of VFR assumes that spend 60% of their trip in St Andrews, 70% of their trip within Fife and Dundee City Region and all of their trip in Scotland. These percentages are applied to the total spend by VFR.

Table 7.2: Visits from Friends and Family – Total Spend by study area attributable to the university (£)

	St Andrews	Fife	Dundee CR	Scotland
Spend by VFR	540,472	630,551	630,551	900,787

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

As in previous sections, the amount spent in each study area is converted to total GVA and total fte employment is applied using the appropriate assumptions and multipliers.

7.2 Events

Each year the University of St Andrews hosts a wide range of conferences and events, ranging from conferences to weddings. The main types of event hosted at the University include:

- weddings;
- day conferences;
- residential conferences; and
- residential courses.

The impact is based on the number of guests attending these events, adjusted to take account of the proportion of this activity that would have taken place in the area if the University did not exist. These assumptions are based on the following considerations:

- weddings – many weddings that are held at the University are due to a personal link with the University such as meeting their partner while a student at the University;

- day conferences – many of the conferences are academic related, therefore if the University did not exist, the academics would not be here to create the demand;
- residential courses – these are created by the University, therefore if the University did not exist, the courses would also not exist.

The next factors to apply to the number of additional attendees are the:

- average length of stay of each attendee type;
- how many attendees are local (10%, sourced from University of St Andrews Conference and Group Services) and how many of the remainder stay in University accommodation. This is in order to determine the number of attendees for which we do not consider the spend on accommodation;
- percentage of attendees that bring partners (8% sourced from University of St Andrews Conference and Group Services);
- spend per day (Table 7.4).

Table 7.3: Events - Assumptions

	Number of Attendees	% Additional	Length of Stay	% requiring accommodation staying in University Accommodation
Weddings	5,000	50%	1	75%
Day Conferences	5,039	85%	1	0%
Residential Conferences	11,164	85%	3	75%
Residential Courses	4,574	100%	12	100%

Source: University of St Andrews – Conference and Group Service

Table 7.4: Spend by attendee

	Spend per day	Spend per day not including accommodation
Weddings*	100	25
Day Conferences**	73.74	n/a
Residential Conferences**	244.12	160.90
Residential Courses***	25	n/a

Source: * Heart of England Tourism Board - Wedding Tourism, **VisitBritain Delegate Expenditure Survey Inflationary Update to 2008 *** BiGGAR Economics Assumption based on tourism and student spend

This results in total spend of attendees to events hosted by the University of St Andrews. It is assumed that all of the spend is in St Andrews as attendees will mostly stay in St Andrews for the length of the event. Therefore this analysis understates the impact of attendees to events in Fife, Dundee City Region and Scotland as some attendees will extend their stay for leisure reasons and visit other parts of Scotland.

Table 7.5: Conference and Events attendees– Total spend by study area attributable to the university (£)

	St Andrews	Fife	Dundee CR	Scotland
Spend by Attendees	7,458,664	7,458,664	7,458,664	7,458,664

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

This analysis estimates that the total attributable spending associated with conferences and venue hire of £7,458,664. As in the previous section, the total spend is converted into total GVA and fte employment using the appropriate assumptions, ratios and multipliers.

7.3 Accommodation

The University also provides bed space to leisure visitors. In 2008/2009, there were 15,000 bednights occupied. The following assumptions need to be applied to this number:

- displacement – the analysis assumes that only 15% of this business would have happened anyway in St Andrews and 17% in Fife, Dundee City Region and Scotland, based on:
 - the visitors to St Andrews usually specifically wish to go to St Andrews and if they could not visit St Andrews they are not likely to visit anywhere else in Fife, Dundee City Region or Scotland; and
 - University accommodation is available during time periods when the rest of the town is at peak capacity. As the rest of town is full when visitors stay at University accommodation, the University is not taking visitors away from any other businesses in the area.
- type of visitor – the bednight figure is apportioned between UK visitors and overseas visitors based on the proportion of bednights in Fife that are attributable to each type of visitor (sourced from VisitScotland – Tourism in Fife 2008).
- non accommodation spend per bednight by type of visitor – the impact associated with visitors staying in University owned accommodation is already included in the core direct impact of the University calculated above. Therefore the spend per type of visitor per bednight excludes accommodation (sourced from VisitScotland – Tourism in Fife 2008 and Tourism in Scotland 2008).

This results in a total spend in St Andrews, Fife and Dundee City Region by leisure visitors who would not have come to the town if the University did not exist (Table 7.6). These visitors will also spend some of their trip in the rest of Scotland. It is assumed that this will occur outside of Fife and the Dundee City Region. The amount spent in the rest of Scotland is obtained from comparing the average length of a trip to Fife to the average length of a trip to Scotland for both UK and overseas visitors.

Table 7.6: Leisure Visitors – Total spend by study area attributable to the University (£)

	St Andrews	Fife	Dundee CR	Scotland
Spend by Leisure Visitors	564,630	551,344	551,344	624,732

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

As in the previous section, the total spend is converted into total GVA and fte employment using the appropriate assumptions, ratios and multipliers.

7.4 Summary of Tourism Impact

The total impact associated with tourism is estimated as £3.2 million GVA and 142 ftes in St Andrews, £3.4 million GVA and 152 ftes in Fife and Dundee City Region and £4.9 million GVA and 223 ftes in Scotland (Table 7.7 and Table 7.8).

Table 7.7: Impact of Visitors – Total GVA (£)

	St Andrews	Fife	Dundee CR	Scotland
Visits to Friends and Family	200,948	247,950	247,950	489,320
Conferences and Events	2,773,137	2,932,951	2,932,951	4,051,652
Leisure Visitors	209,930	216,804	216,804	339,363
Total	3,184,015	3,397,705	3,397,705	4,880,335

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Table 7.8: Impact of Visitors – Total employment (ftes)

	St Andrews	Fife	Dundee CR	Scotland
Visits to Friends and Family	9	11	11	22
Conferences and Events	124	131	131	185
Leisure Visitors	9	10	10	15
Total	142	152	152	223

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

8 COMMERCIALISATION

The University of St Andrews, unlike Scotland's other research intensive universities is in a small town and is therefore more remote from key business clusters. The University therefore concentrates on generating technologies for others to commercialise, for example, by seeking alliances with entrepreneurs to develop technology to market.

This chapter considers the quantitative impact of commercialisation through the impact of knowledge transfer partnerships, consulting and spinout companies. Licensing has not been considered because the value of licenses in non-spinout companies (the impact of spinout companies is included) located in Scotland is very small.

8.1 Research Efficiency

The University of Edinburgh has prepared a report that compared the exploitation performance of Scottish universities with US intuitions. This report compared eight universities in Scotland (Aberdeen, Dundee, Edinburgh, Glasgow, Heriot-Watt, St Andrews, Stirling and Strathclyde) with the top eleven universities in America in terms of sponsored research income completing the Association of University Technology Mangers survey. This report found that the exploitation performance of Scottish universities compares well with that of the leading US universities.

This section uses the same methodology in order to produce comparable metrics as shown in the table below.

The University of St Andrews is highly efficient in creating patents compared to the Scottish average. This figure actually understates the historic efficiency of the University of St Andrews since 2007/08 saw the lowest level of patents filed in the last seven years (2002-2009). Using the average figure on patents filed in this period (30.9 patents) is used to calculate the research efficiency metric results in \$2m research funding required to create one patent, which is 40% of the Scottish metric.

The University also significantly outperforms Scotland as a whole regarding spinning out companies. As the number of spin outs created in a year is a small number, the rate can vary significantly. If this number was recalculated for the average number of spinouts in ten years up to and including 2007/08, the metric would be \$30.9 million annual research funding required for one spinout which means St Andrews is twice as efficient as Scotland as a whole.

Table 8.1: Research Efficiency 2007-2008²

Annual Research Funding (\$m) Required for:	Average Top 11 US Universities*	Average 8 Scottish Universities*	University of St Andrews**
One Disclosure	3.0	2.6	4.8
One Patent	5.2	5.1	2.9
One License	12.7	7.5	8.8
\$1 million Royalties	40.1	53.1	59.5
One Spinout	113.2	66.1	15.4

Source: *Comparison of Exploitation Performance of Scottish Universities with US Institutions (University of Edinburgh), **University of St Andrews – Knowledge Transfer Centre

8.2 Knowledge Transfer Partnerships

Knowledge Transfer Partnerships (KTPs) are a government funded programme to help businesses improve competitiveness and productivity by accessing the knowledge, technology and skills from the research base. There is currently one KTP that is active and supports one person. The total GVA impact created by this employment is found by applying turnover per employee, turnover to GVA assumptions and the appropriate multipliers. The total employment impact is found by applying the appropriate multiplier to the employment supported. This KTP is located in the Dundee City Region and outside the St Andrews and Fife area.

The total impact associated with KTPs is estimated as £0.3 million GVA and 2 ftes in Dundee City Region and £0.55 million GVA and 5 ftes in Scotland (Table 8.2).

Table 8.2: Impact of Knowledge Transfer Partnerships

	St Andrews	Fife	Dundee CR	Scotland
Total GVA	0	0	319,897	551,547
Total employment	0	0	2	5

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

8.3 Consulting

The impact of consultancy work not only benefits businesses it is also of value to other public sector organisations. Consultancy activities can have an economic impact through:

- transferring and generating knowledge;
- increasing the organisations understanding and awareness of itself and its activities;
- providing advice and guidance which improves the operation of an organisation; and

² Financial data has been converted in US\$ at the exchange rate of 31st July in 2008 to enable comparisons.

- provides the organisation advice which can help it build on strengths, address weaknesses, capture opportunities or mitigate threats.

The University has undertaken a diverse range of consultancy activity having generated a consultancy income of £1.7 million in 2008/09 of which 29% is located in St Andrews, 30% in Fife, 32% in Dundee City Region and 36% benefits Scotland. From past experience it has been assumed that the value of the consultancy work to the organisation is at least twice the value of the contracts. Using these assumptions the benefit to organisations from the University's consultancy services in each of the study areas is estimated. These figures are then turned into total GVA and employment impact by using the appropriate assumptions and multipliers.

The total impact associated with consulting is estimated as £0.4 million GVA and 10 ftes in St Andrews, £0.5 million and 11 ftes in Fife, £0.5 million GVA and 12 ftes in Dundee City Region and £0.9 million GVA and 22 ftes in Scotland (Table 8.3).

Table 8.3: Impact of Consulting

	St Andrews	Fife	Dundee CR	Scotland
Total GVA	438,590	487,666	520,177	870,390
Total employment	10	11	12	22

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

8.4 Spin out Companies

The University of St Andrews has spun out 18 companies that still operate. Eight are located in St Andrews, one is located elsewhere in Fife, three are located in Dundee and two are located in Edinburgh. The University of St Andrews has attracted spin in activities. One example is SASOL Technology UK Ltd which was created when a global energy and chemicals company required a research and development base outside of its home in South Africa and chose to rent laboratories' within the University's chemical department and start a service level agreement with the University. This is because of an existing relationship with one of the University's professors, an international leader in the field the company was interested in. There is ongoing demand for further spin in activity to the University similar to this example whereby companies of international standing wish to locate their research facilities in St Andrews. However this activity is constrained by a lack of suitable developable facilities

The estimated employment in these companies is 82. GVA was estimated by multiplying turnover per employee from the most appropriate sector to employment and then dividing by the turnover to GVA ratio of that sector. The wider impact was obtained by multiplying employment and GVA to the appropriate multipliers.

The total impact associated with spin-out companies is estimated as £7.0 million GVA and 80 ftes in St Andrews, £7.7 million GVA and 98 ftes in Fife, £9.1 million GVA and 113 ftes in Dundee City Region and £17.3 million GVA and 301 ftes in Scotland (Table 8.4).

Table 8.4: Impact of Spin-Out Companies

	St Andrews	Fife	Dundee CR	Scotland
Total GVA	7,027,121	7,691,576	9,148,501	17,291,807
Total employment	80	98	113	301

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

8.5 Summary

The total impact associated with commercialisation and knowledge transfer activities is estimated as £7.4 million GVA and 90 ftes in St Andrews, £8.2 million GVA and 109 ftes in Fife, £10.0 million GVA and 128 ftes in Dundee City Region and £18.7 million GVA and 328 ftes in Scotland (Table 8.5 and Table 8.6).

Table 8.5: Impact of Commercialisation – Total GVA (£)

	St Andrews	Fife	Dundee CR	Scotland
KTPs	0	0	319,897	551,547
Consulting	438,590	487,666	520,177	870,390
Spin-Out Companies	7,027,121	7,691,576	9,148,501	17,291,807
Total	7,465,712	8,179,242	9,988,574	18,713,745

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Table 8.6: Impact of Commercialisation – Total employment (ftes)

	St Andrews	Fife	Dundee CR	Scotland
KTPs	0	0	2	5
Consulting	10	11	12	22
Spin-Out Companies	80	98	113	301
Total	90	109	128	328

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

9 CAPITAL PROJECT SPEND

The University has spent over £100 million on capital and major refurbishment projects in the past five years and plan to spend over £120 million in the next five years (Table 9.1). Over £40 million has been added to the economy from private funding for these capital projects (Table 9.2).

The amount spent by the University on capital projects varies significantly from year to year so an average figure for capital expenditure from the previous five years and the estimated figure for the next five have been used to estimate the annual total economic impact from the University's capital investment programme. This includes both spend on capital and spend on major refurbishment.

Table 9.1: Capital projects (£m)

	Capital Spend	Major Refurbishment
Last five years – Actual	87.7	15.0
Next five years	109.4	12.1
Total	197.1	27.1

Source: University of St Andrews – Finance Department

Table 9.2: Capital Projects (£m)

	Private Funding	Total Spend
Spend over ten years	40.2	224.2

Source: University of St Andrews – Finance Department

There are three stages to calculating capital spend:

- direct impact – the GVA impact of the income to the University for capital was calculated by applying a turnover to GVA ratio for the construction sector to the amount received for capital projects. A turnover per employee figure was applied to estimate the employment supported. This impact occurs in the St Andrews study area;
- supplier impact – the amount that was spent on supplies in each of the four study areas was obtained from the University. This was turned into GVA and employment by applying a turnover to GVA ratio and turnover per employee figure; and
- income impact –the supplier multipliers for construction was subtracted from the suppliers and income multipliers for construction. This isolated the income multipliers for construction for both the GVA multiplier and the employment multiplier. These Scottish multipliers are adjusted for the study areas and are applied to the direct impact obtained above.

The total impact associated with capital project spend is estimated as £9.8 million GVA and 197 ftes in St Andrews, £10.2 million GVA and 204 ftes in Fife, £11.6 million GVA and 227 ftes in Dundee City Region and £15.3 million GVA and 306 ftes in Scotland (Table 9.3).

Table 9.3: Impact of Capital Projects

	St Andrews	Fife	Dundee CR	Scotland
Total GVA (£)	9,833,443	10,204,808	11,551,351	15,281,237
Total employment	197	204	227	306

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

10 COMMUNITY INTERACTION

The Higher Education – Business and Community Interaction survey (last report covers 2007 – 2008) carried out by Higher Education Funding Council for England (HEFCE) aims to capture some of the value of higher education institutions provision of social, community and cultural activities. This is the value to the UK of the public of such opportunities as being able to hear and question some of the finest scholars in the world or to see talented students perform.

The HEFCE report attempts to quantify this value by assuming a very basic consultancy rate of £500 per day and multiplying this amount to the number of academic days committed to these activities. The survey gives the amount of academic days committed at the University of St Andrews as 1,447. Applying this figure to the method used in the survey gives a value of £723,500.

Table 10.1: Community Interaction

	Value
Academic Days given go social, community and cultural activities by University of St Andrews staff	1,447
Estimation of Value of Academic Day	£500
Total Value	£723,500

Source: Higher Education – Business and Community Interaction survey 2007-2008 (HEFC)

Further detail is given regarding the University's community interaction activities are given in Chapter 14 to 17.

11 SUMMARY OF QUANTITATIVE IMPACTS

This section summarises the total quantitative impact of the university on the St Andrews, Fife, Dundee City Region and Scottish economies.

11.1 Summary of University of St Andrews Impacts

The University of St Andrews quantifiable economic impact is summarised in the following tables. The total impact is estimated as:

- £181.2 million GVA and 4,633 ftes in St Andrews;
- £211.3 million GVA and 5,739 in Fife;
- £217.0 million GVA and 5,854 in Dundee City Region; and
- £305.3 million GVA and 9,197 ftes in Scotland.

Table 11.1: Summary of University of St Andrews Economic Impact - GVA (£ m)

	St Andrews	Fife	Dundee CR	Scotland
Core University	119.7	145.5	147.6	202.4
Student	40.3	43.3	43.7	63.3
Tourism	3.2	3.4	3.4	4.9
Commercial	7.5	8.2	10.0	18.7
Capital Spend	9.8	10.2	11.6	15.3
Community Interaction	0.7	0.7	0.7	0.7
Total	181.2	211.3	217.0	305.3

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Table 11.2: Summary of University of St Andrews Economic Impact – Employment (ftes)

	St Andrews	Fife	Dundee CR	Scotland
Core University	2,534	3,461	3,511	5,581
Student	1,670	1,813	1,833	2,759
Tourism	142	152	152	223
Commercial	90	109	128	328
Capital Spend	197	204	231	306
Total	4,633	5,739	5,854	9,197

Source: University of St Andrews Economic Impact Model – BiGGAR Economics

This analysis estimates that every £1 of direct GVA of the University, a further:

- £1.79 GVA is created in the St Andrews economy;
- £2.09 GVA is created in the Fife economy;
- £2.14 GVA is created in the Dundee City Region economy; and

- £3.01 GVA is created in the Scottish economy.

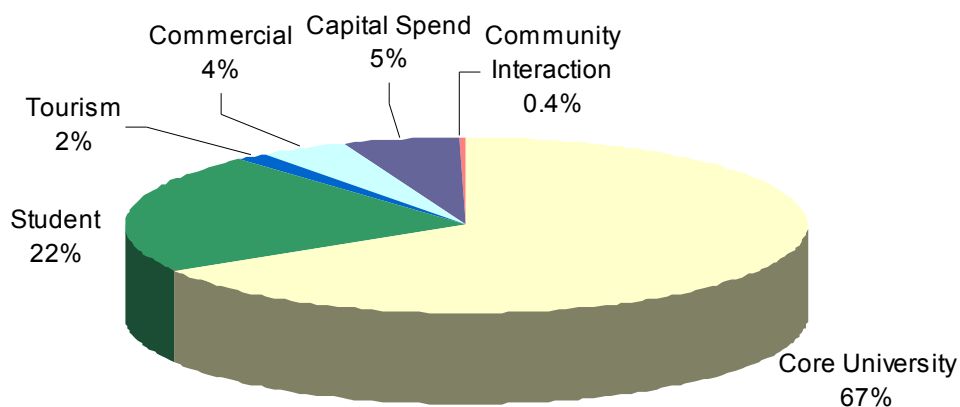
This analysis estimates that every 1 fte employee in the direct employment of the University, a further:

- 2.45 fte jobs is created in the St Andrews economy;
- 3.04 fte jobs is created in the Fife economy;
- 3.10 fte jobs is created in the Dundee City Region economy; and
- 4.87 fte jobs is created in the Scottish economy.

11.2 University of St Andrews Economic Impact by Source

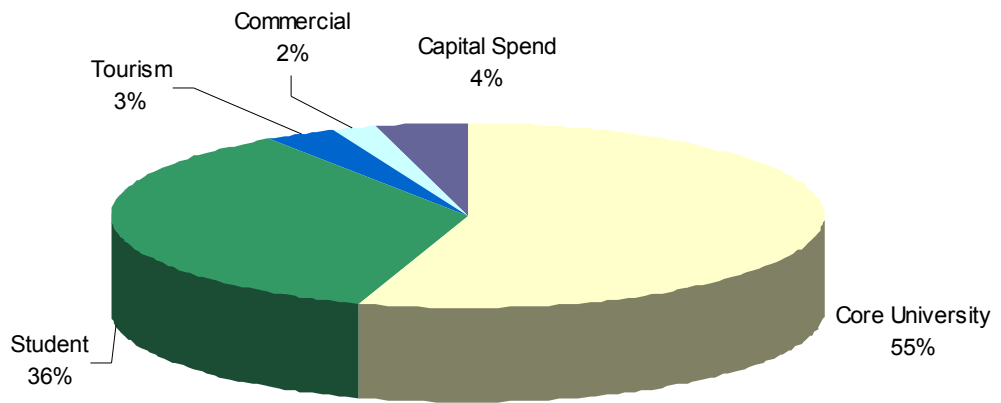
The largest source of the University's economic impact comes from the core University economic impact (Figure 11.1 and Figure 11.2). However the impact of students through their spending and part time work is more significant when considering employment impact. This is because the GVA per employee in the University is greater than the GVA in other sectors.

Figure 11.1: University GVA impact by source



Source: University of St Andrews Economic Impact Model – BiGGAR Economics

Figure 11.2: University employment impact by source



Source: University of St Andrews Economic Impact Model – BiGGAR Economics

12 CONTRIBUTION TO VALUE OF EXPORTS

A significant part of the University's activities are exports. The value of exports can be estimated by looking at:

- tuition fees from EU students – the University's financial statement gives the income from tuition fees from EU students combined with the tuition fees for home students. Therefore the percentage of full time and part time home and EU students that are EU students is calculated (17.5% and 11.9%). These percentages are applied to the tuition fee figures in the financial statements to obtain an estimate of tuition fees from EU students;
- tuition fees from international students – the University's financial statement gives the income from tuition fees from full time and part time international students;
- research grants and contracts from EU and overseas – this is obtained from the University's financial statement;
- spend by EU and international students – this is calculated using the same methodology as in section 6.1. There are 2852 EU and international full time international students. In order to calculate only the amount spent by students in the economy, no conversion to GVA and application of multipliers is required; and
- spend by overseas visitors – this is calculated using the same methodology as in chapter 7. The methodology for visits from friends and family and bednights calculates visits and bednights from both UK and overseas as its first step. Therefore this analysis only considers overseas visitors. It has been assumed that half of the visitors from conferences and events are from overseas. In order to calculate only the amount spent by students in the economy, no conversion to GVA and application of multipliers is required.

Table 12.1: Estimate of value of University of St Andrews contribution to exports

	Value (£m)
Tuition fees EU students	2.04
Tuition fees International Students	23.30
Research Grants and Contracts from EU and overseas	5.20
Spend by EU and International students	17.01
Spend by overseas visitors (including EU)	4.59
Total	54.14

Source: BiGGAR Economics Analysis

13 GRADUATE PREMIUM

In addition to the annual impacts associated with the University of St Andrews, it is also important to understand the longer term effects of the University's graduates on productivity in the economy. The graduate premium has been used as a proxy measure of this productivity gain associated with a university education.

The graduate premium as defined in the most recent study is the percentage by which the hourly earnings achieved by degree holders exceed that achieved by individuals in possession of two or more A-levels. The graduate premium is a measure of the additional lifetime earnings that are estimated to occur as a direct result of an individual possessing a university qualification.

The lifetime graduate premium for all final year undergraduate students at the University of St Andrews was estimated by multiplying the average additional lifetime earnings in a subject area (e.g. medicine – £340,315) per graduate with the number of students currently in that subject area (medicine – 131). This was also carried out with postgraduates students are estimated to earn £70,000 on top of an undergraduate degree. The results for each subject area were totalled together to estimate the gross additional earnings of the graduates. This is shown in Table 13.1.

Table 13.1: Graduate Premium - Assumptions by Subject

Subject	Final year Undergraduates per Degree subject 2008*	Undergraduate additional Lifetime Earnings per graduate (£) **	Total impact of Undergraduate premium (lifetime) for current year (£)
Medicine	131	340,315	44,581,265
Physical/Env. Sciences	167	237,935	39,735,145
Math/Comp. Sciences	100	249,741	24,974,100
Business & Finance	45	184,694	8,311,230
Social Sciences	244	169,267	41,301,148
Subjects Allied to Medicine	12	166,017	1,992,204
BioSciences	167	111,269	18,581,923
European Languages	105	96,281	10,109,505
Other Languages	17	92,346	1,569,882
English and Classics	188	71,920	13,520,960
Humanities	262	51,549	13,505,838
Other	4	160,000	640,000
Total	1,442		218,823,200
Postgraduate	568	70,000	39,760,000

Source: *University of St Andrews Registry, ** Source: *The economic benefits of a degree (Pricewaterhouse Coopers) 2007*

Table 13.2 shows the assumptions used to estimate how many graduates stay in the study areas. These are based on the destinations of graduates employed in

Scotland. These percentages are applied to the total graduate premium to give a graduate premium by study area.

The lifetime graduate premium of one year's graduates of the University of St Andrews is estimated as £5.1 million in the St Andrews economy, £7.3 million in the Fife economy, £7.9 million in the Dundee City Region economy and £22.7 million in the Scottish economy.

Table 13.2: Location Assumptions and Total Graduate Premium

	St Andrews	Fife	Dundee CR	Scotland
Location Assumptions UG*	1.8%	2.8%	3.0%	9.4%
Location Assumptions PG*	2.8%	3.2%	3.7%	5.1%
Graduate Premium**	5,065,495	7,329,992	7,995,241	22,667,972

Source: *University of St Andrews Registry, **University of St Andrews Economic Impact Model – BiGGAR Economics

14 WIDER IMPACTS

The quantifiable economic impact of the University of St Andrews is significant. In addition, there are two further types of economic impact that the University contributes to that cannot be included in the quantifiable economic impact:

- firstly, there are other direct contributions to economic activity that are not easily quantifiable. These include other economic contributions the University makes through its teaching and research such as contributing to the knowledge economy; and
- secondly, while contributions to direct economic activity such as increased skills, creating jobs and transferring knowledge is important, these economic impacts cannot be sustained in an area if several key factors do not exist. These key factors are essential to economic activity but are hard to precisely define. Examples include sense of community and contributing to culture.

This section discusses these impacts by describing how they effect several key areas that are important to the health and prosperity of the economy, currently and in the future.

The following two chapters will highlight two areas, music and museums where the University makes a significant contribution to Scotland.

14.1 Knowledge Economy

The development of a knowledge economy has been identified as a central part of government policy in developed countries for a number of years. For example, a (former) Department of Trade and Industry report on “UK Productivity” (March 2006) states that in order to meet this challenge companies need to position themselves higher up the value chain. This means they need to upgrade their productivity and compete on more unique and innovative products and services. This report says this requires a skilled workforce and innovative firms. The University directly contributes to this by:

- creating innovative firms technologies – as discussed in Chapter 8 the University creates a significant amount of patents, licenses and companies; and
- supporting innovative firms – the University transfers knowledge to a wide variety of organisations from small companies and large corporations to government and its agencies. Although some of this activity has been quantified, it is not possible to measure the impact of all of the activity undertaken in this area.

The other important contributions of the University include:

- engaging school pupils with science –the stimulation of pupil’s interest in science will help encourage more students into science. This is an important activity considering the decline of pupil’s interest in science and the concern that this will damage Scotland’s future competitiveness³. One of the ways identified to tackle this is the greater use of visiting specialists⁴. Each School

³ ‘Schools No Longer Offer Highers In Science’, Mark Macaskill and Julia Belgutay, Sunday Times, February 22nd 2009

⁴ ‘Back to basics for science class’, Herald, 10th June 2008

(Chemistry, Physics & Astronomy and Mathematics & Statistics) has a wide range of activities to engage with school children of all ages from:

- school planetarium visits (1030 pupils);
 - ChemBus – which visits 11 schools in Fife and the Dundee City Region reaching about 1000 S2 pupils each year;
 - Chemistry at Work – brings S4 pupils in for half a day to meet companies in the local area that employ chemists. This initiative reaches an estimated 600 pupils;
 - university laboratory visits for partners schools – Kirkcaldy High, Balwearie High School and Lochgelly High Schools; and
 - Organisation of Scottish Mathematical Challenge for Eastern and Central Scotland since 2007 and providing markets. This involves over 1000 pupils from about 100 schools.
- assisting in policy making – the University briefs MSPs, ministers, officials and the media on a wide range of policy issues including issues relating to the development of the knowledge economy; and
 - sector development – the presence of a University is a key factor in developing successful commercial sectors based on science and technology. Companies want to be next to where the research and skilled labour is being produced. They also want to be in an atmosphere of innovation and ideas to assist their own development. This is particularly key factor for the renewable energy sector in Fife which will be discussed further in the section below.

Overall, the University of St Andrews has an important strategic role to develop Scotland's knowledge economy. The University is a large supplier of research and innovation which are becoming increasingly vital for a country to maintain a competitive edge. In addition, knowledge transfer activity the university engages in assists in the development and attraction of key industries and businesses that create jobs.

14.2 Renewable Energy Opportunity

The proximity of Fife to renewable energy resources, particularly offshore resources, presents the area with an important opportunity. For example a report published on Fife's renewable energy opportunity cites example cites that offshore wind farms planned in Firth of Forth have potential to generate 21% of Scotland's electricity demand⁵. Fife Council believes that Fife has a massive opportunity to become Scotland's leading hub for renewable energy⁶ and the report predicts that 2,000 jobs could be created in the sector. This is an opportunity to develop a sector which could lead to long-term economic stability and prosperity for not only Fife but Scotland and the UK.

In order for Fife to capitalise on and become a hub for the sectors development it needs to have both the capacity and capability to do so. The University of St Andrews plays a key role to enable Fife to do this.

⁵ Growing Fife's Future – The Renewable Energy Opportunity. (Fife Council, Fife Economy Partnership, Investment In Fife)

⁶ http://www.newenergyfocus.com/do/ecco/view_item?listid=1&listcatid=32&listitemid=3416

The report identifies one of the key opportunities as being the world class research the University is carrying out in fuel cells and helping companies enter the market. This is shown by the work the University has done with the Hydrogen Office, a leading fuel cell demonstration project in Methil, Fife. The aim is to create a cluster of hydrogen companies to which the University is contributing having spun out St Andrews Fuel Cells. The University of St Andrews and the Hydrogen Office have recently been awarded an ERDF grant to facilitate the development of a Research Centre for energy storage

The Office is located Fife Energy Park a joint venture between Scottish Enterprise (which is also a partner in the Hydrogen Office along with a commercial developer) and Fife Council. This 134 acre site is a key part of Scotland's aim to position itself as a world leader in advanced manufacturing for the renewable energy sector. This year approval has been given create a Fife Renewables Innovation and Incubator Centre which will have strong links with the University of St Andrews.

As well as providing the research to develop this sector, the presence of the University in Fife is invaluable in creating the awareness that Fife is a place with significant research excellence and capability and making the area more attractive to incoming companies.

14.3 Health

Having a healthy workforce has a direct impact on economic activity through increased productivity. An estimation of the importance of this factor is shown by a report⁷ that finds that labour time lost to ill health reasons represents lost economic output totally \$260 billion per year. The University positively impacts on health through training healthcare professionals and carrying out medical research. The University also contributes to health by improving our mental health by improving our well being. This is discussed further in Chapter 17.

14.4 Attractiveness and Vibrancy

Attractiveness and vibrancy is essential to economic activity as it assists an economy in retaining and attracting firms, people and tourists. The realisation of the importance of this factor to economic development has been growing as culture driven development has become more central to economic development policy. Although capturing this key factor of the economic health of an area is elusive, its importance is shown by the constant quest for it by urban planners, economic development professionals and policy makers. This is because of the vast difference in economic activity and quality of life between areas that strongly possess this characteristic and those that don't. Although this factor is hard to describe, let alone quantify, important components of this factor can be identified such as culture, population density, community and diversity (i.e. in type of shops, entertainment etc).

The most obvious contribution the University of St Andrews makes to this factor is by contributing additional people, through the number of staff and students at the University and through the jobs supported in the wider economy. In addition to the number of staff and students, the profile of these individuals means that they will tend to have a higher demand for cultural activities and entertainment than the population as a whole. This will result in a greater supply and diversity of culture

⁷ The Commonwealth Fund "Health and Productivity among U.S. workers" August 31, 2005

and entertainment providers, which will assist St Andrews to retain and attract more students, workers and tourists, which creates further demand for these activities and creates a positive and sustainable spiral of attractiveness and economic activity. This effect in the context of tourism is discussed further in Section 17.1.

While this effect is one all universities have on their local area, in the context of St Andrews this effect is particularly significant. Due to the University, St Andrews provides cultural and recreational services on a scale similar to a much greater settlement. This is important to the area as North East Fife has no significant sized settlements and without the University, these services would not be provided. This would have a significant impact on attractiveness and vibrancy of the area.

A sense of community is an important component of vibrancy; the University contributes to this in many ways. For example the University's Estate office actively supports and in some cases leads a number of initiatives in and around the town:

- St Andrews Environment Network Climate Challenge Fund bid – collation and submission of bids and technical advice;
- East Neuk Energy Network – establishment of community energy champions and provision of technical advice;
- St Andrews in Bloom – co-ordinating visits to Accelerated Composting Rocket;
- Pilgrim Foundation conservation of St Johns Garden and Crails Lane;
- St Andrews Business Club;
- Kenly Community Wind;
- community beach clean;
- representation on Community Safety Panel; and
- helping to co-ordinate a range of different events in the town

Further examples are discussed in the following two chapters which highlight the contribution of from the University's Music Centre and Museums Unit to the economy.

14.5 Summary

The University makes an important contribution to the move towards developing a knowledge economy. It also makes an important contribution to enable Fife and Scotland make the most of the opportunity provided by the renewables sector. The University makes it easier to attract and retain individuals and companies by making St Andrews and Fife a more attractive and vibrant place to live and work. This is particularly important in North East Fife where there is a lack of cultural and recreational providers.

15 MUSIC

University of St Andrews Music Centre is situated in Younger Hall and, as well as having an important role in being the centre for musical education for the University, it has a wider impact on the culture and community of the study areas.

15.1 Concerts

In 2008/09 the University held 49 Music Centre own concerts and 18 concerts by external organisations. This figure has risen in 2009/10. Without the University both the Music Centre own promotions and the concerts by external organisations would not exist in Fife and may not occur in the Dundee City Region. This is due to the fact the only venue of similar size and quality to the Younger Hall is the Perth Concert Hall.

The Younger Hall has a capacity of 970 seats. Most of the visitors to these concerts are from the St Andrews area, some come from Dundee and Edinburgh.

15.2 Community Engagement

The Music Centre runs 300 individual half hour lessons each week of which approximately forty percent are taken by non university staff and students.

The Music Centre organises a variety of different singing and instrumental groups to provide a wide range of opportunity for enjoying playing with others by bringing together the best singers and players from the university and the local area. Approximately forty percent of the membership of these groups are non staff and student. These groups include:

- St Andrews Opera;
- University Renaissance Group;
- Youth Choirs;
- St Andrews Chamber Orchestra ;
- Ad Hoc Orchestra;
- Baroque Orchestra;
- Big Band;
- Brass Ensemble ;
- Ensemble 2021;
- Flute Ensemble;
- Children's French Horn Ensemble;
- Jazz Studio;
- Saxophone Ensemble;
- Scots Fiddle Group; and

- University Strings.

In addition to these University run groups, there are a wide variety of other local music and performing groups in the area. The music centre has formed strong links with many of these groups for example:

- St Andrews Music Club – apart from the University this club is the main promoter of classical music in the town. The Director of the Music Centre attends their committee meetings to help plan their schedule and development promotions; and
- St Andrews Chorus – this group has 180 members and is the largest choir in Fife. Many staff and students sing in this choir and it is directed by the Director of the Music Centre.

The Music Centre is actively developing groups specifically intended to appeal to non-university musicians. Two example of projects being develop include:

- a new musicianship choir for primary age children which the Centre will be launching in September in collaboration with Fife Council's Youth Music Initiative; and
- a new St Andrews and Fife Community Orchestra which will be launching in October in collaboration with the Scottish Chamber Orchestra (SCO).

This initiative with the SCO Orchestra came about through the designation of the SCO as the University's Orchestra in residence in 2009. This is the first professional orchestra to establish a residency at a Scottish University. This will have impacts on the quality of music teaching for the wider community, for example through masterclasses delivered by SCO musicians. It will also provide additional capacity for community engagement, in particular the SCO and Music Centre will work together to develop music education for the community, including building relationships with local schools and develop new initiatives for primary school age children.

15.3 Summary

The University's Music Centre contributes to the economy through being an educational and cultural provider to the community by:

- providing concerts;
- providing high quality music teaching; and
- providing opportunities for creativity and social interaction.

16 MUSEUMS

16.1 Description

The University has three main museum sites:

- Museum of the University of St Andrews (MUSA) – this tells the story of the University through displaying some of the University’s collection of 112,000 artefacts. The museum is open daily from April to September and from Thursday to Sunday during October to March;
- Bell Pettigrew Museum – this is the university’s museum of zoology. It is open to the public two afternoons a week during summer vacation and to school groups by prior appointments;
- Gateway Galleries – this site hosts temporary exhibitions and include a wide variety of community and schools events, running in parallel with the MUSA programme; and
- the University Library’s Special Collections Department – this is open to all those who wish to conduct research using the Library’s extensive collection of early printed books, manuscripts, photographs or the University’s institutional archive.

These facilities will be enhanced in the future as a new purpose built storage facility is being planned. The new store will allow access to the public on open days and escorted tours.

The importance of the University’s collections to Scotland is shown by the fact that three collections (Heritage collection, Chemistry Collection and Historic Scientific Instruments Collection) have been awarded the status of Recognised Collection of National Significance in 2008 (a further collection is currently applying for status). This is a scheme owned and funded by the Scottish Executive to recognise the outstanding and irreplaceable collections in Scotland’s outside the nationally run institutions. In order to achieve this status, the applicants have to show uniqueness, authenticity, comprehensiveness, and national value of their collection. There are 36 collections with this status in Scotland, 10 of which are in the Dundee City region and 4 of which are in Fife. This shows the regional importance of the University in terms of heritage.

16.2 Visitor Numbers

MUSA was opened to the public at the end of September 2008 and was officially opened in 25 November 2008. By mid October 2009, MUSA had 30,000 visits which makes it the fourth most popular visitor attraction in St Andrews and comparable with the Cathedral and the Secret Bunker (Table 16.1). It should also be considered that other museums on the list attract non museum visits due to visitor facilities such as cafes and shops). In addition the Gateway galleries had 4,700 visits in this period and 1,600 visits to the Bell Pettigrew Museum, therefore in total the University’s museums attracts 36,300 visits. This would make the museums the eight most popular visitor attraction in Fife.⁸

⁸ 2008 Visitor Attraction Monitor (VisitScotland2009) – other visitor attractions in Fife not included in the table include: Abbot House Heritage Centre and Gardens, Dunfermline

Table 16.1: Visits to St Andrews' Visitor Attractions

Attraction (F = Free admission)	Owner	Visitor Numbers
St Andrews Castle	Historic Scotland	54,918
British Golf Museum	Trust	47,502
St Andrews Museum (F)	Local Authority	41,986
MUSA/All Sites	University of St Andrews	30,000/36,300*
St Andrews Cathedral	Historic Scotland	29,560
Scotland's Secret Bunker	Private	29,505
St Andrews Botanic Gardens (F)	Friends of the Botanic Gardens	20,000
Cambo Gardens	Private	14,451
St Andrews Preservation Trust museum (F)	Trust	9,623

Source: 2008 Visitor Attraction Monitor (VisitScotland2009), *University of St Andrews Museum Collections Unit

16.3 Engagement and Outreach

The University carries out a range of activities to encourage members of the public and local schools to engage with the collections through events such as talks, lectures, demonstrations, tours and workshops. The number of participants is shown in the table below.

Table 16.2: Outreach and external education use

	Total events	Total participants
Community learning (families, adults, clubs, outreach etc)	48	1,822
University teaching	27	417
Primary, Secondary and Special Schools	27	811
Total	100	2,770

Source: Annual Report 2008/09 – University of St Andrews Museum Collections Unit

A key event in engaging with schools is the MUSA Young Artist Award. This is an annual art competition for schools in Fife. It aims to recognise and support creativity in schools, and to promote learning, using the University's museum collections as a starting point. In 2008/09 398 pupils from 15 schools in Fife visited MUSA to engage with this programme. A total of 20 schools have used the online resources were produced for competition. The winning entries were displaced in the Gateway Galleries.

The completion of the openly accessible storage facility will enable these activities to increase as they can offer tours for the public, hosting school and oral history groups, outreach activities, a volunteer programme and improving facilities for researchers.

(89,755); Scottish Fisheries Museum, Anstruther (85,397), Kirkcaldy Museum and Art Gallery ((61,726); and Falkland Palace, Cupar (44,679).

16.4 Summary

The University's museums collections contribute to the economy through:

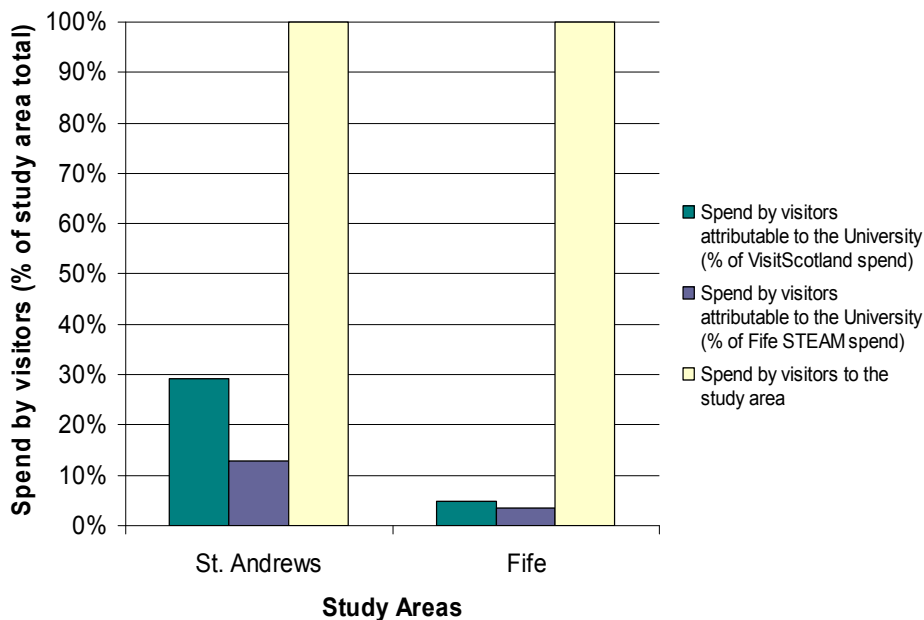
- contributing to our heritage through owning nationally important collections and engaging the public with these collections;
- contributing to the tourism supply through operating the fourth most popular visitor attraction to St Andrews and eight most popular visitor attraction in Fife; and
- contributing to community engagement through an extensive programme of educational and community programmes.

17 UNIVERSITY CONTRIBUTION TO ECONOMY

17.1 Contribution to Tourism

This section considers the University's wider contribution to tourism. The previous sections have shown how the University brings in additional visitors who bring in additional spend in the four study areas (Table 7.2, Table 7.5 and Table 7.6). This spend is totaled and compared with the total visitor spend given by VisitScotland (Table 3.3). This shows that visitors attributable to the University contribute 29% of the visitor spending in St Andrews and 5% of visitor spending in Fife using VisitScotland figures. Using Fife STEAM figures results in the University contributing to 13% of visitor spending in St Andrews and 3% in Fife. Analysis for Dundee City Region using VisitScotland figures estimates that the University contributes to 2% of visitor spend in the study area.

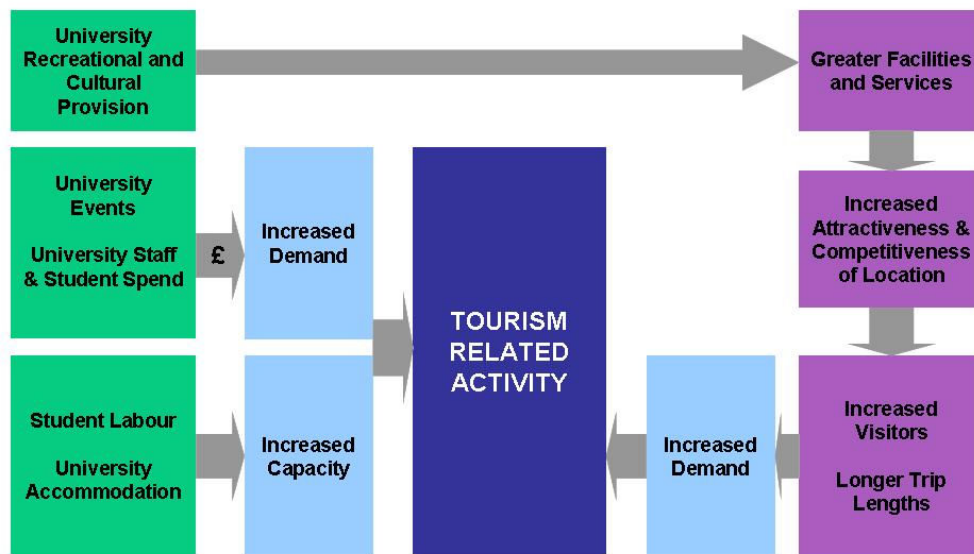
Figure 17.1: Contribution of University of St Andrews to visitor spend



Source: BiGGAR Economics Analysis

This analysis is static as it doesn't capture the contribution of the University towards making the town more attractive to visitors. This is detailed in the figure below which shows that existence of the university creates more visitor services through the demand from their staff and student. This results in more businesses in the tourism related sector from restaurants to recreational services. The university provides the town with greater capacity to meet the demand from tourists from providing bedspace to labour. The university also provides cultural services which contribute to St Andrews offering a more diverse range of attractions. This is shown in the diagram below.

Figure 17.2: Contribution of University of St Andrews to tourism related activity



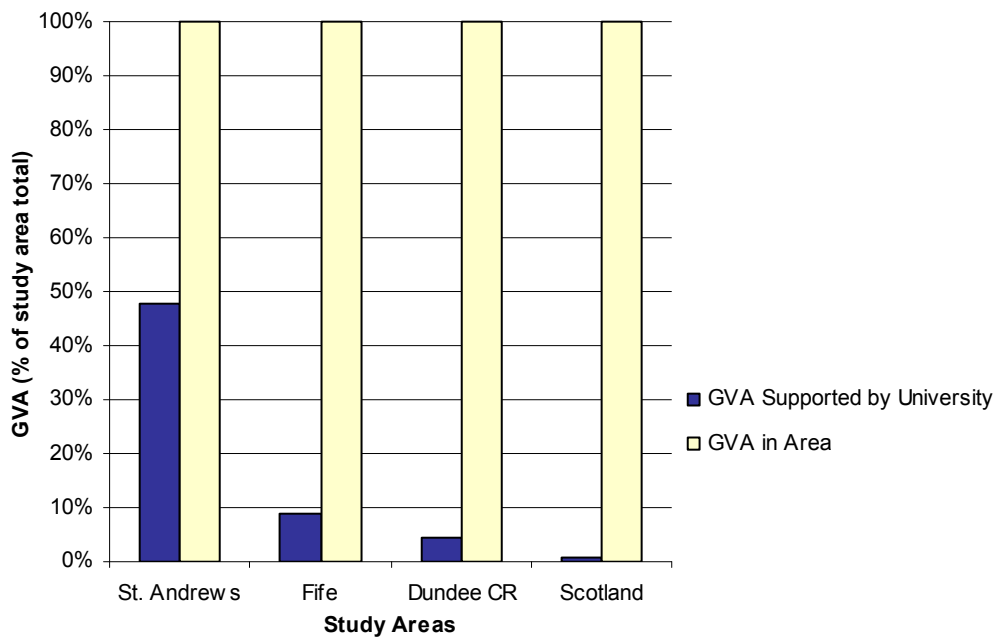
Source: BiGGAR Economics

In order to try and capture this impact quantitatively, the contribution of the University to tourism related activity has been analysed. This is done by adding the following impacts to the tourism GVA and employment attributable to the University:

- student spend on social activities (Table 6.10 and Table 6.11);
- staff spend in restaurants and other catering services (based on 7% of total income being spent in this category as given in the 2008 Living Costs and Food Survey published by ONS in 2009. This percentage has been applied to the staff salaries and the income impact carried out as detailed in section 5.3 (Table 5.4))
- student work in businesses in the tourism related sector (based on an assumption that half the student jobs will be in this sector (Table 6.12)).

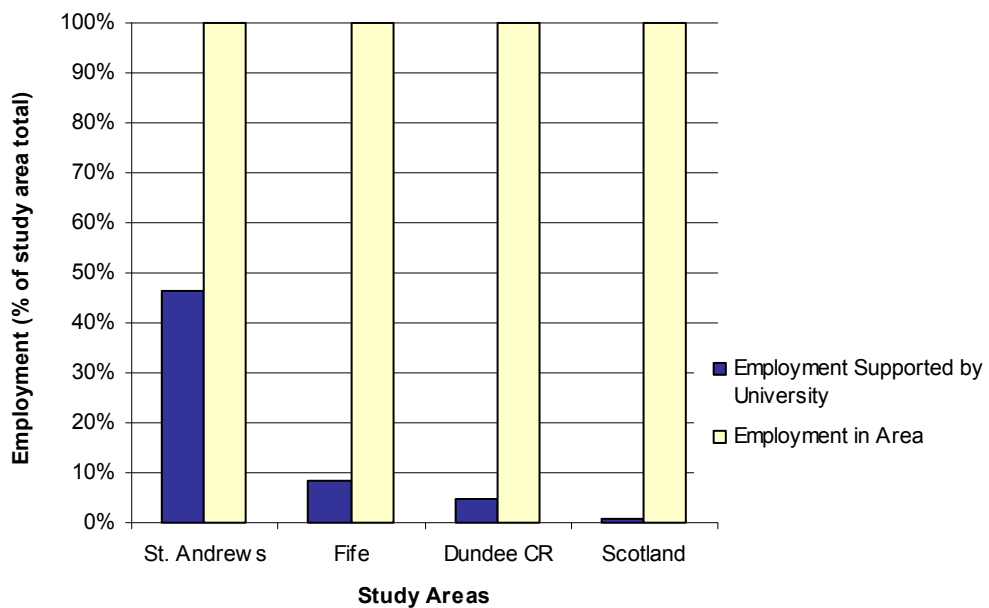
This results in the 48% of tourism related GVA and 47% of tourism related employment in St Andrews, 9% of tourism related GVA and 8% of employment in Fife and 5% of tourism related GVA and employment in Dundee City Region resulting from the presence of the University (Figure 17.3 and Figure 17.4).

Figure 17.3: Contribution of University of St Andrews to tourism related GVA



Source: BiGGAR Economics Analysis

Figure 17.4: Contribution of University of St Andrews to tourism related employment



Source: BiGGAR Economics Analysis

The impact of the University in contributing to the tourism capacity of St Andrews is growing in importance given the greater competition in the tourism industry for including in golfing tourism. This importance of a location providing other activities (such as other visitor attractions, restaurants and shops) apart from golf is shown by the fact that two out of the four main categories of golfing holidaymakers identified by VisitScotland combine golf with other leisure activities⁹:

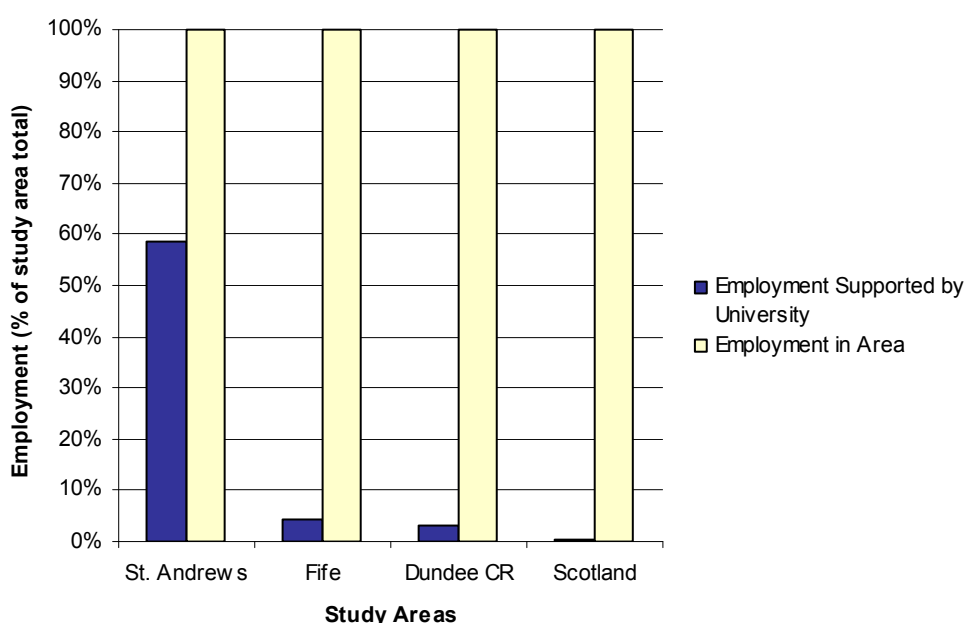
⁹ http://www.businesstourism.co.uk/Golf_Tourism_Facts.html

- golf buddies – these are usually groups of men from the UK (sometimes stag parties) looking for a medium priced break that combines good golf with good socialising; and
- golfing tourists – for these holiday-makers golf is only part of a more leisurely break that will include sight-seeing, touring. This category of golfer is much more likely to include couples and families.

17.2 Contribution to Economic Activity

In total 59% of employment in St Andrews is estimated to be contributed by the University. The University also contributes 4% of employment in Fife and 3% of employment in Dundee city region.

Figure 17.5: Contribution of University of St Andrews to employment



Source: BiGGAR Economics Analysis

GVA by local authority is not available, therefore this analysis could not be carried out for GVA.

17.3 Contribution to Sustainable economy

The contribution of the University of St Andrews to the economy of the four study areas is significant. However economic activity is one of the measures for a sustainable economy. The production of economic output will not be sustained, without the foundation of a healthy society and a healthy environment. This increasingly being acknowledged in economic development, for example there is greater discussion of the inadequacy of economic growth as goal and GDP as measure of the success of an economy. This has led to alternative measures for the economy.

One measure to examine the health of a society, is to examine well being. Increased levels of well being are related to improved mental health, physical health, social cohesion and community resilience.

This report has shown the wide variety of qualitative impacts the University creates. Through these impacts and its core role of teaching and research University contributes to well being for its staff, students and the local community. One way putting into context how the University raises the level of well being in the study areas this is through the recommendations of a report commissioned by the UK government's foresight project on mental capital and wellbeing, 'Five Ways to Well Being'. The report analyses the evidence for what increases well being and came up with five actions. The University contributes to these actions in following ways:

- Connecting – this report has shown the wide variety of ways the University as an institution connects with the community through the provision of culture, heritage, music, arts, interaction with schools and interaction with local groups. The University also provides opportunities for individuals to connect and develop social relationships through being a provider of activities such as music groups to events such as On the Rocks. This is a week long national showcase of the best in comedy, poetry, literature, dance and music run by the Student Association. The organisers have formed links with local school and youth groups and Fife Council. It has a national impact through bringing together groups from other Scottish universities. The University also contributes through increasing the supply of recreational providers, restaurants, cafes and bars which also provides opportunities for individuals to meet each other;
- Be Active – the University has sport facilities and runs exercise classes which are open to the public;
- Take Notice – this is action is about savouring and reflecting on our experiences. The University provides the opportunity to be more observant of the world around us from the MUSA Young Artist award to the provision of museums as these provide spaces for contemplation and engagement with local heritage;
- Keep Learning – the University core role is to provide learning to its students. This report has shown how the University also provides learning to schools in the area. The University also provides the opportunity for public to learn as well providing evening language courses and music lessons. The museums offer the opportunity to learn about local history. The University provides a significant amount of free public lectures, the Higher Education – Business and Community Interaction Survey 2007/08 records the University as giving 711 academic staff days towards free public lectures and that lectures hosted by the University as recorded 2,848 attendees; and
- Give – the University provides a variety of opportunities to volunteer. An example project is Project Zambia, a venture between the University and Sport in Action. This is an initiative set up through UK sport and non-government organisations in Zambia to use sport as a vehicle to educate the children in communities there. Another project is the twenty year relationship between relationship between the University of St Andrews and the Malawian College of Medicine. This has lead to a team from the Bute Medical School collaborating with the College to develop and increase healthcare provision in Malawi. In addition a second team has facilitated the introduction of a new student management system and support for the library.

An important activity in improving the health of societies is tackling deprivation. Fife contains some of the most deprived areas in Scotland such as Levenmouth, which borders North East Fife. Activities include:

- raising aspiration and improving access to higher education – the activities the University carries out with schools is discussed in section 13.1 in terms of the knowledge economy. A key focus of the University’s activities with Schools is to put together meaningful and robust projects are put in place in primary and secondary school in order to enable pupils to aspire to University and are able to access the ones of their choice. Many of the projects in section 13.1 involve students from Levenmouth. Other important projects include the First Chances project which involves Buckhaven High School in Levenmouth and five other schools in Fife. This project enables schools to select 10 of their most academic pupils at the start of S3 who they feel can be aided in raising their aspirations and attainment. Pupils will attend a residential at the University and then over the period of the year, with the help of St Andrews student mentors, complete a project report and deliver a presentation on Sustainable Development or Health. At the start of S4 the pupils return for graduation and evaluation;
- generating jobs and economic activity - The contribution the University makes towards the renewable sector through providing the sector’s research base and activities associated with the Fife Energy Park and the Hydrogen Office is discussed in section 13.2. The Park and the Office is located in Levenmouth, therefore the growth of this sector would contribute significantly to the area’s regeneration; and
- improving health – the Medical School engages with the Levenmouth Regeneration Initiative and the University provides teaching facilities at the Randolph Wemyss Memorial Hospital located in Buckhaven. This enables undergraduate medical education to place in the Levenmouth area, increasing the supply of healthcare in the area and also improves the understanding medical students have of healthcare in deprived communities.

17.4 Summary

This chapter has found that the University is an important contributor to the economies of St Andrews, Fife, Dundee City Region and Scotland through:

- supporting the tourism sector – the economy of St Andrews has two main sectors, the University and the tourism sector. This report has showed that the University also contributes greatly to tourism sector in a wide variety of ways. Therefore without the University, the town would lose not just a significant contributor to the economy but its other main sector would be significantly smaller;
- generating economic activity – the University is a significant contributor of jobs in St Andrews, Fife and Dundee City Region; and
- contributing to sustainability – the University provides opportunity for staff, students and the community to improve their well being. The University also carries out a variety of activities in deprived areas in Fife. This contributes to a healthier society and a sustainable economy.