

OXFORD ECONOMICS

The Impact of International and EU students in Wales

A Report for the Wales International Consortium,
Higher Education Wales, and the Higher Education
Funding Council for Wales

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Consortiwm Rhyngwladol **Cymru**
Wales International Consortium

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Contents

Preface	4
Executive Summary.....	6
1 Introduction	9
1.1 Purpose of the study	9
1.2 Study approach	9
1.3 Report structure	9
1.4 Acknowledgements	10
2 International and EU Students in Wales	11
2.1 Data Overview.....	11
2.2 International and EU students in Wales.....	11
3 The Economic Impact of International and EU Students in Wales.....	14
3.1 Methodology.....	14
3.2 Tuition Fees	15
3.3 Subsistence expenditure.....	17
3.4 Additional visitor expenditure	18
3.5 Total economic impact	20
3.6 Employment impact.....	21
4 Wider Impacts of International and EU Students	24
4.1 Students impacting upon Wales after graduation	24
4.2 Alumni Survey	24
4.2.1 Descriptive results.....	25
4.2.2 Business start-ups	27
4.2.3 Business links with Wales.....	29
4.2.4 Promoting Wales as a tourist destination	29
4.2.5 Promoting Wales' universities.....	31
5 Annex	34
5.1 Study Coverage	34
5.2 Survey Questionnaire.....	34
5.3 Input-output models	42

List of tables

Table 2.1: International and EU students in Wales 2009/10.....	12
Table 3.1: The economic impact of expenditure on fees in Wales and the rest of the UK.....	16
Table 3.2: The economic impact of subsistence expenditure by international and EU students on Wales and the rest of the UK.....	18
Table 3.3: The economic impact of additional visitors to the international and EU students on Wales and the rest of the UK.....	19
Table 3.4: The economic impact of international and EU students in Wales 2009/10	20
Table 3.5: The employment impact of international and EU students in Wales 2009/10	22
Table 5.1: Welsh Higher Education Institutions included in this study	34

List of figures

Figure 3.1: The channels of economic impact.....	15
Figure 5.1: A simple Input-Output model.....	42

List of charts

Chart 2.1: Origin of international and EU students at Welsh universities 2009/10.....	12
Chart 3.1: The total economic impact of international and EU students in Wales 2009/10	21
Chart 4.1: Institutions of survey respondents	25
Chart 4.2: Highest qualification of survey respondents	26
Chart 4.3: Country of residence of survey respondents	27
Chart 4.4: Business start-ups by WAG priority sector	29

Chart 4.5: Likelihood of respondents living outside Wales returning to Wales as a tourist.....	30
Chart 4.6: Likelihood of respondent promoting Wales as a tourist destination.....	31
Chart 4.7: Likelihood of respondent promoting Wales' universities as a place to study.....	32

List of boxes

Box 2.1: Key points – International and EU Students in Wales.....	13
Box 3.1: Key points – Economic impacts	22
Box 4.1: Key points – Wider impacts.....	32

Preface

The internationalisation of higher education brings many benefits to Wales and to the world. Universities in Wales since their earliest origins have been outward looking seats of learning and scholarship. In the twenty first century higher education is a rapidly expanding global activity, reaping a range of rewards for those who participate in it and those who benefit indirectly. This report captures just one aspect of this activity - the economic impact of international and European Union (EU) students in Wales.

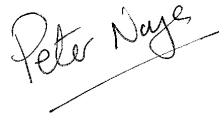
The agenda for internationalisation of higher education (HE) is a broad one and about important themes that go beyond international student recruitment. This is reflected in the way in which the internationalisation of HE in Wales is embedded not only in the Assembly Government's HE strategy, *For our Future*, but also in its economic development strategy, *Economic Renewal: a new direction*. University curricula now incorporate important global themes in the learning experience. The input of academic staff from overseas helps cross-fertilise scholarship and helps to enrich our research base - more than a third of newly appointed researchers in some institutions come from beyond the United Kingdom. International mobility for home students is a key area of work for universities in Wales, a process assisted by several EU programmes and the Bologna Process. Internationalisation therefore has a key role to play in developing the knowledge networks required for economic renewal and delivering the Assembly Government's ambition to make Wales "an attractive place to invest in".

This study also helpfully demonstrates the wider long term economic benefits for Wales of international and EU students. Yet the immediate economic contribution of international and EU students is not one that should be downplayed at a time of economic challenge. This report shows that these economic benefits can be estimated and are much larger than previously thought. The findings also show that this benefit is not a one off benefit in fees and student expenditure, but comes through a sustained engagement with Wales through business and tourist links.

The benefits of a university education at a Welsh university for international students are clear. Wales is a welcoming nation with universities committed to ensuring that international and EU students take the optimal benefit from their learning and cultural experience in Wales. Our higher education system is one that is widely respected for its focus on quality and the importance of learning and teaching. It's therefore no coincidence that some of Wales's universities have some of the highest student satisfaction ratings in the UK, and some of the best and most innovative international student support, as deemed by several recent independent measures, including the *International Student Barometer* and *Times Higher Education Awards*.

The benefits to UK students of international and EU students studying in our universities are also significant. It helps expose students to different belief systems and approaches to critically assessing received wisdom – one of the core purposes of universities. It also allows courses that would not otherwise be viable to remain open for all potential students.

In this vein we hope this report will play a role in helping to articulate just one of the positive impacts of international and EU students.



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Vice-Chancellor, Aberystwyth University

Executive Summary

In the 2009/10 academic year, 19,050 students from outside the UK studied at universities in Wales. While studying, these students contribute to both the Welsh and UK economies through the fees they pay for tuition, their spending on day-to-day items, and the spending of their friends and family visiting Wales whilst they are studying.

International and EU students studying at universities in Wales paid around £110 million in tuition fees in 2009/10...

- We estimate that the 19,050 international and EU students studying in Wales in 2009/10 paid £110 million in university tuition fees in 2009/10. This generated a value-added contribution of almost £140 million to Wales's economy, and a further £20 million contribution to the rest of the UK economy.
- Of this total international students alone paid £95 million in tuition fees, accounting for £120 million of the value-added contribution to Wales's economy and a £17 million value-added contribution to the rest of the UK's GDP.
- EU students studying in Wales in 2009/10 contributed £18 million in value-added to Wales's economy and a further £3 million to the UK's economy through the £15 million they spent on tuition fees.

... the subsistence spending of international and EU students in Wales added a further £79 million to Wales' GDP...

- Our calculations estimate that together international and EU students spent almost £130 million on living costs in 2009/10. This spending led to a value-added contribution of £79 million to Wales's GDP, and a further £32 million to the rest of the UK economy.
- The 11,700 international students studying in Wales in 2009/10 spent £76 million on living expenses. This generated a value-added contribution to Wales's economy of £47 million, and a further contribution of £19 million to the rest of the UK economy.
- EU students spent £52 million in living expenditure in 2009/10, generating a value-added contribution of £32 million to Wales's GDP and a further £13 million contribution to the rest of the UK economy.

... and friends and family visiting international and EU students spent £23 million in Wales in 2009/10...

- Some visitors to Wales in 2009/10 made their trip to visit an international or EU student studying at one of Wales' universities. We estimate that these visitors spent £23 million while in Wales, generating £20 million of value-added for the Welsh economy. The rest of the UK benefited from these visitors to the tune of a £5.4 million contribution to GDP.
- Visitors to international students in Wales contributed £6.7 million in value-added for Wales's GDP through spending £8 million. This generated a further value-added contribution of £2 million for the rest of the UK's economy.
- EU students' visitors spent £15 million in 2009/10, generating a value-added contribution of £13 million to Wales's economy, and a further contribution of £4 million in value-added for the UK economy.

In total, Wales' international and EU students **contributed £237 million to Wales' GDP**. This is equivalent to 0.5% of the Welsh economy – **a larger share than agriculture, and on a par with Cardiff's hotel and restaurant sector** – and **supported 9,230 jobs** in Wales. The rest of the UK also benefits from the Wales's international and EU students, with UK-based supply chains generating **a further £57 million contribution to UK GDP**, and supporting **an additional 1,910 jobs**.

However, the contribution of international and EU students does not end when they complete their studies. International and EU alumni can continue to make important contributions to the Welsh economy through a variety of channels...

...by starting businesses and actively working with Welsh businesses...

- A survey conducted for this study indicated that 15% of international and EU alumni had been involved in starting a business (of which 5% were located in Wales).
- This also suggests that Wales's strong performance in the 2008/09 Higher Education – Business and Community Interaction Survey, which saw Wales account for 10% of all UK graduate business start-ups, could be heavily influenced by its international and EU alumni.

... by consuming Welsh products...

- The survey found that 22% of respondents still imported or purchased Welsh products for their own personal use.

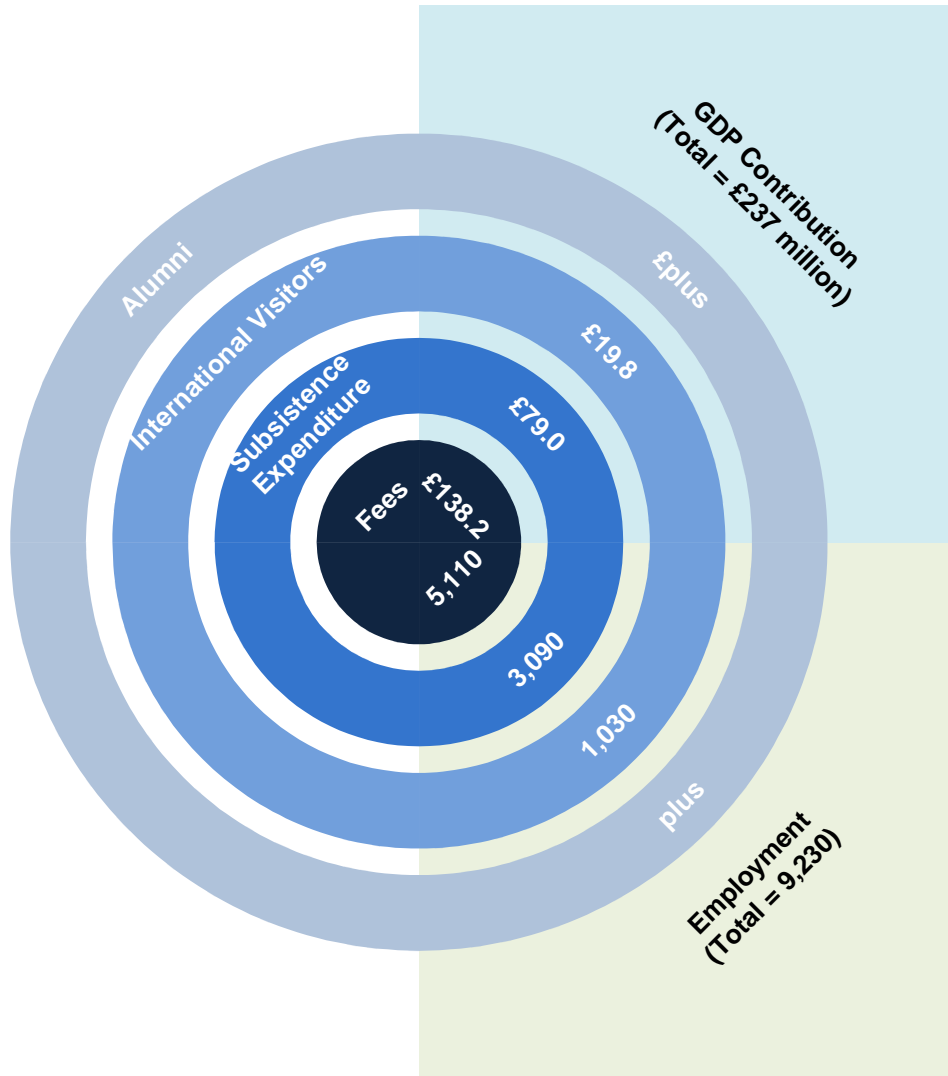
... by boosting Wales' tourism...

- Responses to the survey indicate that each international and EU alumnus living in Wales receives on average 3 visitors a year, contributing £500 to Wales GDP per alumnus per year.
- 60% of alumni living outside of Wales were 'very likely' to return to Wales for a holiday; another 30% said they were 'likely' to return.
- 89% of all alumni said they were at least 'likely' to promote Wales as a tourist destination to acquaintances.

... and by raising the profile of Wales' universities

- 59% of survey participants reported that they were 'very likely' to encourage others to go to university in Wales.

The economic impact of international and EU students studying in Wales



1 Introduction

1.1 Purpose of the study

The purpose of this study is to assess the economic impact of international and EU students studying at universities in Wales. It has been prepared by Oxford Economics on behalf of the Wales International Consortium (WIC), Higher Education Wales (HEW) and the Higher Education Funding Council for Wales (HEFCW).

1.2 Study approach

To achieve the purpose of this study, it was necessary to examine the channels through which the international and EU students studying at Welsh universities impact upon the Welsh economy. Specifically, the channels through which these students impact on the Welsh economy are:

- tuition fees paid to universities in Wales by international and EU students;
- subsistence spending by international and EU students while living in Wales; and,
- spending by friends and relatives visiting international and EU students while they are living in Wales.

These three channels represent the way by which *current* international and EU students impact on the Welsh economy, however it is also important to consider the potential contribution former international and EU students might make to the Welsh economy.

The impact of the international and EU alumni of Welsh universities on the economy is more difficult to quantify, as data on the number remaining in Wales is limited. Furthermore, although the majority of international and EU alumni may leave Wales after they study, they can still impact on the Welsh economy by doing business with Welsh companies, purchasing Welsh products, or visiting Wales for leisure. As no data exist to allow analysis of these alumni impacts Oxford Economics conducted a survey of over 22,000 international and EU alumni from seven Welsh universities.

1.3 Report structure

The report is split into three sections:

- chapter 2 presents an overview of the data;
- chapter 3 displays the results of the economic modelling of the current international and EU students' impact on the Welsh economy; and
- chapter 4 presents the findings of the survey of international and EU alumni.

The Annex at the end of the study presents a copy of the survey questionnaire and a list of the universities included within this analysis.

1.4 Acknowledgements

Oxford Economics would like to thank all the members of finance and alumni offices at Welsh universities who gave up their time to assist with the compilation of current student data and to allow Oxford Economics to survey their alumni.

2 International and EU Students in Wales

2.1 Data Overview

The results presented in this study relate to the 2009/10 academic year. As university financial statements were not published at the time of writing Oxford Economics sourced estimated data from each of the universities covered by the study¹. For the majority of the data universities provided their own estimates for 2009/10, based on internal numbers. Where full internal estimates were not provided by the universities, we estimated data for 2009/10 using data from universities' 2008/09 Financial Statements and HESA² data for 2008/09. International student numbers data were compiled by the Wales International Consortium.

When viewing the results, it should be recognised that they are based on calculations using estimated data, rather than actual data.

2.2 International and EU students in Wales

In the 2009/10 academic year there were 11,684 international students studying at universities in Wales. As Table 2.1 shows, just under 40% of international students at Welsh universities were engaged in undergraduate study, with 99% of these enrolled in a full time programme. 5,766 international students were studying for a postgraduate qualification at a university in Wales, with 83% of these undertaking a taught postgraduate course.

Table 2.1 also shows that the number of EU students studying in Wales in 2009/10 numbered 7,366. Of these 74% were undertaking an undergraduate degree, with 2,253 doing so on a part-time basis. There were 1,830 EU students undertaking a postgraduate course, of which 27% were doing so on a research basis.

As Chart 2.1 shows, students come from across the world to study at Welsh universities. Students from China make up the largest share of the international and EU student body in Wales, with a share of 16%; India, with 12%, holds the second largest share. From within the EU, France (8%), Germany (7%) and Spain (5%) are the most common origins. The diversity of the origins of the international and EU student body is apparent in the fact that almost half of all international and EU students come from countries with less than a 2% share in the total non-UK student body in Wales.

*In 2009/10 19,050
International and
EU students were
studying in
Wales...*

¹ A list of the universities included in the analysis is presented in the Annex of this report.

² Higher Education Statistics Agency

Table 2.1: International and EU students in Wales 2009/10

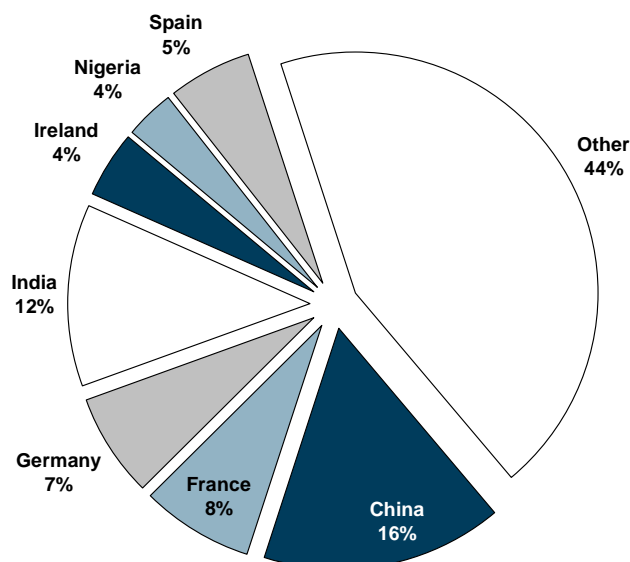
EU and International Students in Wales 2009/10		
	International	EU
Undergraduate	4,520	5,433
Full-time	4,474	3,180
Part-time	46	2,253
Postgraduate	4,767	1,340
Taught	4,566	735
Full-time	201	605
Part-time	999	490
Research	936	343
Full-time	63	147
Part-time	1,398	103
Others*		
Total	11,684	7,366

Sources: WIC / Universities

*Others includes students on various Foundation Programme, Year Abroad and pre-Masters courses.

...52% were undertaking an undergraduate qualification...

Chart 2.1: Origin of international and EU students at Welsh universities 2009/10



Source : Wales International Consortium / Individual universities

... and came from a diverse range of countries.

Box 2.1: Key points – International and EU Students in Wales

- In 2009/10, Welsh universities had 19,050 international and EU students, of which just under 11,700 were from outside the EU.
- Just under 50% of international students were undertaking a postgraduate qualification in 2009/10. 25% of EU students studying in Wales in 2009/10 were working towards a postgraduate qualification.
- Welsh universities attract students from across the world, with students coming from over 76 countries. Together, students from China and India make up over a quarter of the international and EU student body.

3 The Economic Impact of International and EU Students in Wales

3.1 Methodology

International and EU students impact upon the Welsh economy in three ways:

- the fees they pay to universities to study in Wales;
- the subsistence expenditure of these students while they are studying in Wales; and,
- the spending by additional visitors that come to Wales to visit the international and EU students whilst they are studying in Wales.

Before outlining the specific method and results for each of these impacts, it is necessary to outline the three channels by which each of the three impacts above contribute to the Welsh economy (shown in Figure 3.1).

- The first channel is the activity's **direct** impact on the economy, which is measured in terms of employment and value-added contribution to GDP.
- The second channel of impact is termed the **indirect** impact, and reflects the employment and value-added contribution to Welsh GDP supported as a result of purchases of goods and services from suppliers in Wales.
- The final channel of impact is the **induced** impact, which represents the employment and value-added contribution to GDP supported by those directly or indirectly employed spending their incomes on goods and services in the Welsh economy. This helps to support jobs in the industries that supply these purchases, and includes jobs in retail outlets, companies producing consumer goods and in a range of service industries.

The **indirect** and **induced** channels of impact can be estimated using the latest (2000) Input-Output tables for Wales, produced by the Welsh Economy Research Unit at Cardiff Business School (a brief overview of input-output tables is presented in Appendix 5.1), in conjunction with Oxford Economics' model of the Welsh economy.

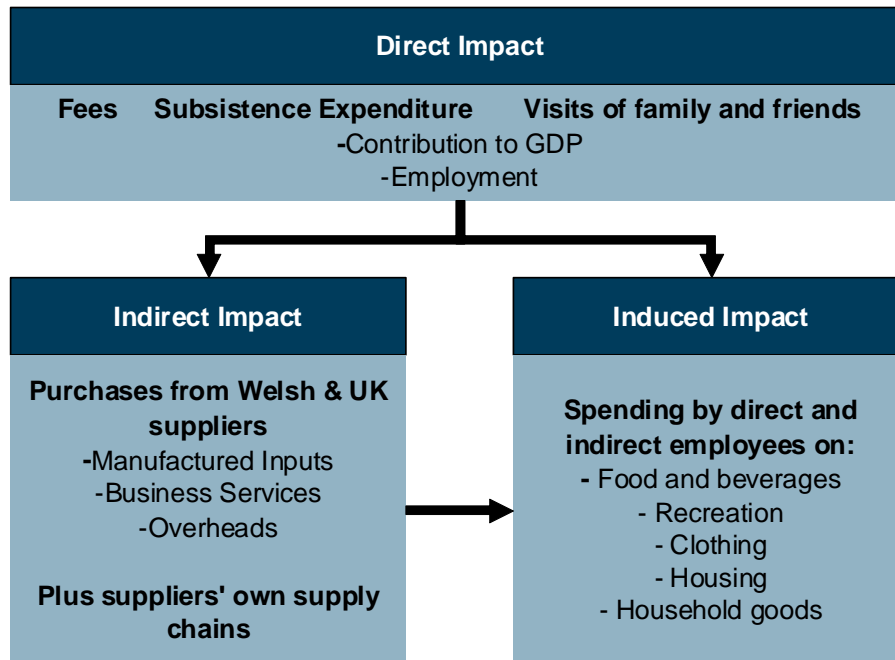
Within this analysis we have also presented the impact of Wales's international and EU students on the rest of the UK. To calculate the level of this impact, we have utilised both the input-output tables for Wales and the UK input-output tables, produced by the Office for National Statistics. For every industry in the economy, the input-output tables for Wales indicate the level of inputs that are sourced from the rest of the UK. Using this data we are able to translate the impact of the international and EU students into a demand for goods and services from the rest of the UK. By using the UK input-output tables this demand is transformed into the impact on the economy of the rest of the UK. As all of the immediate spending by students, and their visitors, takes place in Wales, there cannot be a direct impact on the rest of the UK; the impact on the UK is limited to the supply chain, and therefore the indirect and induced impacts.

International and EU students impact on the Welsh economy through the fees they pay...

... their subsistence expenditure...

... and the spending of visiting friends and family.

Figure 3.1: The channels of economic impact



3.2 Tuition Fees

In order to derive the economic impact of the fees paid by international and EU students in Wales, Oxford Economics requested that each university provided fee income data for international and EU students in 2009/10. In most cases universities were able to provide this data, however for some it was difficult to differentiate EU fee income from income from Home students. When this was the case, we used data on student numbers to apportion a share of the Home/EU fee total to EU students.

In 2009/10, the 11,684 international students studying in Wales paid £95.2 million in fees to Welsh universities. At the same time, £14.4 million was paid in fees by the 7,366 EU students studying in Wales.

The £109.6 million spent on fees does not equal the contribution to GDP made by spending on fees, given that to provide these services Welsh universities will purchase intermediate inputs – ranging from computers to stationary, and furniture to business services. However, not all of the income from fees is used for intermediate consumption, with some going towards the payment of wages for university employees. The **direct** impact of fee expenditure is the difference between the total spending on fees and the universities' spending on intermediate inputs. By using the input-output tables for Wales the value-added contribution to Welsh GDP made by international and EU students can be calculated, and is estimated to amount to £78 million.

International students paid £95.2 million in fees in 2009/10...

... and EU students paid £14.4 million...

The **indirect** and **induced** impacts of the international and EU students in Wales are calculated using an estimate of Welsh universities' procurement from different companies. The input-output tables for Wales provide a guide as to how much of this spending will be with Welsh firms, which can then be translated directly into **indirect** and **induced** impacts using industrial multipliers generated from the input-output tables. The input-output tables for Wales also provide information on how much Welsh universities purchase from firms in the rest of the UK. By combining this data with the UK input-output tables, it is possible to estimate the indirect and induced impacts on the rest of the UK owing to spending on fees by international and EU students in Wales.

The **direct**, **indirect** and **induced** economic impacts of spending on fees by international and EU students are presented in Table 3.1. In addition to a **direct** value-added contribution of £78 million to the Welsh economy, the purchases made by Welsh universities from its Welsh supply chains add a further **indirect** impact of £15.3 million in value-added to Wales' GDP, and contributes £8.1 million in value-added to the economy of rest of the UK. The **induced** impact, the spending of those employed directly and indirectly as a result of international and EU students' spending on fees, generates an additional value-added contribution to Welsh GDP of £44.9 million, and a further value-added contribution to GDP of £11.9 million in the rest of the UK.

Table 3.1: The economic impact of expenditure on fees in Wales and the rest of the UK

Fee Impact of EU & International Students		
	On Wales £m	On Rest of UK £m
<i>International Students</i>		
Direct	67.8	-
Indirect	13.3	7.0
Induced	39.0	10.3
Total	120.0	17.3
<i>EU Students</i>		
Direct	10.3	-
Indirect	2.0	1.1
Induced	5.9	1.6
Total	18.2	3.0
<i>International and EU students Total</i>		
Direct	78.0	-
Indirect	15.3	8.1
Induced	44.9	11.9
Total	138.2	19.9

Source: Oxford Economics (Totals may not sum due to rounding)

The total economic impact of international and EU students' spending on fees is sum of the **direct**, **indirect** and **induced** impacts. Consequently, the total

*... directly
contributing £78
million to Wales'
GDP...*

*...and a further
£15.3 million in
Welsh supply
chains.*

*In total
international and
EU student fees
contributed £138.2
million to the
Welsh economy.*

economic impact in Wales is a value-added contribution to GDP of £138.2 million, rising to £158.1 million when the rest of the UK is included.

Overall, spending on fees by international and EU students at Welsh universities generates a total GDP multiplier of 1.77 in the Welsh economy. When the rest of the UK is considered, this multiplier rises to 2.03.

3.3 Subsistence expenditure

The economic impact of international and EU students in Wales is wider than simply their spending on fees. The presence of these students in Wales is a further benefit to the economy through their subsistence spending. Subsistence spending refers to all spending by these students on goods and services other than their education fees. It includes, for instance, expenditure on food, rent, travel and entertainment. For estimating subsistence expenditure, we have made use of the findings of the Student Income and Expenditure Survey (SIES). The SIES presents detailed figures for the spending habits of both full- and part-time students studying in Wales. As the survey does not make the distinction between domestic and international students we have assumed that international students' pattern of subsistence spending is the same as that for all students.

For the 2009/10 academic year we estimate that the 19,050 international and EU students studying in Wales spent £128.3 million in living expenses. Expenditure does not equal **direct** contribution to GDP, because some of the goods and services bought by the students would be sourced from abroad or in other regions of the UK. However, students will also spend their money for instance, on local pubs and restaurants employing local people, therefore directly contributing to Welsh GDP. To translate expenditure into **direct** GDP the headline spending figure is disaggregated into different categories according to the spending proportions reported in the SIES. Then each category is aligned with an industry, and finally the input-output tables for Wales are used to calculate the **direct** GDP contribution.

Having estimated the **direct** value-added contribution to Welsh GDP, we estimate the **indirect** and **induced** impacts on Wales' GDP through the use of Welsh multipliers. To calculate the indirect and induced impact on the rest of the UK economy a similar approach is used to that utilised for fee expenditure. The proportion of inputs purchased by Welsh firms from the rest of the UK to supply goods and services to students in Wales is presented in the input-output tables for Wales. Multipliers for the rest of the UK are then used to calculate the impact on the rest of the UK.

The **direct**, **indirect** and **induced** economic impacts of subsistence expenditure by international and EU students in Wales are presented in Table 3.2. Subsistence spending by these students generates a **direct** value-added contribution to Welsh GDP of £48.8 million.

The demand for goods and services generated by the students generated an **indirect** value-added contribution to Wales' GDP of £15 million, and an **induced**

International and EU students spent £128.3 million on living expenses in 2009/10...

... directly contributing £48.8 million to Wales' GDP...

contribution of £15.2 million to Wales GDP. When the purchases of Welsh firms from suppliers in the rest of the UK are considered there is a further **indirect** impact of £19 million, and **induced** impact of £12.8 million in the rest of the UK.

Therefore, the total economic impact of subsistence spending by international and EU students in Wales in 2009/10 was a value-added contribution to Welsh GDP of £79 million. The Wales GDP multiplier from student's subsistence spending is 1.62. By accounting for the rest of the UK, this impact increases to a value-added contribution to GDP of £110.9 million – a GDP multiplier of 2.27.

Table 3.2: The economic impact of subsistence expenditure by international and EU students on Wales and the rest of the UK

Subsistence Spending Impact of EU & International Students		
	On Wales £m	On Rest of UK £m
<i>International Students</i>		
Direct	29.2	-
Indirect	9.0	11.3
Induced	9.1	7.6
Total	47.2	18.9
<i>EU Students</i>		
Direct	19.6	-
Indirect	6.0	7.7
Induced	6.1	5.2
Total	31.8	12.9
International and EU students Total		
Direct	48.8	-
Indirect	15.0	19.0
Induced	15.2	12.8
Total	79.0	31.9

Source: Oxford Economics (Totals may not sum due to rounding)

3.4 Additional visitor expenditure

The final way in which international and EU students impact upon the Welsh economy is through additional visitors to the country, as friends and relatives visit the students whilst they are at university in Wales. The source used for this data is the *International Passenger Survey* (IPS), which provides detailed expenditure by various types of visitor to Wales, including data on those who describe the primary reason for their journey as visiting friends and relatives. The data is also partially broken down by the country of origin of the visitors.

However, the IPS data only identifies that visitors are visiting friends and relatives. It does not specify who their friends and relatives are, or whether or not they are students. We have assumed here that visitors are all visiting foreign

... a further £15 million in Welsh supply chains...

...and in total contributed £79 million to Welsh GDP.

Friends and relatives visiting international and EU students also impact on the economy through their spending on visits.

nationals from their own country, and that the percentage of these visits that are to students are proportionate to the percentage of the population of that nationality that is made up of students. For example, by adjusting the 2001 Census data by regional population growth to estimate current population figures, suggests that there were just over 2,800 people of US citizenship living in the Wales in 2010 while Wales International Consortium data shows that there were 369 US students in Wales at that time. Consequently we have assumed that around 13% of the American visitors to Wales in 2009/10 who claimed to be visiting friends or relatives were visiting students at university in Wales.

Using this data we estimate that visitors to the international and EU students in Wales in 2009/10 spent £23.4 million in the country. As outlined in Section 3.3, the expenditure by these visitors does not equal the **direct** value-added contribution to GDP. Once again the input-output tables for Wales are used to translate this spending into a **direct** value-added contribution to Wales' GDP. Multipliers derived from the input-output tables are used to calculate the **indirect** and **induced** impacts in Wales and the rest of the UK.

*In 2009/10
additional visitor
spending was
£23.4 million...*

Table 3.3: The economic impact of additional visitors to the international and EU students on Wales and the rest of the UK

Additional Visitors Impact of EU & International Students		
	On Wales £m	On Rest of UK £m
<i>International Students</i>		
Direct	4.2	-
Indirect	1.2	1.0
Induced	1.4	0.8
Total	6.7	1.8
<i>EU Students</i>		
Direct	8.2	-
Indirect	2.2	1.9
Induced	2.7	1.6
Total	13.1	3.5
<i>International and EU students Total</i>		
Direct	12.4	-
Indirect	3.4	2.9
Induced	4.0	2.4
Total	19.8	5.4

Source: Oxford Economics (Totals may not sum due to rounding)

Table 3.3 presents the results of the modelling of the economic impact of additional visitors to the international and EU students in Wales. The spending of these visitors **directly** generated a £12.4 million value-added contribution to Wales' GDP in 2009/10. Supplying the good and services purchased by the additional visitors supported a further £3.4 million value-added contribution to

GDP (the *indirect*). Finally, the *induced* value-added contribution to GDP was £4 million. In the rest of the UK, a further £2.9 million *indirect*, and £2.4 million *induced* contribution was made to GDP.

Therefore, the additional visitors to Wales, visiting the international and EU students at Welsh universities, generated a value-added contribution to GDP of £19.8 million in Wales; a GDP multiplier of 1.60. In the whole of the UK the contribution to GDP amounted to £25.2 million; a GDP multiplier of 2.03.

*... in total
contributing £19.8
million to Wales’
GDP.*

3.5 Total economic impact

The total economic impact of the international and EU students studying at Welsh universities in the 2009/10 academic year is summarised in Table 3.4 and Chart 3.1. In total the international and EU students generated a value-added contribution to Wales’ GDP of £237 million, in current prices, translating to an overall GDP multiplier of 1.70. This means that for every £1 of value-added contribution to GDP that these students create by their, and their visitors’, spending, a further £0.70 is generated in the rest of the Welsh economy.

*In total,
international and
EU students
contributed £237
million to Welsh
GDP...*

Table 3.4: The economic impact of international and EU students in Wales 2009/10

Impact of EU & International Students		
	On Wales £m	On Rest of UK £m
<i>International Students</i>		
Fees	120.0	17.3
Subsistence Expenditure	47.2	18.9
International Visitors	6.7	1.8
Total	174.0	38.0
<i>EU Students</i>		
Fees	18.2	2.6
Subsistence Expenditure	31.8	12.9
International Visitors	13.1	3.5
Total	63.0	19.1
<i>International and EU students Total</i>		
Fees	138.2	19.9
Subsistence Expenditure	79.0	31.9
International Visitors	19.8	5.4
Total	237.0	57.1

*... equivalent to
0.5% of Wales’
economy...*

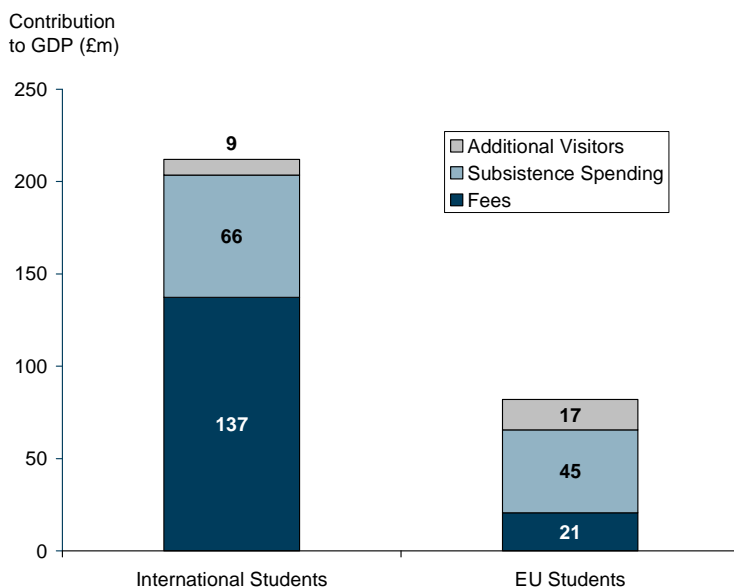
Source: Oxford Economics (Totals may not sum due to rounding)

To place this into context, the scale of the impact is equivalent to 0.5% of Wales GDP. This is a larger share than that of Wales' agriculture and textile sectors, and makes a similar value-added contribution to Wales's GDP as Cardiff's hotel and restaurant sector.

Unsurprisingly, given their larger numbers, international students account for the largest share of this impact (73%). For both international and EU students the largest contribution to Wales GDP is made through expenditure on fees, which accounts for 58% of the total contribution to GDP.

The value-added contribution to UK GDP of international and EU students studying in Wales increases to £294.2 million when the purchases made by Welsh companies from suppliers in the rest of the UK are considered. This represents an overall GDP multiplier of 2.11.

Chart 3.1: The total economic impact of international and EU students in Wales on the UK 2009/10



Source : Oxford Economics

... rising to £294.2 million when supply chains in the rest of the UK are included.

3.6 Employment impact

The impact international and EU students make on Wales and the rest of the UK is not limited to a value-added contribution to GDP; they also support employment in the various industries from which they demand goods and services, and these industries' supply chains. The impact of these students on employment can be calculated by dividing the value-added contribution to GDP by an estimate for productivity. The productivity figures we have used are GDP per employee in Wales and the UK.

At each level of impact (direct, indirect and induced) we use the productivity of the industry in which the spending is taking place, which we determine using input-output analysis. For example, to calculate the direct employment

Spending by international and EU students and their friends and family supported 9,230 jobs in Wales...

generated by fees we have used an estimate of the GDP per employee in higher education (which is approximately £24,900 in Wales).

Table 3.5 presents the results of these calculations, showing that the GDP generated by international and EU students fee payments in Wales supported 5,110 jobs in Wales in 2009/10. Subsistence spending by these students supported a further 3,090 jobs, and the spending by international visitors to these students supported 1,030 jobs. In total the spending of international and EU students supported 9,230 jobs in Wales, equivalent to one-third of all financial services jobs in Wales. When supply chains in the rest of the UK are included, the number of jobs supported increases to 11,140.

*... and a further
1,910 jobs in the
rest of the UK.*

Table 3.5: The employment impact of international and EU students in Wales 2009/10

Impact of EU & International Students		
	On Wales Jobs	On Rest of UK Jobs
<i>International Students</i>		
Fees	4,440	530
Subsistence Spending	1,850	650
International Visitors	350	70
Total	6,640	1,250
<i>EU Students</i>		
Fees	670	80
Subsistence Spending	1,240	450
International Visitors	680	130
Total	2,590	660
<i>International and EU students Total</i>		
Fees	5,110	610
Subsistence Spending	3,090	1,100
International Visitors	1,030	200
Total	9,230	1,910

Source: Oxford Economics (Totals may not sum due to rounding)

Box 3.1: Key points – Economic impacts

- International and EU students contribute to the Welsh economy through the fees that they pay, their living expenses while they are studying in Wales, and the spending of any friends and family that may visit the students while they are studying in Wales.
- The largest contribution international and EU students make to the Welsh economy is through the fees they pay to study at universities in Wales. The £109.6 million these students paid in fees generated a value-added contribution to Wales's economy of £138.2 million, and a further £19.9 million contribution to the rest of the UK's economy.
- The 19,050 international and EU students spent £128.3 million on living expenses in 2009/10, generating a £79 million contribution to GDP. This spending contributes a further £31.9 million to the rest of the UK economy.
- Friends and family visiting international and EU students in Wales spent £23.4 million in Wales in 2009/10, generating a value-added contribution to GDP of £19.8 million. When supply chains in the rest of the UK are included, this rises to £25.2 million.
- In total, international and EU students contributed £237 million to Wales GDP in 2009/10 – accounting for 0.5% of the Welsh economy – and supported 9,230 Welsh jobs.
- They also contributed a further £57.1 million to the economy of the rest of the UK, supporting an additional 1,910 jobs.

4 Wider Impacts of International and EU Students

4.1 Students impacting upon Wales after graduation

The economic impact reported in Chapter 3 reflects the role current international and EU students play in the Welsh economy, however this impact may not finish once these students complete their studies.

One way in which international and EU alumni continue to contribute to the Welsh economy is by remaining in Wales once they complete their studies, and adding their skills to the Welsh labour market and making purchases from Welsh companies. In addition, alumni may also start businesses in Wales, generating positive impacts throughout Welsh supply chains.

However, even if alumni leave Wales after graduating they can continue to impact on the Welsh economy as a result of the social and cultural links that may build during their time in Wales. Specifically, international and EU alumni who leave Wales may:

- work for Welsh companies abroad, making use of the language and other soft skills they will have acquired while studying in Wales;
- develop a predilection for Welsh products in both their personal and business lives – over time this could provide a boost to Welsh exports;
- recommend Welsh universities to their acquaintances, raising the profile of Wales' universities and increasing the number of international and EU students (and their contribution to the economy) in the future;
- return to Wales for leisure, to the benefit of Wales' tourism economy; and,
- recommend Wales as a holiday and/or study destination to acquaintances.

Students continue to contribute to the economy after they complete their studies...

These are longer term streams of benefit than the immediate benefit generated by current students, and as such the full extent of the impact is less clear, and therefore more intangible. Although these impacts may be more intangible, it is possible to place a tangible value on them, through the use of survey data.

4.2 Alumni Survey

To attempt to fill the data gaps that exist regarding international and EU alumni from Wales' universities this study conducted a survey of over 22,000

international and EU alumni from seven Welsh universities³. Alumni were invited to participate in an online survey hosted on Oxford Economics' website. The survey was designed to supply data to illustrate the channels by which alumni can continue to contribute to the economy, specifically focusing on the start up of businesses by international and EU alumni. The survey featured seven sections, which together covered⁴:

- the respondent's background information;
- the respondent's involvement in business start-ups;
- the ways a respondent's business may generate further benefits for Wales;
- the number of visitors alumni remaining in Wales receive; and,
- whether respondents abroad promote Wales' image to their acquaintances.

*A survey invited
22,000 alumni to
participate...*

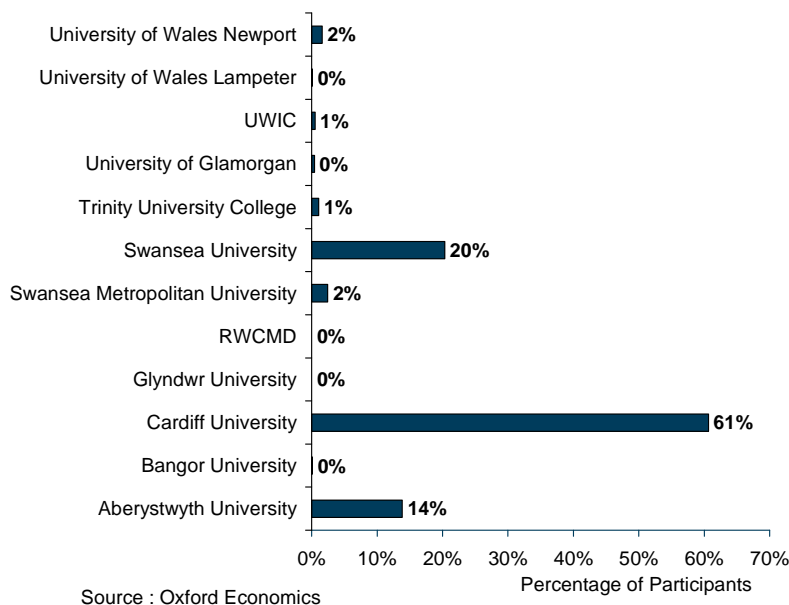
*... and attracted
940 responses...*

International and EU alumni were invited to participate in the survey by email from the last higher education institution they attended in Wales. The survey ran for the period Friday 19th November to Friday 10th December, and attracted 940 responses, with respondents having graduated between 1966 and 2010.

4.2.1 Descriptive results

The great majority of the 940 respondents of the survey attended one of three Welsh institutions: Swansea University, Cardiff University, and Aberystwyth University (Chart 4.1). This is not surprising as the alumni databases of these three institutions provided most of the email contacts used for the survey.

Chart 4.1: Institutions of survey respondents



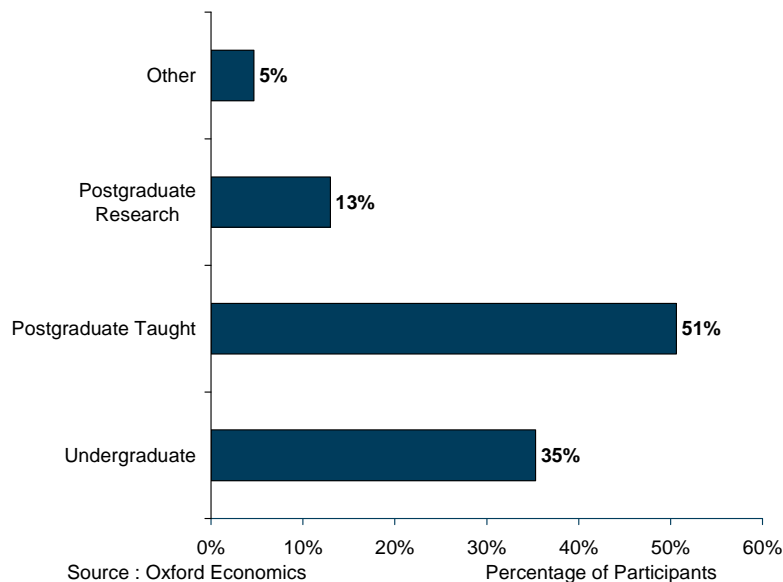
³ The universities included in the survey are detailed in the Annex of this report.

As Chart 4.2 shows, over half of the survey respondents had completed a taught postgraduate qualification at a Welsh university, and a third had received an undergraduate degree in Wales. 5% of respondents reported their highest qualification received in Wales as being 'Other', although many specified the qualification achieved; these included MBAs, and Diploma of Business Administration (DBA), others reported that they were in Wales as a part of the Erasmus scheme.

Of the 940 respondents to the survey, 888 provided information on their currently place of residence. Of these, 77 currently live in Wales (8.7%) and a further 101 live in other parts of the UK (Chart 4.3**Error! Reference source not found.**). The remaining 80% of the respondents had left the UK after completing their studies.

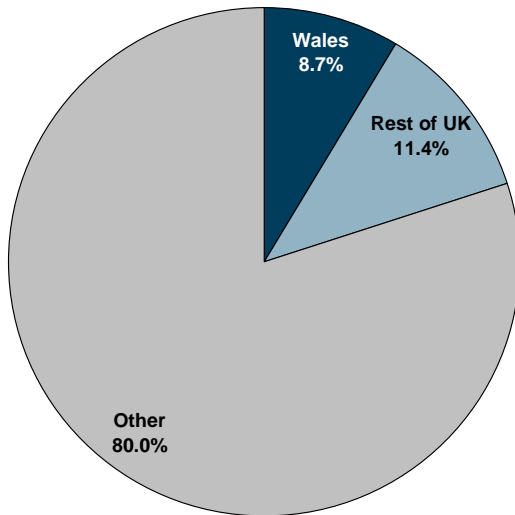
... with 51% of respondents having completed a taught postgraduate course...

Chart 4.2: Highest qualification of survey respondents



⁴ The full survey questionnaire is presented in the Annex of this report.

Chart 4.3: Country of residence of survey respondents



Source : Oxford Economics

... and 8.7% of respondents living in Wales.

4.2.2 Business start-ups

In conducting the survey we were particularly interested in the level of business start-ups in Wales by international and EU alumni of Wales's universities. Any businesses started by alumni provide significantly greater benefits than if the alumni simply entered the Welsh labour market, due to the scale of the further activity businesses generate themselves and through their supply chains.

Globally, just over 15% (143) of all survey respondents indicated that they had been involved in starting a business after finishing university. To place this into context, the latest 2008/09 Higher Education – Business and Community Interaction Survey and HESA data for 2008/09, finds that approximately 1% of all graduates from Wales's universities started a business⁵. This finding suggests that international and EU alumni from Wales's universities are much more likely to start a business (be it in Wales or elsewhere) than a UK student. This also suggests that Wales's strong performance in the 2008/09 Higher Education – Business and Community Interaction Survey, which saw Wales account for 10% of all UK graduate business start-ups, could be heavily influenced by its international and EU alumni. Of the respondents in our survey, 99 reported that the businesses activity was related to the respondent's course at university. 117 reported that the business was still operating, and survey

International and EU alumni appear much more likely to start a business than UK students

Business start-ups by respondents had a combined turnover of over £127 million in 2009/10.

⁵ HEBCIS defines graduate start-ups as those businesses started by people who have graduated within the past two years.

responses indicate that in 2009/10 these businesses had a global turnover of at least £127 million and employed almost 900 people⁶.

Our survey also show that half of the business start-ups in the UK by international and EU alumni from Wales's universities took place in Wales, accounting for 5% (7) of the total number of business start-ups as a whole (4 respondents were founding partners, 1 was an investor, 1 was an advisor, and 1 was a postgraduate intern). At the time the survey was conducted 5 of the companies were still trading⁷.

In 2010, the Welsh Assembly Government (WAG) identified six priority sectors for driving Wales' economic growth⁸. The six sectors are:

- ICT
- Energy & Environment
- Advanced Manufacturing & Engineering
- Life Sciences
- Creative Industries
- Financial & Professional Services

As Chart 4.1 shows, all of the business start-ups by international and EU alumni in Wales fall into one of the WAG priority sectors, with only Financial & Professional Services having no start-ups. The Creative Industries sector contained the greatest number of start-ups, with two out of the three start-ups relating to the course of the survey respondent. Only two of the respondents were involved in a university spin-out company, with one in the ICT sector and one in Energy & Environment. One respondent indicated that the business had received assistance in starting their business, in this case the business received assistance from Flexible Support for Business – Venture Wales.

Of the 101 survey respondents living in the rest of the UK, 8 reported that they had been involved in starting a business since leaving university, of which 5 were still operating at the time of the survey. The sectors identified as priorities for growth by WAG are also important for the UK as a whole; consequently growth in these sectors is beneficial for the whole of the UK. Businesses started in the rest of the UK by international and EU alumni of Welsh universities are involved in the ICT, Creative and Financial and Professional Service industries.

***Seven of these
start-ups were in
Wales...***

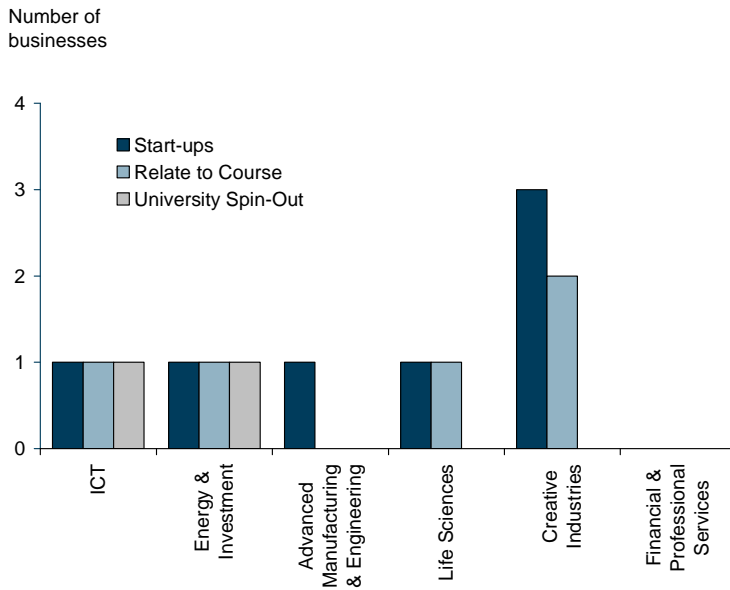
***... and all were
operating in WAG
priority sectors.***

⁶ Due to incomplete reporting by respondents not all of the businesses started have provided turnover and employment data.

⁷ Unfortunately it is not possible to utilise some of the data obtained in the survey (such as data on turnover) due to confidentiality issues. However, data relating to these businesses that do not breach confidentiality are presented.

⁸ Welsh Assembly Government (2010) *Economic Renewal: a new direction*.

Chart 4.4: Business start-ups by WAG priority sector



4.2.3 Business links with Wales

Having studied in Wales, alumni involved in business start-ups in the rest of the world can benefit the Welsh economy through any business links that they have with the country. By importing Welsh goods and services for their business, international and EU alumni living outside of Wales generate economic activity and support employment in Wales.

4% of respondents involved in starting a business outside of Wales reported that their business imported goods and services from Welsh firms. Some of the reasons reported by respondents for not importing Welsh goods and services included the distance between the respondent's place of business and Wales, a lack of contextual expertise in Wales, and the respondent's home market being sufficient in providing all inputs required. However, 38% (51) of the same respondents reported that they would like to investigate business links with Wales in the near future.

In addition to businesses generating demand for Welsh goods and services, individual alumni no longer living in Wales may privately purchase or import Welsh products for which they developed a predilection whilst living in Wales. When asked whether they purchased or imported Welsh products for private use, 22% (179) of Welsh universities' international alumni reported that they did so.

38% of alumni involved in a business start-up would like to investigate new links with Wales...

... and 22% of all respondents purchase Welsh produce for private use.

4.2.4 Promoting Wales as a tourist destination

In the same manner as illustrated in Chapter 3 for current international and EU students, international and EU alumni living in Wales can attract visitors, who

would not normally visit Wales, to the country. These visitors will then spend money in Wales, contributing to Welsh GDP. Survey respondents were asked about the number of visitors that they received in any given year, and the average number of nights that their visitors stayed in Wales. The responses given indicate that on average each of the respondents receives 3 visitors per year, and they each stay in Wales for 5 nights.

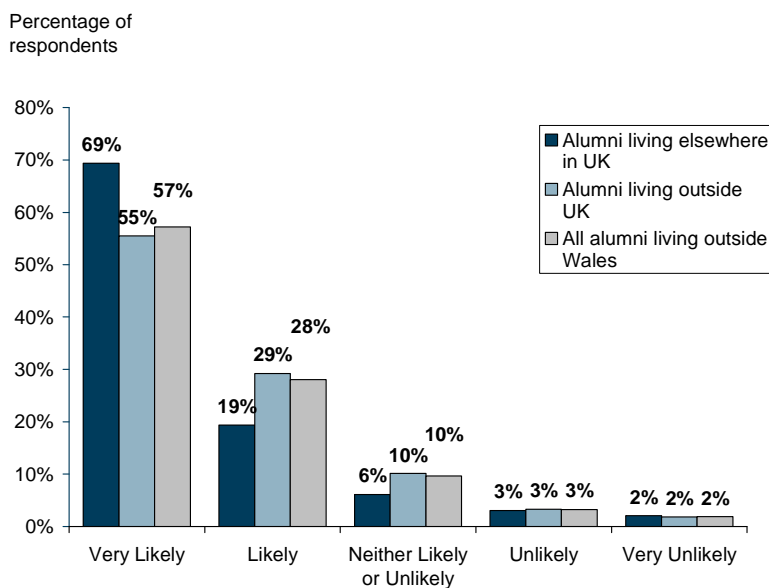
The latest data from the *International Passenger Survey* indicate that international⁹ visitors to Wales visiting friends and family spent on average just over £39 per night in 2009/10. Therefore, each alumnus responding to the survey generated £585 in spending by international visitors in 2009/10. By applying the findings of Section 3.4, this visitor spending translates to a value-added contribution to GDP of £500 per alumnus per year, above the alumnus' contribution to GDP through their work and living expenditure.

The survey also found that alumni who have left Wales since completing their studies are predisposed to return to Wales for leisure. As Chart 4.5 shows, almost 60% reported that they were "Very Likely" to return to Wales, although a greater proportion of alumni living in the rest of the UK were "Very Likely" to return than those living elsewhere. However, a greater share of alumni living outside the UK were "Likely" to return to Wales compared to those living in the rest of the UK. Overall, just under 30% described themselves as "Likely" to return. By returning to Wales in the future, these alumni will contribute to the Welsh economy through their tourism spending.

Each alumnus living in Wales attracts visitors worth £500 to GDP per year...

... 58% of all alumni were very likely to promote Wales as a tourism destination...

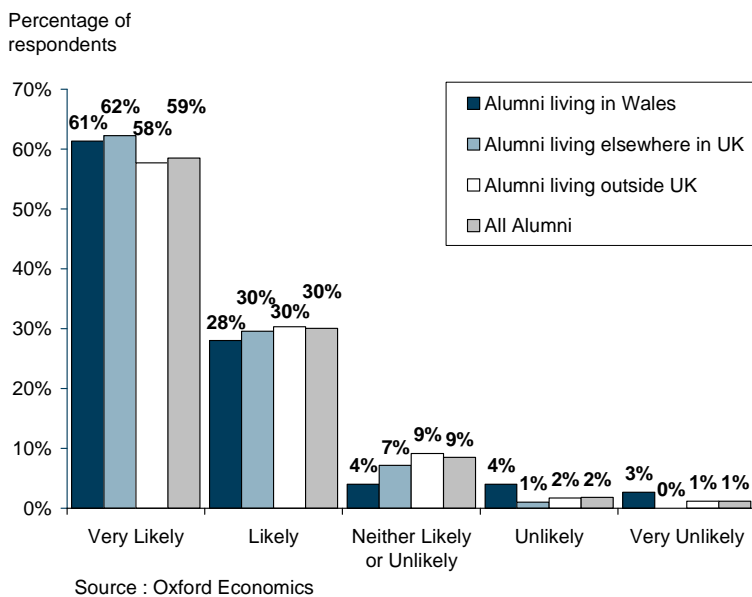
Chart 4.5: Likelihood of respondents living outside Wales returning to Wales as a tourist



In addition to receiving visitors, and returning to Wales, international and EU alumni can act as unofficial tourist ambassadors for Wales, promoting the country as a destination for visitors. When asked how likely they would be to promote Wales as a destination for visitors amongst their acquaintances, the results were similar across irrespective of where alumni were living. Overall 89% responded that they were either “Likely” or “Very Likely” to do so, and only 3% reported that they were inclined not to do so (Chart 4.6). This type of informal marketing can be very effective and beneficial for Wales, increasing the level of tourism spend and overall contribution to the economy.

...and 89% of alumni were either ‘Likely’ or ‘Very Likely’ to return to Wales for leisure

Chart 4.6: Likelihood of respondent promoting Wales as a tourist destination



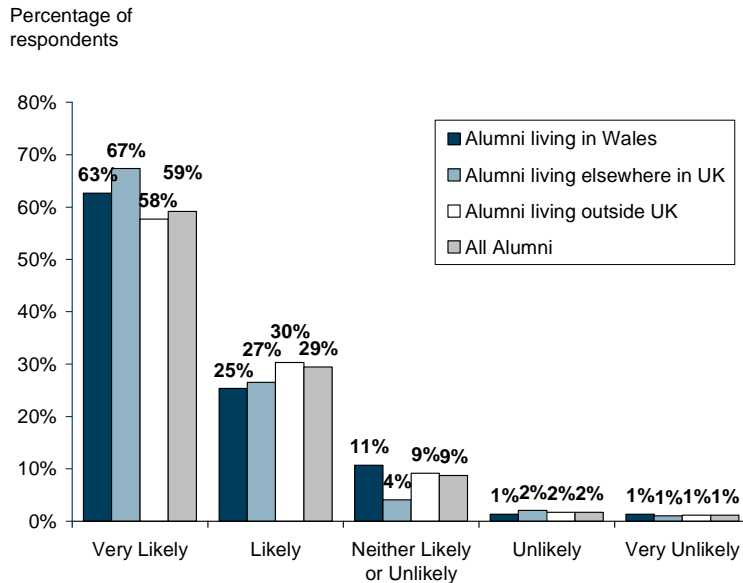
4.2.5 Promoting Wales' universities

The final channel by which alumni can In a similar manner to promoting Wales as a tourist destination, alumni can promote Wales' universities to their acquaintances. By doing so, the potential number of international and EU students studying in Wales could increase, increasing the benefits outlined in Chapter 3. Results from the survey indicated that 88% of respondents would be either “Likely” or “Very Likely” to promote Wales' universities as a place to study; only 3% reported that they were unlikely to do so (Chart 4.7).

59% of all alumni were very likely to encourage others to study at Wales' universities.

⁹ Including visitors from the EU

Chart 4.7: Likelihood of respondent promoting Wales' universities as a place to study



Box 4.1: Key points – Wider impacts

- The positive impact of international and EU students does not cease once their education in Wales is completed. The impact continues as they start businesses and foster commercial links with Wales, promote Wales as a tourist destination and promote Wales's universities.
- As a part of this study over 22,000 alumni were invited to participate in an online survey designed to highlight the scale of the impacts generated by the international alumni of Welsh universities. The survey received 940 responses, a response rate of 4.5%.
- The survey showed that across the world, the international and EU alumni of Wales' universities have been successful in starting businesses – with a combined global turnover of over £127 million and employment of almost 900 in 2009/10. The reported number of businesses started in Wales was 7, out of global total of 143. However, all of these businesses were operating in the Welsh Assembly Government's priority sectors.
- A large network of international and EU alumni can result in significant links between Welsh firms and international markets. 38% of respondents involved in start-up businesses reported that they were interested in exploring potential business links with Wales. Furthermore, 22% of all respondents living outside of Wales reported that they imported or purchased Welsh products for personal use.
- International and EU alumni generate additional tourism spending in Wales. Our calculations indicate that every international and EU alumnus living in Wales attracts on average 3 visitors to Wales each

year, contributing £500 to Wales' GDP. Furthermore, 60% of alumni living outside Wales reported that they were "Very Likely" to return for leisure, and 89% were either "Likely" or "Very Likely" to promote Wales to acquaintances as a tourism destination.

- Finally, alumni can be ambassadors for Wales' universities by informing acquaintances of the benefits of going to university in Wales. Results from the survey indicate that 59% of all international and EU alumni were "Very Likely" to encourage others to study in Wales.

5 Annex


5.1 Study Coverage

Table 5.1: Welsh Higher Education Institutions included in this study

Institution	Report coverage			Number of Alumni Contacted
	All data provided by Institution	Partial Data Estimation by Oxford Economics	Survey of Alumni	
Aberystwyth University		✓	✓	856
Bangor University	✓			
Cardiff University	✓		✓	14,704
Glyndwr University		✓		
Swansea Metropolitan University		✓	✓	720
Swansea University		✓	✓	5,689
Trinity University College	✓		✓	50
University of Glamorgan		✓		
University of Wales Institute, Cardiff		✓		
University of Wales Lampeter	✓		✓	51
University of Wales Newport	✓		✓	272


5.2 Survey Questionnaire

The following pages display the survey questionnaire, as viewed online.

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Survey of International and EU Alumni from Welsh Universities

Survey of International and EU Alumni from Welsh Universities

Welcome to this survey of international and EU alumni from Welsh universities. You are invited to participate in this important survey that will enable the Wales International Consortium, Higher Education Wales and the Higher Education Funding Council for Wales to inform the Welsh Assembly Government of the value of international and EU alumni. This information will be used to brief ministers, to support policy decisions for higher education in Wales and to inform the general public. We would like to hear from alumni who have remained in Wales after leaving University and those who no longer live in Wales.

The survey is straightforward and can be completed in less than 15 minutes. We very much welcome your contribution.

Confidentiality

All responses to this survey will be kept anonymous. No individual responses will be made publicly available or shared outside the project team.

Please enter the following details, then click Submit:

SECTION A - Background Information

A1. Name (optional):

A2. Nationality:

A3. Please highlight the institutions at which you have studied (*click any that apply*)

- ☐ Aberystwyth University
- ☐ Bangor University
- ☐ Cardiff University
- ☐ Glyndwr University
- ☐ RWCMD
- ☐ Swansea Metropolitan University
- ☐ Swansea University
- ☐ Trinity University College
- ☐ University of Glamorgan
- ☐ UWIC
- ☐ University of Wales Lampeter
- ☐ University of Wales Newport

A4. Please highlight the highest level of study you undertook in Wales (*click any that apply*)

- ☐ Undergraduate
- ☐ Postgraduate Taught
- ☐ Postgraduate Research
- ☐ Other (please specify)

Other:

A5. In what year did you graduate?

A6. In which country do you currently live?

- ☐ Wales
- ☐ Rest of UK (please specify)
- ☐ Other (please specify)

Other:

SECTION B - Business Start-ups

All responses to this survey will be kept anonymous. No individual responses will be made publicly available or shared outside the project team.

B1. Have you participated in a business start-up either while at or after leaving university?

- ☐ Yes
- ☐ No - please go to Section E

B2. In what capacity did you participate?

- ☐ Founder
- ☐ Investor
- ☐ Advisor
- ☐ Other (please specify)

Other:

B3. Where is/was the business located?

- ☐ Wales
☐ Elsewhere in the UK (please specify)
☐ Overseas (please specify)

Other:

B4. When was the business established?

B5. Please indicate if the business is/was in one of the following Welsh Assembly Government priority sectors. If not please specify.

- ☐ ICT
☐ Energy & Environment
☐ Advanced manufacturing and Engineering
☐ Life Sciences
☐ Creative Industries
☐ Financial & professional Services

Other:

B6. Does the business activity relate to your university course?

- ☐ Yes
☐ No

B7. Is/was the business a spin out from your university?

- ☐ Yes
☐ No

B8. Did you receive any assistance in starting your business (e.g. from Wales Spinout Programme, Welsh Assembly Government scheme, or private investor/business angel)?

- ☐ Yes (please specify)
☐ No

Specify:

B9. Is the business still operating?

- ☐ Yes
☐ No - (please indicate reason for ceased operations)

Reason:

If you answered NO to question B9 please go to SECTION E. If yes, please proceed to the next question

B10. Are you still involved in the business and in what capacity (e.g. Director, Investor)?

- ☐ Yes

If yes, please indicate position/nature of involvement:

- ☐ No

Please indicate the reason for your ceased involvement:

If you answered NO to question B10 please go to SECTION E. If yes, please proceed to the next question

B11. When does the business' financial year end?

- ☐ January
☐ February
☐ March
☐ April
☐ May
☐ June
☐ July
☐ August
☐ September
☐ October
☐ November
☐ December

B12. What was the business' turnover in each of the last three financial years (*Year 3 being most recent*)?

Year 1:

Year 2:

Year 3:

B13. How many people did the business employ in each of the last three financial years (*Year 3 being most recent*)?

Year 1:

Year 2:

Year 3:

What percentage of staff are from or have studied in Wales?

B14. How much, if any third party investment has the business receive in each of the last three financial years (*Year 3 being most recent*)?

Year 1:

Year 2:

Year 3:

B15. How much has the business invested in research and development in each of the last three financial years (*Year 3 being most recent*)?

Year 1:

Year 2:

Year 3:

B16. Does the business export any of its output?

☐ Yes

☐ No

B17. Approximately what percentage of the businesses revenue comes from exports?

☐ 10%

☐ 20%

☐ 30%

☐ 40%

☐ 50%

☐ 60%

☐ 70%

☐ 80%

☐ 90%

☐ 100%

SECTION C - PLEASE COMPLETE IF YOUR BUSINESS IS BASED IN WALES

C1. Do you receive overseas visitors to your business in Wales?

☐ Yes

If yes, please specify number of visitors per annum:

Percentage of new business generated from overseas visitors per annum:

☐ No

If no, please indicate why:

C2. Would you be likely to open another business?

☐ Yes, in Wales

☐ Yes, but not in Wales

If not in Wales, please indicate why:

☐ No

C3. Would you be likely to encourage others to open a business in Wales?

☐ Yes

☐ No

If no, please indicate why:

SECTION D - PLEASE COMPLETE IF YOUR BUSINESS IS BASED OUTSIDE OF WALES

D1. Does your business import goods, services or staff from Wales?

☐ Yes

If yes, please specify:

☐ No

If no, please indicate why:

D2. Would you like to investigate potential new business links in Wales?

☐ Yes

☐ No

SECTION E - PLEASE COMPLETE IF YOU LIVE IN WALES

E1. Do you receive visits from overseas friends and family?

☐ Yes

If yes, please specify number of visitors per annum:

Please specify the average stay (Number of nights)::

☐ No

If no, please indicate why:

SECTION F - PLEASE COMPLETE IF YOU LIVE OUTSIDE OF WALES

F1. Do you personally purchase, or privately import Welsh goods?

☐ Yes

☐ No

F2. Having studied in Wales, how likely are you to visit Wales in the future?

☐ Very Likely

☐ Likely

☐ Neither likely or unlikely

☐ Unlikely

☐ Very unlikely

SECTION G - RECOMMENDING WALES TO OTHERS

G1. How likely are you to recommend going to university in Wales to others?

☐ Very Likely

☐ Likely

☐ Neither likely or unlikely

☐ Unlikely

☐ Very unlikely

G2. How likely are you to recommend visiting Wales for leisure to others?

☐ Very Likely

☐ Likely

☐ Neither likely or unlikely

☐ Unlikely

☐ Very unlikely

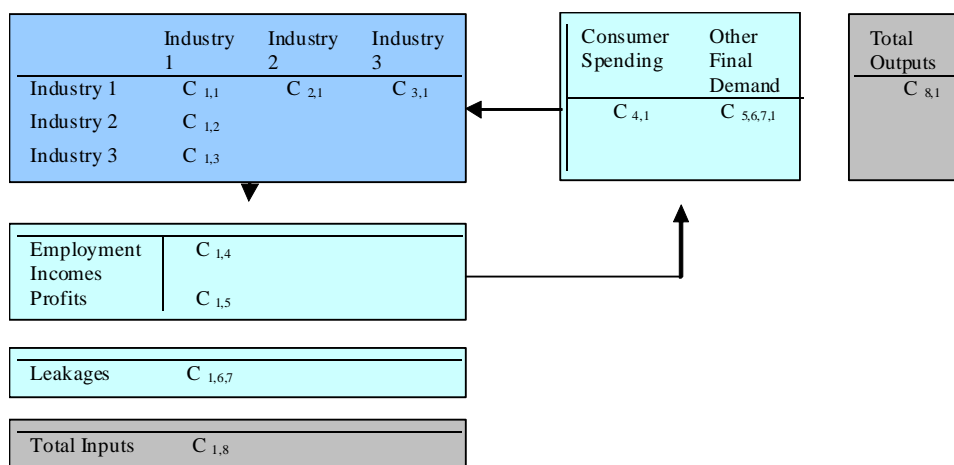
Thank you for completing the survey.

Please press the Submit button.

5.3 Input-output models

An input-output model gives a snapshot of an economy at any point in time. The model shows the major spending flows from “final demand” (i.e. consumer spending, government spending investment and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain in other words); how much of that spending stays within the economy; and the distribution of income between employment incomes and other income (mainly profits). In essence an input-output model is a table which shows who buys what from whom in the economy.

Figure 5.1: A simple Input-Output model



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