The Economic Impact of Higher Education in Wales

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June 2013
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Report to Higher Education Wales

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Acknowledgements

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Views expressed in this report are those of the authors and not necessarily those of Higher Education Wales.

Viewforth Consulting Ltd is a specialist independent consultancy with extensive expertise in analysis of the economic and social impact of higher and further education, tertiary education policy and knowledge exchange.

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1. Introduction

1.1 The role that universities play in the economy of their host region is a matter of growing interest in the UK and internationally and a number of studies have highlighted the importance of universities as large businesses and the higher education sector as an industry.¹ This study also examines the higher education institutions in Wales as businesses and the sector as an industry. The importance of the universities to Wales can be seen in the same way as any other major sector in the country, providing employment and generating other economic activity. The value of the Welsh HE sector to Wales is also potentially significant in terms of longer term economic and social development.

1.2 This study presents a summary of key economic aspects of the higher education sector in Wales in the academic and financial year ending 2012 and of the sector’s impact on Wales and on the rest of the UK. The study includes the 10 higher education institutions covered in the 2011/2012 Higher Education Statistics Agency (HESA) data together with the central functions of the University of Wales. A list of the included institutions can be found in Appendix 3. 2011/12 is the most recent year for availability of higher education data.

1.3 In the study year the 10 institutions included ranged in size from Cardiff University, with over 27,000 students, to the University of Wales Trinity St David with just over 6,000 students. There is academic provision across all major areas including Arts and Humanities, Creative Industries, Science and Technology, Business, Education, Social Sciences, Medicine and Health care. Many of the Welsh institutions have an international profile and attract students from across the globe to study in Wales. Since the study year there have been announcements regarding the merger of a number of the Welsh institutions (such as that between the University of Wales Trinity Saint David and Swansea Metropolitan University). This is part of an overall Welsh Government drive for reconfiguration of the Welsh higher education sector in order to strengthen regional presence, rationalise some aspects of provision and maximise the benefits arising from public investment in higher education.

1.4 The study examined key economic features of the Welsh higher education sector in the academic and financial year 2011-12, together with those aspects of its contribution to the economy that can be readily measured. Major economic

¹ See, for example, The impact of universities on the UK economy Kelly, McLellan and McNicoll Universities UK 2009
characteristics of the sector were examined, including its revenue, expenditure and employment. The study also included modelled analysis of the economic activity generated in other sectors of the economy through the secondary or ‘knock-on’ effects of the expenditure of the institution, its staff and students. The model used was the most recent version of the Universities UK economic impact modelling system, which was being updated and revised by Viewforth Consulting in Spring 2013. A description of the methodology and data sources used is included as Appendix 1. Overall this summary report presents an up-to-date examination of the quantifiable contribution of the Welsh higher education sector to the Welsh economy, as well as its impact on the rest of the UK.

2. KEY FINDINGS

2.1 Revenue

Figure 1: Sectoral Revenue

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Council Grants</td>
<td>31%</td>
</tr>
<tr>
<td>Tuition Fees, Education Grants &amp; Contracts</td>
<td>34%</td>
</tr>
<tr>
<td>Research Grants &amp; Contracts</td>
<td>13%</td>
</tr>
<tr>
<td>Other Income</td>
<td>21%</td>
</tr>
<tr>
<td>Endowment &amp; Investment Income</td>
<td>1%</td>
</tr>
</tbody>
</table>

Welsh HEI Revenue 2011/2012
Total £1.3 billion

Source: HESA Finance Plus 2011-2012

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2 The Universities UK economic impact modelling system is a purpose-built system, designed for higher education institutions. The current version has been revised and updated by Viewforth Consulting in spring 2013 as part of a project for Universities UK.
• The Welsh higher education sector had total revenue of £1.3 billion in the study year. This was earned for a wide range of educational and related services. This is shown in Figure 1.

• The largest part of sectoral revenue (78%) can be seen as being earned for delivering teaching and research (Funding Council grants, Tuition Fees and Research Income). This is earned from a range of sources including the public sector in the form of ‘core’ funding council grants for teaching and research, individual student fee payments and research contracts with private and international clients. As well as earning money for teaching and research the sector also earns 21% of its income from other services including, for example, consultancy services, the provision of residence and catering services, conference support or facilities hire. Income from endowments and investments (frequently these come from charitable or philanthropic donations) is relatively modest at 1% - this is fairly typical of higher education across the UK. The tradition of philanthropic giving to higher education (such as donations from alumni) is not particularly strong in the UK although many universities are seeking to encourage this through their alumni offices and other fund-raising campaigns.³

• Key strategic aims for the Welsh Government in its support for higher education include maximising the value gained for public money invested in higher education and to “build a strong and competitive Welsh HE sector”.⁴ The public sector remains the largest single source of revenue for the Welsh higher education institutions and has a strong influence over the strategic direction and shape of the sector. However all of the universities are autonomous private bodies (all of the Welsh universities in this study are part of the ‘not-for-profit’ sector and are registered charities) that earn money from a range of sources. Around 48% of university revenue in the study year was estimated as being derived from public sector sources. However only 31% of this was the baseline Funding Council Income which is awarded directly from the Welsh Government through the Higher Education Funding Council for Wales (HEFCW). ‘Other’ public sector income (which can include, for example, Research Council funding, tuition fees paid by public sector

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³ The Cardiff University Alumni Network is a good example, seeking to attract support for research projects, scholarships and bursaries and improved facilities. [http://www.cardiffnetwork.cf.ac.uk/about](http://www.cardiffnetwork.cf.ac.uk/about)

⁴ Letter from the Minister for Education and Skills, 2013 Higher Education Funding Council for Wales Remit Letter 2013-14
agencies, or research and consultancy contracts with public sector bodies) makes up an estimated 17% of total university income. 35% of university revenue comes from the UK private sector and 17% from international sources. Private revenue includes student fee payments (whether made directly by individuals or through loans from the Student Loans Company), payments for other services such as residence and catering, consultancy or research contracts with private firms. International revenue (estimated as amounting to nearly £218 million) can include overseas student fees as well as residence and conference income and research and consultancy contracts with international agencies.

Figure 2. Sectoral Revenue by Broad Source

<table>
<thead>
<tr>
<th>Welsh University Revenue Sources 2011/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total £1.3 billion</td>
</tr>
<tr>
<td>International</td>
</tr>
<tr>
<td>17%</td>
</tr>
<tr>
<td>UK Private Sector</td>
</tr>
<tr>
<td>35%</td>
</tr>
<tr>
<td>Funding Council Grants</td>
</tr>
<tr>
<td>31%</td>
</tr>
<tr>
<td>Other UK Public Sector</td>
</tr>
<tr>
<td>17%</td>
</tr>
</tbody>
</table>

Source: Derived from analysis of HESA Finance Plus 2011-2012

2.2 Export Earnings

- The sector’s international revenue of £218 million together with the estimated off-campus expenditure of international students (£195 million) represents a total of £413 million of export earnings. This is an important contribution to the UK balance of trade.

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5 In this analysis, based on HESA Finance Plus information, tuition fees paid through the Student Loans Company are classed as ‘private’ (or in the relatively small number of cases where they relate to REU domiciled students) as ‘international’, as the payments are made on behalf of specific private individuals who are then responsible for repayment to the SLC.

6 This figure for university international revenue was derived from analysis of HESA 2011/12 finance data and includes non EU fees, income from international research and consultancy together with other services to international customers including, for example, conference accommodation and residence fees paid by international students.

7 Student off-campus expenditure was estimated by drawing on the most recently available Student Income and Expenditure survey for Wales (2007), taking the mean student non-fee expenditure and uprating this to 2011 using the Consumer Price Index. International student expenditure was assumed to be similar to that of domestic students. The estimated expenditure relevant here is of off-campus expenditure i.e. excludes any fee payments to the University; account is also taken of university accommodation charges or other payments to the University e.g. cafeteria etc. Therefore there is no double-counting.
2.3 Employment

- The sector directly provided 16,241 full time equivalent (FTE) jobs across a wide range of occupations. The occupational profile of university employment is shown in Figure 3. Unsurprisingly, academic professions (Professors, Lecturers and researchers) are the largest single type of occupation. However jobs are provided across a very wide range of occupations, including a range of skilled and semi-skilled jobs. This reflects the need to maintain significant university estates including lecture halls, laboratories, offices as well as halls of residence, cafeteria and related facilities for students such as sports facilities. The university sector is a major source of employment in Wales and the employment opportunities it offers are an important element of its role in the Welsh economy.

Figure 3: Occupational Profile of Employment in Welsh HEIs

![Occupational profile of employment in Welsh higher education institutions 2011/2012](chart)

*Source: HESA Staff data 2011-2012*
2.4 Expenditure

- Welsh university expenditure, together with the expenditure of university staff and students generates economic activity through secondary or 'knock-on' effects.
- In 2011-2012 the HESA data shows a total expenditure (including staff salaries) of £1.2 billion.⁸

Figure 4: Sectoral Expenditure

2.5 Students at Welsh HEIs

- There was a total (headcount) student population of 131,185 in 2011/12.⁹
- The sector attracted 25,270 students from outside the UK. As well as paying fees to the university, international students spend money on rent, food and

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⁸ As non-profit institutions, University Institutional expenditure is normally very close to institutional income. Any surplus is reinvested in the institutions.
⁹ Student data is taken from HESA 2011/2012 and uses the HESA student record figure.
other living expenses, much of which accrues to the local area. International student off-campus personal expenditure amounted to an estimated £195 million.

- In addition, the sector attracted nearly 39,000 students from outside Wales, who spent an estimated £301 million on living and personal expenses. The expenditure of these students from outside Wales can be regarded as an injection into the Welsh economy.
- The sector also provided extensive educational opportunities for Welsh students, with 10 higher education institutions across Wales. There were 66,920 Welsh-domiciled students registered at the universities in 2011-2012 and the opportunities provided by the universities meant that these students did not have to go to other parts of the UK, or abroad, to study. In that sense the Welsh higher education played an important role in retaining Welsh students within Wales. This is important of course in terms of increasing the national skills base and the absorptive capacity of Wales.
- It also means that a large proportion of student spending was retained within Wales. Welsh domiciled students spent an estimated £517 million in personal and living expenses.\(^\text{10}\) Attracting students to, and retaining students within, the region is important for local and regional economic development.

### 3. Secondary or ‘Knock-on’ Effects on the Economy

#### 3.1 The higher education sector generates economic impact through its expenditure. Known as ‘knock-on’ effects, this impact is chiefly recognised as occurring in two ways:

- through the universities buying goods and services from a wide range of suppliers (from books and stationery to legal services, laboratory equipment to catering supplies); the suppliers also have to make purchases in order to fulfil the university orders and their suppliers in turn make other purchases and so on, rippling through the economy.
- through the universities paying wages to their employees, who in turn spend their salaries on housing, food and other consumer goods and services. This

\(^{10}\) Student off-campus expenditure was estimated by drawing on the 2007 Student Income and Expenditure Survey for Wales and uprating this to 2011 using the Consumer Price Index. This gave an average non-fee expenditure of £10,307. International student expenditure was assumed to be similar to that of domestic students. The total personal expenditure is further adjusted downwards by 25% to exclude monies that may have been paid to the university for accommodation or other ‘campus’ expenditure. This is to ensure no double-counting. The resultant off campus expenditure estimates are in practice likely to be conservative and hence can be regarded as a minimum.
creates income for employees in other businesses and sectors, who also spend their income and so on.

3.2 In the case of universities that are long established in a particular location, purchasing linkages will be highly developed within their host region (previous studies of universities in the UK have shown that universities have a relatively high propensity to spend on UK, rather than imported, goods and services, generating greater regional economic impact than businesses that rely more heavily on imports). The long established roots of many of the Welsh higher education institutions (with most going back between 100 – 150 years) and their strong local presence will be likely to enhance their impact. Bangor University is a case in point with the university being one of the largest employers in the area and with the university student population nearly reaching that of the city of Bangor itself. This makes the university an important part of the city’s culture and community.

Staff and student expenditure tends to follow a different pattern from institutional expenditure, being more consumer oriented, but while staff and student expenditure will have a higher proportion of expenditure on imported consumer goods and goods from elsewhere in the UK (e.g. through online shopping), there is still an observable reliance on local goods and services – such as cafes, pubs, restaurants, fast food outlets, taxi services or personal services such as hairdressing etc. The ‘snapshot’ analysis of the impact of expenditure will reflect the composition of those linkages.

3.3 In this particular study, the impact of Welsh HEI expenditure on the UK as a whole was modelled and then analysis made of the proportion of that impact accruing to Wales. This took into account the business and industry structure of Wales as well as consideration of purchases that are most likely to be more locally based - for instance the goods and services of local pubs and coffee shops, grocery stores and personal services such as hairdressers.

3.4 Output Generated
- The sector’s output in 2011-2012 was £1.28 billion. Through ‘knock-on’ effects in that year the sector generated an additional £1.76 billion in other

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\(^{12}\) Institutional revenue or ‘turnover’ equates to institutional output.
industries throughout the UK, with the majority (£1.31 billion) accruing in Welsh industries.

Figure 5: Total Output Generated by Welsh HEIs 2011/2012

![Pie chart showing the output generated by Welsh HEIs.]

Source: Viewforth modelling system (2013) analysis

3.5 The impact was spread across a range of other industries, with an emphasis on manufacturing, wholesale and retail, and business activities. The spread of impact is determined by the types of goods and services bought by the universities and their staff – as well as from whom they are bought. A university may buy laboratory equipment direct from a manufacturer, for instance, or through a wholesaler. They may purchase legal services from a local firm of solicitors. University staff expenditure tends to be more oriented towards consumer goods and services, many of these from local companies and shops. Figure 6 shows the pattern of output impact across industries.
3.6 The impact is generated by institutional expenditure. By studying the volume of impact generated by 2011/2012 sectoral expenditure it is possible to calculate ‘multipliers’. Analysis of the output impact enabled Type II output multipliers for the Welsh HEI sector to be derived. These were:

- UK: 2.38
- Wales: 2.03

3.7 In other words, every £1 million of Welsh higher education institutional revenue will generate a further secondary output impact of £1.03 million in Wales plus a further £0.35 million outside Wales, in the rest of the UK.
3.8 Employment Generated

- In addition to directly providing 16,241 full time equivalent (FTE) jobs, university expenditure generated additional jobs in other parts of the economy.
- Over 17,523 more FTE jobs were generated outside the universities. The majority of the additional jobs (nearly 78%) are generated in Wales.

Figure 7: Employment Generated by the Welsh HEIs

![Pie chart showing employment generated by Welsh HEIs 2011/2012. Jobs in Welsh HEIs: 48%, Jobs in other Welsh Industries: 40%, Jobs in the rest of the UK: 12%]

Source: Viewforth modelling system (2013) analysis

3.9 Figure 8 shows the other industries within which the additional jobs would be generated. This pattern of employment generated has a particular emphasis on the wholesale and retail trade, business activities and public administration. This is because of a combination of two major factors – that Welsh higher education institutions had a relatively high output impact in these areas and also that these industries tend to be relatively labour intensive.
3.10 As with the analysis of output impact, it is possible to calculate ‘multiplier’ values.

- The Type II employment multipliers derived for the Welsh higher education sector were observed to be as follows:
  - UK 2.08
  - Wales 1.84
- In other words, for every 100 direct full time equivalent (FTE) jobs created in the university itself, another 108 UK jobs would be generated outside the universities in other industries, 84 of which would be in Wales.
- The total UK employment impact of £1 million received by the Welsh HEIs is 26.47 FTE jobs. Every £1 million of sectoral output\(^\text{13}\) creates:
  - 12.73 FTE jobs directly in the universities
  - plus 10.69 FTE additional (secondary impact or ‘knock-on’) jobs in Wales
  - plus 3.05 FTE secondary impact jobs in the rest of the UK

\(^{13}\) University output is definitionally equivalent to revenue or ‘turnover’.
3.11 The universities’ employment impact on Wales can be seen to be significant, with the sector itself providing 16,241 full time equivalent jobs and its expenditure estimated to generate a further 13,631 jobs in Wales.

3.12 Section 2 (Figure 3) had shown how the sectoral employment profile covers the full range of skill levels. By translating sectoral employment profile into Standard Occupational Classifications it is possible to compare the profile of higher education employment with that generated outside the universities. Figure 9 compares the sectoral occupational profile with that of the employment created outside the higher education institutions in Wales and in the rest of the UK.

**Figure 9: Comparison of the Occupational Profile of the Employment Generated**

![Figure 9: Comparison of the Occupational Profile of the Employment Generated](image)

*Source: Viewforth modelling system (2013) analysis*

As Figure 9 illustrates, higher education employment is relatively specialised in high skilled ‘white collar’ jobs compared to jobs in the rest of the economy. This might be expected from the knowledge intensive nature of university activity. The relatively fewer ‘managerial’ occupations in universities compared to the jobs generated in the

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14 The economic model used is based on 2003 SOC and so to compare like with like we translated university employment into SOC 2003 rather than SOC 2007. At the aggregate 1 digit level the classifications and descriptors are very similar.
rest of the economy will tend to be more of a reflection of how universities classify their own staff – with many academics (who are classed as professionals, rather than managers) undertaking managerial roles.

4. GVA Generated by the Welsh Universities
The importance of higher education to the regional economy can be seen by its generation of significant levels of gross output and employment. However another key measure of the sector’s contribution to the economy is the GVA generated. GVA or ‘Gross Value Added’ is a measure of the value created by the sector – GVA is the industry level measure of GDP (O). GDP (O) is a production measure of the net change in wealth or prosperity in the economy as a whole over the year. The sector’s direct GVA amounted to £829 million and through secondary or ‘knock-on’ effects it generated a further £864 million of GVA in other industries across the UK (£634 million of GVA was related to Welsh industries).

Figure 10: Secondary GVA Generated by the Welsh Higher Education Sector 2011/2012

Source: Viewforth modelling system (2013) analysis
Welsh higher education institutions generated Welsh GVA of £1.46 billion in total (direct plus secondary), which was equivalent to around 3% of all 2011 Welsh GVA.  

16 2011 Welsh GVA was £47.3 billion ( ONS 2012)
5. The Impact of Student Expenditure

5.1 As well as providing educational opportunities for Welsh students, with around half of all students coming from Wales, Welsh universities attract a substantial number of students from the rest of the UK and from overseas. 30% come from the rest of the UK and 20% from other countries. This aspect of Welsh higher education is potentially of considerable value to Wales. The Welsh Government’s higher education strategy *For our Future* (2009) had placed an emphasis on the importance to Wales of the international links created by the Welsh universities, increasing the country’s presence on the world stage with the additional economic and cultural benefits this could bring. HEFCW has drawn up an *International Action Plan* designed to focus sectoral efforts on raising the profile of Welsh higher education, making Wales a destination of choice and attracting highly skilled people and investment as well as encouraging an international outlook among domestic students. The sector is achieving considerable success in attracting students from outside the region and by doing so the higher education sector is contributing, both immediately and in the longer term, to the goal of raising the country’s profile and attracting investment. The students themselves can be regarded as ‘long stay visitors’, spending money in the region. They also attract and regularly pull in short stay leisure visitors (parents, relations, and friends) who spend money on hotel accommodation and local amenities. Active alumni networks can also help make such benefits a longer lasting phenomenon, attracting alumni back to the region and building international links.

*Figure 11: Welsh University Student Profile by Domicile of Origin*

<table>
<thead>
<tr>
<th>Domicile of Origin</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wales</td>
<td>51%</td>
</tr>
<tr>
<td>Rest of UK</td>
<td>30%</td>
</tr>
<tr>
<td>Rest of EU</td>
<td>4%</td>
</tr>
<tr>
<td>Rest of World</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: HESA Students in higher education 2011/2012
5.2 International Student Expenditure
The current strength of Welsh higher education institutions in attracting students from further afield to study in the region also means they are attracting additional money into the region and boosting export earnings.

- In 2011/12 Welsh universities attracted over 25,270 students from outside the UK. The fees paid by international students to the universities are captured in the university accounts and their impact is included in analysis of the overall institutional impact at sectoral level. (Non EU students alone paid the universities nearly £118 million in fee income in 2011/12). Payments to the universities for Halls of Residence Accommodation, or money spent in university cafeterias, bars etc are likewise captured in the institutional impact. However, in addition to any fees or other monies they pay to the university, international students spend money off-campus. This can be on private sector rental, food, entertainment, consumer goods, travel etc. In 2011/12 this off-campus expenditure of international students was estimated as £195 million. In this context ‘international’ includes both students from the rest of the EU and non-EU students, as all of their personal expenditure can be regarded as an injection into the UK economy and are export earnings.

- The off-campus expenditure of international students generated £274 million of output (of which £205 million was in Wales) and over 2,321 full time jobs throughout the UK (of which 1,720 were in Wales.) The international student expenditure generated £127 million of GVA in the UK (£92.7 million in Wales).

5.3 Students From the Rest of the UK

- In 2011/12, there were 38,995 students from outside Wales registered at Welsh higher education institutions. The expenditure of students from outside Wales - while it is not additional to the UK economy as a whole - can be regarded as an injection into the Welsh economy. Consideration of this element of impact is legitimate in terms of regional policy evaluation.

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17 Student off-campus expenditure was estimated by drawing on the 2007 Student Income and Expenditure Survey for Wales and uprating this to 2011 using the CPI. This gave an average non-fee expenditure of £10.307. The total personal expenditure is further adjusted downwards by 25% to exclude monies that may have been paid to the university for accommodation or other ‘campus’ expenditure. This is to ensure no double-counting. The resultant off-campus expenditure estimates are in practice likely to be conservative and hence can be regarded as a minimum.

18 Source: HESA Students 2011/12
The off-campus expenditure of the 38,995 students from the rest of the UK studying at Welsh higher education institutions was estimated to be £301 million.

This off-campus expenditure of students from the rest of the UK generated £317 million of output in Wales and over 2,654 jobs in Wales.

The off-campus expenditure of students from the rest of the UK generated £143 million of Welsh GVA.

5.4 Welsh Students One of the distinctive aspects of the Welsh higher education sector is its strong Welsh identity and its commitment to raising the skills base of Wales through providing educational opportunities to domestic residents, thereby ensuring they have access to higher education without having to leave Wales. This can be of particular importance in more rural or remote areas such as the North West of Wales (and there is an ongoing review which is examining the importance of achieving regional coherence and ensuring access to higher education in North West Wales, including promoting links between further education colleges and the universities.)\(^{19}\) In 2011/12, 66,920 Welsh-domiciled students studied at Welsh universities. The expenditure of students from Wales is not additional to the Welsh economy. However there is an arguable case that the universities ensure that this expenditure is retained within the region, rather than the students moving away from Wales. Student expenditure can be very important to the local and regional economy and is always seen by local businesses as a core part of their own revenue stream. There is a visible impact on the areas surrounding a university. The most casual observer can see the plethora of bars, cafes and shops and other services that spring up to serve the student population. Local landlords also benefit from the need for rented accommodation. Therefore it is worth analysing the impact of domestic student expenditure because its immediate impact can be very real at a local level.

The off-campus expenditure of Welsh domiciled students studying at Welsh universities was estimated to be £517 million.

The off-campus expenditure of these students generated £544 million of output and over 4,555 jobs in Wales. Much of this impact is likely to accrue to the area closest to the universities (e.g. in local bars, cafes and clubs, on local public transport and taxis, etc).

The off-campus personal expenditure of Welsh students generated £246 million of Welsh GVA.

\(^{19}\) The Review of Higher Education Provision in North East Wales, chaired by Sir Adrian Webb
6. Conclusions

6.1 This study focussed on Welsh higher education institutions as businesses and the Welsh higher education sector as an industry in itself, generating jobs and output through its expenditure. A summary of the results for the modelled analysis are summarised in Figures 12 and 13. The study shows Welsh higher education to be of significant economic importance to Wales bringing immediate benefits to the country in terms of output generated and jobs created.

Figure 12: The Total Impact of Welsh Higher Education Activity in 2011/12: Summary of Output Generated

<table>
<thead>
<tr>
<th></th>
<th>Direct ( £M)</th>
<th>'Knock-on' Impact on UK*</th>
<th>Of Which Accruing to Wales</th>
<th>Total UK Impact (Direct &amp; ‘Knock-on’)</th>
<th>Total Impact on Wales (Direct &amp; ‘Knock-on’)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welsh HEIs</td>
<td>1275</td>
<td>1763</td>
<td>1318</td>
<td>3038</td>
<td>2593</td>
</tr>
<tr>
<td>Plus International Students</td>
<td>0</td>
<td>274</td>
<td>205</td>
<td>274</td>
<td>205</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1275</td>
<td>2037</td>
<td>1523</td>
<td>3312</td>
<td>2798</td>
</tr>
<tr>
<td>Plus Rest of UK Students</td>
<td>0</td>
<td>317*</td>
<td>317</td>
<td>317</td>
<td>317</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1275</td>
<td>2354</td>
<td>1840</td>
<td>3629</td>
<td>3115</td>
</tr>
<tr>
<td>Plus Welsh domiciled students</td>
<td>0</td>
<td>544*</td>
<td>544</td>
<td>544</td>
<td>544</td>
</tr>
<tr>
<td>Total Combined Impact</td>
<td>1275</td>
<td>2898</td>
<td>2383</td>
<td>4173</td>
<td>3659</td>
</tr>
</tbody>
</table>

* Because of the wider displacement effects of domestic student expenditure (as discussed in section 5.3 - 5.4) the 'knock-on' impact of domestic student expenditure only on the UK is defined to be identically equal to the estimated impact on Wales
Figure 13: The Total Impact of Welsh Higher Education in 2011/12: Summary of Employment Generated

<table>
<thead>
<tr>
<th></th>
<th>Direct employment (FTEs)</th>
<th>‘Knock-on’ Impact on UK*</th>
<th>Of Which Accruing to Wales</th>
<th>Total UK Impact (Direct &amp; ‘Knock-on’)</th>
<th>Total Impact on Wales (Direct &amp; ‘Knock-on’)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welsh HEIs</td>
<td>16241</td>
<td>17523</td>
<td>13631</td>
<td>33764</td>
<td>29872</td>
</tr>
<tr>
<td>Plus International Students</td>
<td>0</td>
<td>2321</td>
<td>1720</td>
<td>2321</td>
<td>1720</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>16241</strong></td>
<td><strong>19844</strong></td>
<td><strong>15352</strong></td>
<td><strong>36085</strong></td>
<td><strong>31593</strong></td>
</tr>
<tr>
<td>Plus Rest of UK Students</td>
<td>0</td>
<td>2654*</td>
<td>2654</td>
<td>2654</td>
<td>2654</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>16241</strong></td>
<td><strong>22498</strong></td>
<td><strong>18006</strong></td>
<td><strong>38739</strong></td>
<td><strong>34247</strong></td>
</tr>
<tr>
<td>Plus Welsh domiciled students</td>
<td>0</td>
<td>4555*</td>
<td>4555</td>
<td>4555</td>
<td>4555</td>
</tr>
<tr>
<td><strong>Total Combined Impact</strong></td>
<td><strong>16241</strong></td>
<td><strong>27053</strong></td>
<td><strong>22561</strong></td>
<td><strong>43294</strong></td>
<td><strong>38802</strong></td>
</tr>
</tbody>
</table>

* Because of the wider displacement effects of domestic student expenditure (as discussed in section 5.3 - 5.4) the knock-on impact of domestic student expenditure only on the UK is defined to be identically equal to the estimated impact on Wales.

Figure 14: The Total Impact of Welsh Higher Education Activity in 2011/12: summary of Welsh GVA

<table>
<thead>
<tr>
<th></th>
<th>£ Million</th>
<th>REGIONAL GVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direct</td>
<td>Secondary*</td>
</tr>
<tr>
<td>Welsh HEIs</td>
<td>828.71</td>
<td>634.33</td>
</tr>
<tr>
<td>International Students</td>
<td>92.69</td>
<td>92.69</td>
</tr>
<tr>
<td>Students from Rest of UK</td>
<td>143.03</td>
<td>143.03</td>
</tr>
<tr>
<td>Students from Wales</td>
<td>245.46</td>
<td>245.46</td>
</tr>
<tr>
<td><strong>TOTAL Welsh GVA</strong></td>
<td>1115.51</td>
<td>1944.22</td>
</tr>
</tbody>
</table>

Source: Derived from University accounts from HESA Finance Plus 2011/12 together with analysis of the secondary impacts modelled in the Viewforth modelling system.
6.2 Key points to note include:

- Higher education institutions in Wales directly employ 16,241 people in occupations spanning the whole spectrum of skills and qualifications. Through ‘knock-on’ effects an additional 17,523 FTE jobs are created in other industries across the UK, with 13,631 of these in Wales.
- Institutional expenditure generates substantial additional employment, output and GVA in other industries in Wales and in other parts of the UK.
- The sector operates in a global market, attracting students from outside the UK and thereby generating export earnings. The off-campus expenditure of international students creates an additional 2,321 jobs across the UK, with 1,720 in Wales.
- The university also attracts a significant proportion of students from the rest of the UK, which brings additional benefits to the local and regional economies, generating 2,654 jobs in Wales through their off-campus expenditure.
- The university’s provision of educational opportunities for Welsh students and the sector’s commitment to promoting the Welsh economy and community has meant that it also retains significant numbers of students in Wales who may otherwise have left to study elsewhere. The off-campus and personal expenditure of Welsh students is substantial, and this may be regarded as having been retained within Wales and supporting 4,555 jobs.
- The total employment generated in the Wales by the higher education institutions, their staff and students amounted to over 43,294 jobs, around 38,800 of which are in Wales. This was equivalent to around 2.9% of 2011 Welsh employment.  
- Welsh universities, together with their students, generated Welsh GVA of over £1.9 billion, equivalent to 4% of total 2011 Welsh GVA.  

5.3 This study demonstrates the baseline economic impact of the Welsh universities as large businesses and large employers. Welsh higher education is undergoing significant change in terms of its configuration and organisation, with the Welsh Government aiming to create ‘a stronger and more competitive sector’, to increase the regional coherence of provision, to maximise the value for public money invested,

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20 Oct-Dec 2011 Welsh employment stood at 1,343,000 (Nomis Web from LFS)
21 Total Welsh GVA in 2011 was £47.3 billion (ONS 2012)
22 HEFCW Remit Letter 2013-14
provide wider educational opportunities for Welsh citizens and to support economic
growth and innovation potential.

5.4 This study highlights that while the sector is of considerable importance to
Wales in supporting economic development through education and research it is also
a major economic actor and industry in itself, generating output, jobs and GVA,
supporting communities across Wales. The results clearly demonstrate that,
irrespective of any wider impact generated by the nature of higher education
activities, higher education institutional expenditure and that of higher education staff
and students have an immediate positive economic impact and this impact is
significant for Wales, with spillover benefits for other parts of the UK.
Appendix 1: Methodology and Data Sources

The primary focus of the study was the Welsh higher education sector as an industry and the impact generated by its activity during the academic and financial year 2011-2012. The study also examined the impact of the off-campus expenditure of international students who were studying at Welsh higher education institutions in that year. It also analysed the additional injection into the regional economy of the expenditure of students from the rest of the UK (i.e. from outside Wales). A further analysis was undertaken of the impact of off-campus expenditure of Welsh-domiciled students, as the Welsh higher education sector may have retained them, and their expenditure, in the region rather than them leaving to study elsewhere.

The study utilised a two-stage approach to the estimation of the economic impact of the Welsh higher education sector. The impact of Welsh higher education on the UK economy was modelled, using a purpose-designed economic model of the UK. Analysis was then undertaken, using a Location Quotient approach, to estimate the share of the institutional impact on the UK likely to have accrued to Wales.

The model used was a ‘Type II’ input-output model based on actual UK data derived from the UK Input-Output Tables (Office of National Statistics) together with Labour Force Survey and Annual Business Inquiry data and the 2008 UK Bluebook. The modelling system has been updated in 2013 to reflect productivity increases and related economic changes. Additional data sources include the Producers’ Prices Index, ONS Regional Accounts and Local Area Data from the ONS including the Business Register and Employment Survey and other regional labour market data from nomisweb.co.uk. The core modelling system is based on SOC 2003 and SIC 2003 classifications and this has been used for the 1 digit aggregate presentation of results. The modelling system used was purpose-designed for UK higher education institutions and is the most recent version of the Universities UK modelling system. The technical specification for the model is included in The impact of universities on the UK economy Kelly, McLellan and McNicoll Universities UK 2009.

In this context ‘international students’ refers to all students whose permanent domicile is recorded as outside the UK, including other parts of the EU as well as non EU students.
Appendix 2: References and Bibliography

Higher Education Statistics Agency (HESA) 2011/12 publications on Finance, Staff and Students

Higher Education Funding Council for Wales: *International Action Plan for Wales*

Kelly, McLellan and McNicoll Universities UK 2006 *The economic impact of UK higher education institutions*

Kelly, McLellan and McNicoll Universities UK 2009 *The impact of universities on the UK economy.*

Kelly, McLellan and McNicoll Universities UK 2006 & 2009 *The Universities UK economic impact modelling system*

Nomisweb (www.nomisweb.co.uk)


Office of National Statistics Regional Accounts

Office of National Statistics Regional Summary of Labour Markets Headline Indicators

Office of National Statistics Business Register and Employment Survey (BRES)


Welsh Government Review of Higher Education in Wales (Phase 2) 2009


Welsh Government: *Statement on the Review of Higher Education Provision in North East Wales (February 2012)*
Appendix 3: Institutions Included in the Study

Aberystwyth University
Bangor University
Cardiff University
Cardiff Metropolitan University
University of Glamorgan
Glyndŵr University
The University of Wales, Newport
Swansea Metropolitan University
Swansea University
The University of Wales Trinity Saint David
The University of Wales (central functions)