

OXFORD ECONOMICS

The impact of the University of Birmingham

A report for the University of Birmingham
April 2013



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Executive Summary

The University as an educator...

The University of Birmingham draws students from all over the UK and the rest of the world to study at its Edgbaston campus. In 2011/12, its **27,800 students represented over 150 nationalities**. The attraction of the University led over 20,700 students to move to or remain in Birmingham to study. At a regional level, it is estimated that the University attracted 22,400 people to either move to, or stay in the West Midlands to study in 2011/12.

The University not only attracts students to the city and region; the introduction it provides to the region also **encourages graduates to remain in the area** when they have finished their studies. Although under a quarter of students originally came from the West Midlands, over 40% of the 2010/11 graduating class who had found employment within six months were working in the region.

The graduates the University produces not only add their skills to the region's workforce; they also **fill key worker positions** in the West Midlands. Over a third of the 2010/11 graduating class working in the region was employed in socially significant roles, such as teachers, social workers and doctors; University graduates represented almost a quarter of trainee doctors and one third of trainee anaesthetists in the region.

The University as an employer...

The University is one of the largest employers in Birmingham and the West Midlands. The 6,146 people it employed in 2011/12 represented **1.2% of total employment in Birmingham**, making it larger than any private sector employer in the city. The University's workforce is highly skilled, with 70% of staff holding at least first degree and 40% having completed a doctorate.

As well as being large, employment at the University is also more stable than in Birmingham as a whole. This means that the University acts to **mitigate the effects of the recession** on the city and region.

The economic impact of the University...

The University contributes to the economies of Birmingham and the West Midlands through its own activities, its capital spending, the subsistence spending of the students it attracts to the region, the spending of visitors to these students and the spending of visitors to the University's cultural assets. Each of these contributions stimulates further activity in supply chains throughout the city and region, and the wage-induced spending of those people employed as a result of the University's existence.

Impact on the West Midlands

The University generated over £1 billion in additional spending in the West Midlands in 2011/12, translating to a **£530 million value-added contribution** to the region's economy and supporting **11,830 jobs**. The University's value-added contribution to the West Midlands economy was almost double that of the region's eight largest football clubs.¹

¹ The eight clubs are: Aston Villa, Birmingham City, Coventry City, Shrewsbury Town, Stoke City, Walsall, West Bromwich Albion and Wolverhampton Wanderers.

The University's impact on the West Midlands in 2011/12 was comprised of:

- A £377 million value-added contribution as a result of the University's operations and sourcing of goods and services from businesses located in the West Midlands. This is estimated to have supported over 7,900 jobs in the region in 2011/12.
- The University's capital expenditure in 2011/12 amounted to £51 million. This spending generated a value-added contribution of £14 million to the region's economy and supported as estimated 620 local jobs.
- The 22,400 students attracted to either move to, or stay in the West Midlands to study at the University made subsistence purchases worth £257 million from local businesses in 2011/12. This everyday spending supported an estimated 3,100 jobs in the region and contributed over £130 million in value added to the West Midlands economy in 2011/12.
- In 2011/12 these visitors to these students are estimated to have spent almost £4.6 million in the region's hotels, restaurants and retail sectors. This spending generated a total value-added contribution of £2.5 million in 2011/12, and is estimated to have supported almost 100 jobs.
- Over 140,000 people visited the University's cultural attractions in 2011/12, spending an estimated £5 million (in addition to spending at the attractions, which is captured in the University's operations). This spending supported an estimated 95 jobs in the region, and generated a value-added contribution of £3 million to the West Midlands economy.

Impact on Birmingham

In total, the University generated a value-added contribution of over £460 million to Birmingham's economy in 2011/12. This is equivalent to **2.2% of the city's economy**. The University supported almost 9,650 jobs in Birmingham in 2011/12 – equivalent to **one in every 50 jobs in the city**.

In 2011/12 the University's footprint on the on the city of Birmingham consisted of:

- A value-added contribution of £345 million and an estimated 7,900 jobs supported in the city due to the University's operations.
- 450 jobs were estimated to have been supported in the city through the University's capital spending, with £3 million in value added contributed to the city's economy.
- Almost 21,000 students were attracted to, or remained living in Birmingham in 2011/12 due to the University. Together, they spent £238 million in local businesses, generating a value-added contribution of £110 million and supporting an estimated 2,150 jobs in the city.
- Visitors to these students are estimated to have spent £4.4 million in the city, supporting an estimated 65 jobs and generated a value-added contribution of £2.1 million in 2011/12, supporting almost 100 jobs.
- Visitors to the University's cultural attractions spent £5 million in the city in 2011/12, generating a £2.6 million value-added contribution to the city's economy and estimated to have supported 80 jobs in the city.

The University as a research hub...

The University has a **long history of pioneering research** – a tradition that is continuing today. The University is the highest ranked institution for research in the region, and 12th in the UK overall. Highlights from the most recent Research Assessment Exercise showed that 90% of the University's research has global reach, meaning it is recognised internationally in terms of its originality, significance and rigour.

The level of research at the University continues apace. In 2011/12 the University received research funding worth £146 million – equivalent to 45% of all funding research at HEIs in the West

Midlands. In 2011, academics and students at the University published or created 4,827 outputs, two-thirds of which were published in academic journals.

The impact of the University's research is demonstrated by the 57 records of invention that were recorded at the University and six new patent applications that were filed between August 2011 and January 2012. In addition, the University's existing portfolio of 19 spinout companies is likely to increase over the coming years with six new spinout opportunities currently under investigation.

The University as an international gateway...

As well as directly benefitting the economy, the University plays a key role as an international gateway for the city and region.

Graduates who return to their homes abroad can act as **informal ambassadors**, recommending that friends and family attend the University and visit Birmingham, the West Midlands and the UK. According to a survey conducted by Oxford Economics, 79% of graduates living abroad have recommended studying at the University of Birmingham and 63% of graduates living abroad have recommended visiting Birmingham and the West Midlands.

Furthermore, **conferences held at the University** that generate significant academic and media interest can raise the profile of the University and region, potentially attracting more students, academics and visitors to the city. In 2011/12 over 75,000 people attended conferences at the University of Birmingham, a quarter of whom attended conferences of national or international importance.

A final channel through which the University acts as an international gateway is the **media coverage** it can provide for the city and region. Over 4,000 articles have mentioned the University of Birmingham in 2011/12, and nearly four-fifths of those articles were published in North America, India, China, or Brazil. The 'advertising-rate equivalent' value of media coverage of the University of Birmingham, calculated using global advertising rates, is estimated at almost £8 million in 2011/12.

The University as a neighbour...

The impact of the University on its community extends beyond its economic impact and the skills its graduates contribute to the region's labour force.

The University works to **widen participation in higher education**, providing opportunities to all. By targeting students whose parents have no higher education qualifications and who come from lower socioeconomic backgrounds, the University is actively engaging a population that research shows are much less likely to attend university and realise their full academic potential, which in turn diminishes their likely life-time earnings.

Over the last 5 years over 2,600 pupils, primarily in the West Midlands, have enrolled in the *Access to Birmingham* programme. In 2011-2012, 74% of A2B participants lived in areas classified as disadvantaged. Furthermore, 71% of participants lived in areas where less than a quarter of adults hold a higher education qualification. Despite coming from deprived areas, A2B students achieve higher results than average students at the University.

Students at the University of Birmingham are **keen volunteers**, with over one in seven volunteering at some point in 2011/12, giving over 60,000 hours of time (equivalent to almost 7 years) in the course of the year.

The benefits from volunteering are two-fold. Local organisations are provided with the means to increase their capacity and capabilities, offering a greater level of service to the community – the value of this in-kind contribution was £575,000 in 2011/12. The students themselves see volunteering as a key means of personal development and a major boost to their employment prospects when they have left the University.

The University's **facilities provide benefits to student, staff and the local community**. In many cases the quality of the amenities offered cannot be matched in either the city or region. The current development of the new sports centre on the University's Edgbaston campus is one such facility.

Construction of the new centre is estimated to generate a value-added contribution of £3.4 million to the city's economy, supporting 450 jobs during the construction period. However, the benefit of the sports centre extends beyond the impact of construction. By enabling more people to undertake physical activity society may enjoy savings through lower costs to the NHS, less lost productivity due to illness and fewer premature deaths. It is estimated that the combined savings to society resulting from membership of the new sports centre will amount to £2.8 million annually, of which £1.4 million are only possible due to the increased capacity offered by the new centre.

1 Introduction

A university holds a prominent role in its community. Its students and staff frequent local businesses and add to the diversity of the area; they act as informal ambassadors raising the overseas profile of the university and area; they can support and sustain community groups through volunteering; and, having graduated, they may add their newly-acquired skills to the local labour market. The university itself is a major employer, both through the people it directly employs and those whose employment it supports through its purchases of goods and services; the university can encourage students from families with little experience of higher education to continue their studies; and, the research conducted at the university can have far reaching benefits for society as a whole.

Since its founding in 1900, over 280,000 students have come to study at the University of Birmingham. Centred on its Edgbaston campus – the first university campus in the UK – the University regularly ranks amongst the best in the UK, particularly for the research it conducts; its staff and alumni have claimed eight Nobel prizes and 90% of its research was deemed to have global reach in 2008.² Such research has a significant impact long-term impact; however the University has a more immediate and quantifiable impact on the city of Birmingham and the West Midlands region through the people it employs, and the purchases it and its students make from local businesses. The University also makes a contribution – albeit less tangible – through its role as a promoter of the city and region, and the benefits it brings to the local community through the volunteering of its students and its schemes to enhance participation in higher education.

1.1 Purpose of report

This report investigates the economic and social impact of the University of Birmingham on the city of Birmingham and the West Midlands region. Where possible it quantifies these impacts for 2011/12 academic year.³

The main body of this report is divided into six sections structured to highlight the different ways the University contributes to the local economy. The sections are ordered as follows:

- Chapter 2 explores the function of the **University as an educator**, detailing the composition of the current student body and the role alumni play in the labour market.
- Chapter 3 highlights the role played by the **University as an employer**.
- Chapter 4 calculates the **economic impact of the University**, through its current and capital spending, the spending of its students, and the spending of visitors to the University and its students.
- Chapter 5 outlines the position of the **University as a research hub**.
- Chapter 6 assesses the **University as an international gateway** for the city and region, through the actions of its alumni, the conferences it hosts and the media coverage it generates.
- Chapter 7 focuses on the benefits received by the local community through having the **University as a neighbour**, in particular the University's schemes for widening access to

² 2008 Research Assessment Exercise

³ The University of Birmingham's financial year operates from 1st August to 31st July. The period considered in the study is, therefore, August 2011 to July 2012.

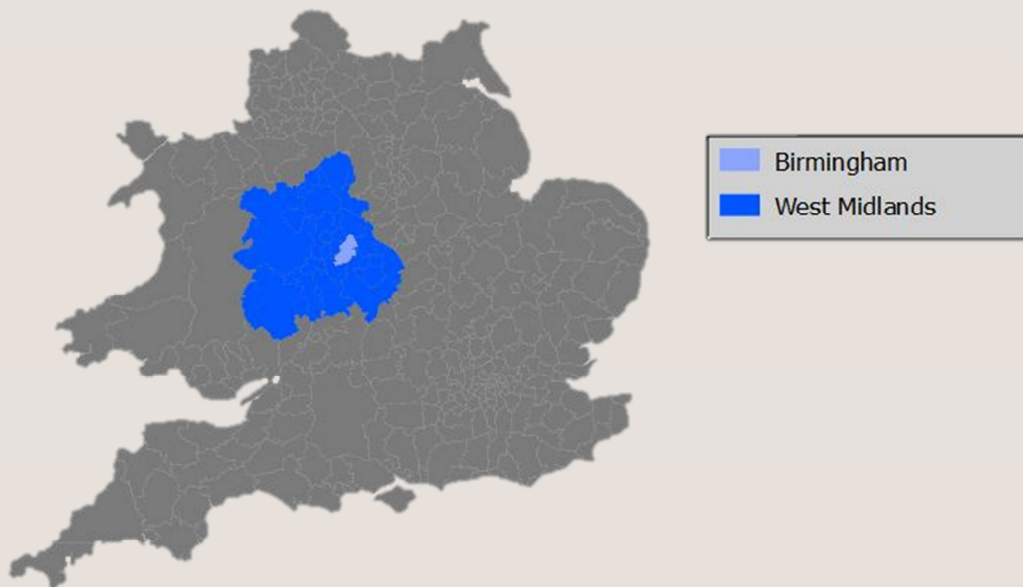
education, the value of student volunteering and the benefits derived from the University's facilities.

Defining the geographical areas of consideration

Throughout this study the city of Birmingham is defined as the area covered by the Birmingham Metropolitan District (shaded light blue in Figure 1.1). According to the 2011 Census, 1.1 million people lived in the city, of whom 450,000 were economically active. In 2007 almost 24,000 VAT registered businesses were located in the city.⁴

The definition of the West Midlands region is that formerly used by the Office for National Statistics (ONS) as the West Midlands Government Office Region. In 2011, the population of the region was 5.6 million. Of whom, almost 2.8 million were economically active.

Figure 1.1: Birmingham and the West Midlands



It should be noted that as the city of Birmingham is a part of the West Midlands region, any impacts quoted for the West Midlands are inclusive of the impact on the city.

⁴ ONS Local Authority Profiles (www.nomisweb.co.uk)

2 The University as an educator

2.1 The student body in 2011/12

Key points

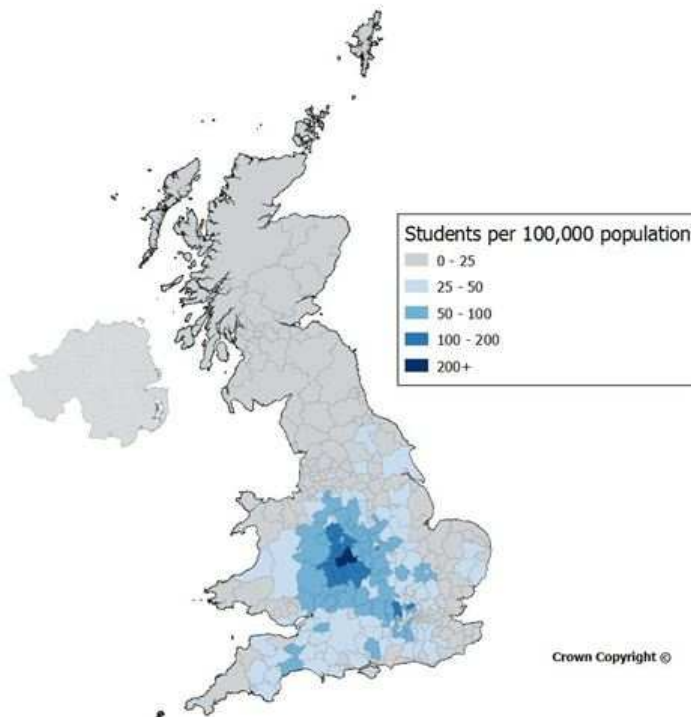
- In 2011/12, almost 27,800 students were enrolled in study programmes at the University. Even though three-quarters of students were from the UK, the student body was extremely diverse, with over 150 nationalities represented.
- The University had a higher proportion of postgraduate students (32%) than all the HEIs in the UK as a whole (20%), reflecting the University's reputation for high quality research. A third of students were studying courses in the College of Social Sciences, with a further 39% studying either in the Colleges of Arts and Law, or Engineering and Physical Sciences.
- While studying at the University, 21,100 students lived in Birmingham in 2011/12. It is estimated that over 20,700 of these would not have lived in Birmingham if the University did not exist. At a regional level, it is estimated that the University attracted 22,400 people to either move to, or stay in the West Midlands to study in 2011/12.

In 2011/12, almost 27,800 students were registered on a course at the University of Birmingham. Higher Education Statistics Agency (HESA) data indicate this is almost 40% of all students studying in Birmingham and more than one-in-every seven students enrolled at Higher Education Institutions (HEIs) in the West Midlands region.

2.1.1 Where students came from

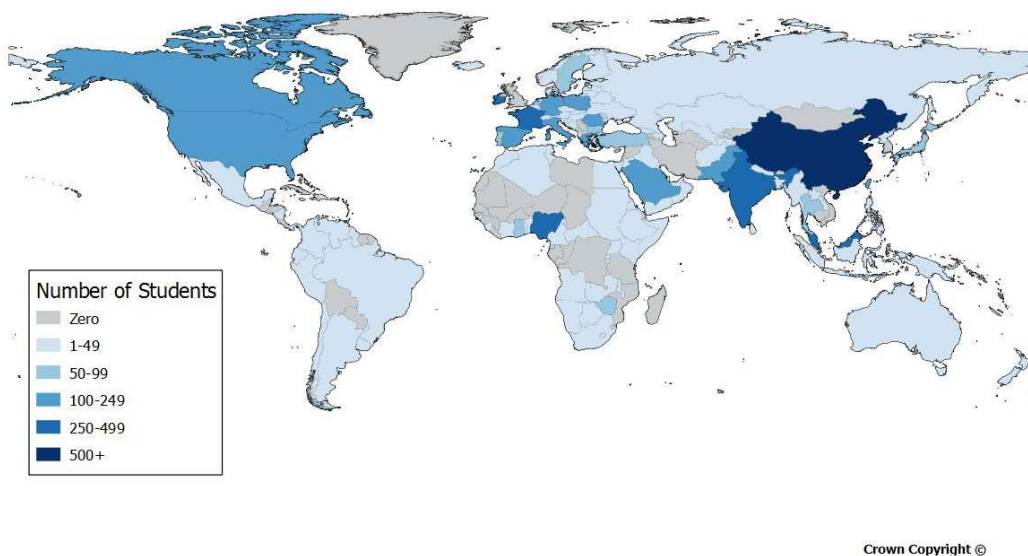
Three-quarters of the student body were from the UK, with the largest number of students drawn from the West Midlands (35%). A further 13% and 10% came from the South East and London, respectively. While the majority of students came from the major population centres in the UK, a further measure of the University's draw is its penetration rate across the UK (measured as the number of students per 100,000 of population). This indicates that while penetration is greatest in the local authority districts closest to the University, and remains high in the West Midlands, the University attracts a disproportionately high number of students from the North West, East Midlands, the South East and London (Figure 2.1).

Figure 2.1: Student penetration rate of University of Birmingham in 2011/12



While the majority of students were UK nationals, the student body was highly diverse with over 150 nationalities represented. The nationality providing the largest share of the overseas student body was China (23%), the rest of Asia accounted for a further 21% (Figure 2.2). EU nations (excluding the UK) supplied 27% of non-UK students, and Africa, North America and South America accounted for 9%, 7% and 1%, respectively.

Figure 2.2: Nationalities of non-UK students at the University of Birmingham in 2011/12

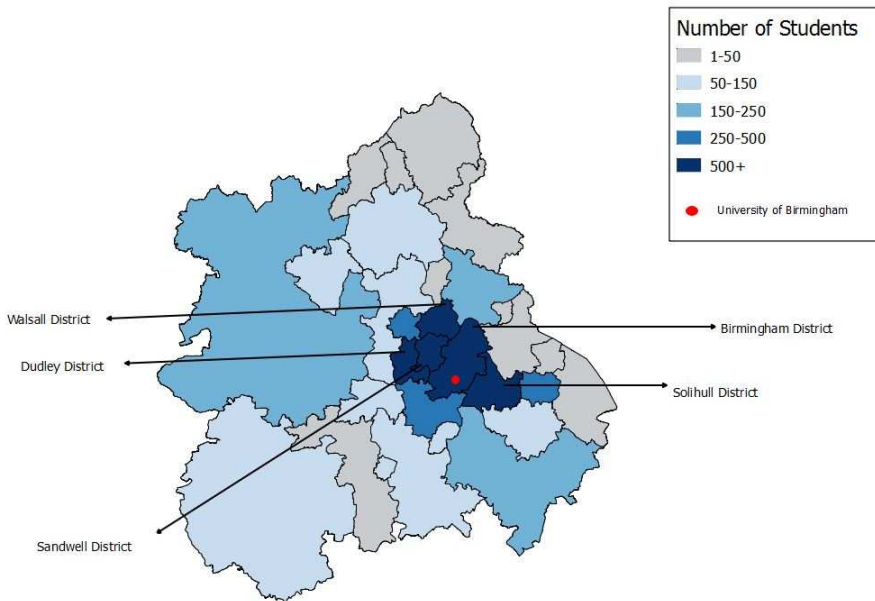


2.1.2 Where students lived in term-time

University data on term-time addresses indicate that in 2011/12 21,100 students lived in the Birmingham while they studied at the University. Oxford Economics estimate that over 20,700 of these would have lived elsewhere if the University did not exist.⁵

In addition to Birmingham, significant numbers of students lived in the surrounding districts of Dudley, Sandwell, Solihull, and Walsall (Figure 2.3). In total, 24,200 students lived in the West Midlands region while studying in 2011/12. It is estimated 22,400 of these would have lived elsewhere were it not for the University.

Figure 2.3: Distribution of students' term-time addresses in 2011/12



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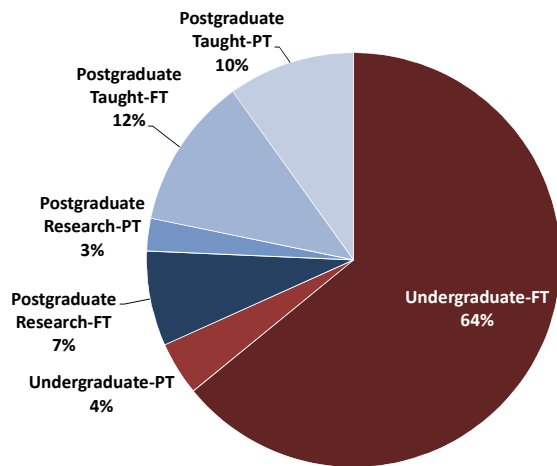
2.1.3 What students studied

HESA data suggests students at the University are more likely to be postgraduates than is the case for all universities across the UK, with 32% of University of Birmingham students undertaking postgraduate courses, compared with around 20% for all universities in the UK as a whole.

Of the almost 19,000 students engaged in an undergraduate course in 2011/12, 94% studied on a full time basis (Chart 2.1). This compares to 61% of the 8,800 postgraduate students. Most (69%) of those studying for a postgraduate qualification were undertaking taught courses.

⁵ See Section 4.4 for further details on the method used to determine the number of additional students the University attracted to Birmingham and the West Midlands.

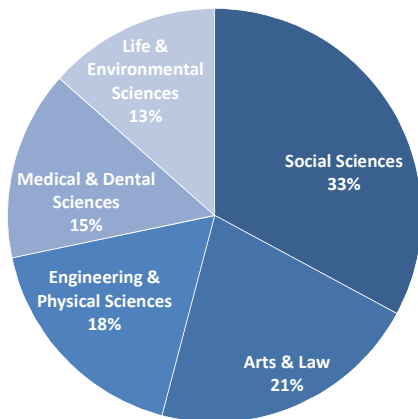
Chart 2.1: The University of Birmingham’s student population by study mode in 2011/12



Source: University of Birmingham

The most popular field of study at the University in 2011/12 was social sciences, accounting for one third of all students (Chart 2.2). Courses in arts and law accounted for one in five students and medical and dental sciences 15% of the student body.

Chart 2.2: The University of Birmingham’s student population by study mode in 2011/12



Source: University of Birmingham

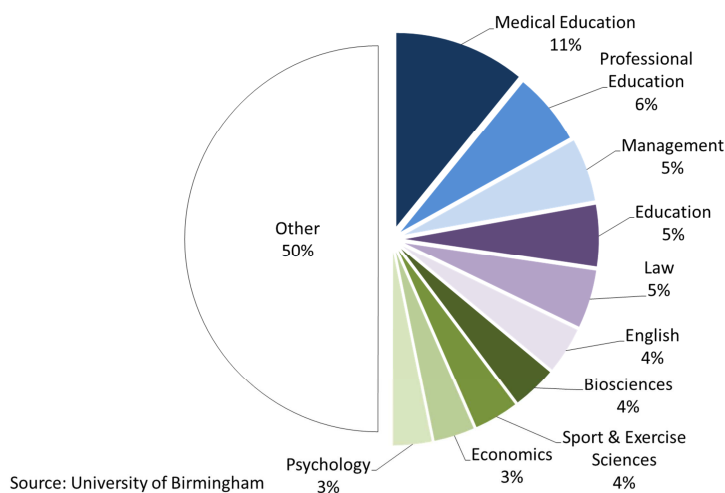
2.2 University of Birmingham alumni

Key points

- Since 1900, the University of Birmingham has produced nearly 270,000 graduates, with 96,000 of those graduating between 2002-2010.
- The University attracts and retains talent in the region. Of those who were already living in Birmingham prior to entry to the University, nearly 40% remained to work in Birmingham after completing their studies, while one in ten individuals not living in Birmingham prior to studying there were working in the city after graduating.
- The unemployment rate for recent University of Birmingham graduates, at 7.3%, is significantly lower than the unemployment rate for those aged 18-24 in the UK overall (19.7% in 2011/12)
- Over one third of 2010/11 graduates were working in 'socially significant' occupations (such as doctors, nurses, or teachers) within six months of graduation, while on average, 6.4% of University of Birmingham graduates are acting as CEOs, directors, board members, owners, or in similar leadership roles at any given time.

In 2011/12, 8,833 students graduated from the University of Birmingham. They undertook courses in a broad range of subjects, including medical education (11%), professional education (6%), management (5%), education (5%), and law (4%). A further 12% were split evenly between English, biosciences, and sport and exercise sciences (Chart 2.3).

Chart 2.3: Courses taken by University of Birmingham graduates in 2011/12



2.2.1 The University as a supplier of skilled labour into the local and regional workforce

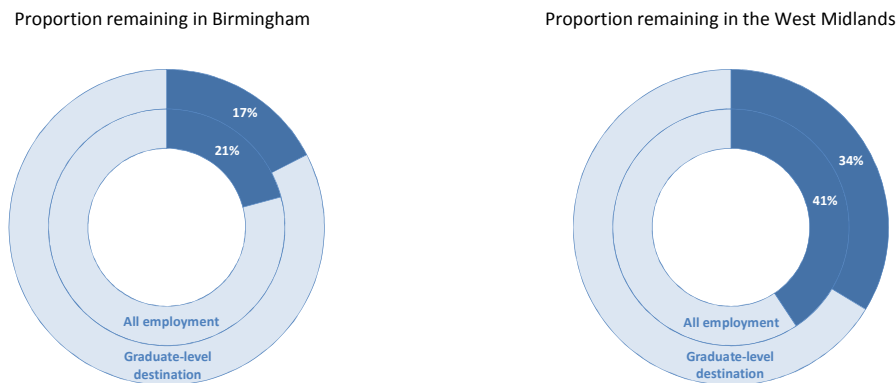
Since 1900, the University of Birmingham has produced over 270,000 graduates, with 96,000 of those graduating between 2002 and 2010.⁶ Many of the University's graduates go on to pursue careers within the UK, and among those many will go on to work within Birmingham or the West Midlands, contributing to these economies. To analyse graduates' labour market activities six

⁶ Source: University of Birmingham (2012).

months after graduation, *Destination of Leavers from Higher Education* (DLHE) surveys are conducted annually by all UK universities. This data provides postcode data for graduates' employers, which can then be contrasted with postcodes on entry to the University to determine the extent to which the University attracts and retains graduates for employment in the West Midlands.

Based on 2010/11 DHLE data (the most recent available) it is estimated that 21% of the alumni who were in employment 6 months after graduating from the University were working in Birmingham (Chart 2.4). Four in ten of all employed recent graduates were working in the West Midlands six months after leaving the University.

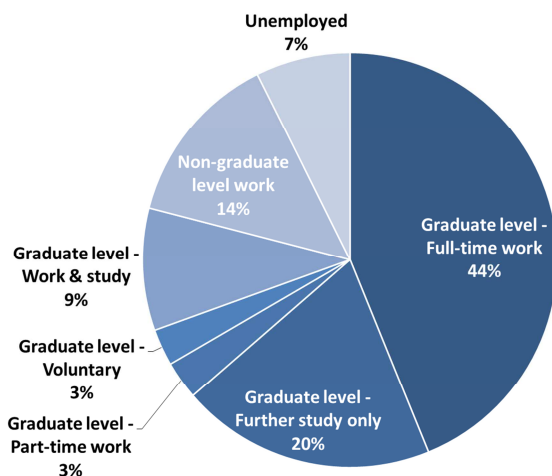
Chart 2.4: Recent graduates remaining in Birmingham and the West Midlands



Source: University of Birmingham; Oxford Economics

Almost eight in ten first degree graduates were undertaking graduate-level activities six months after leaving the University. The DHLE data show that after completing their course, 44% of 2010/11 graduates (those graduating in 2010/11) were engaged in graduate-level full-time work (Chart 2.5). A further 20% were in graduate level further study, while 9% were involved in graduate-level work and study. Of those who were in a graduate level destination 17% had remained in the city and one in three had remained in the West Midlands.

Chart 2.5: First degree graduate destinations in 2010/11

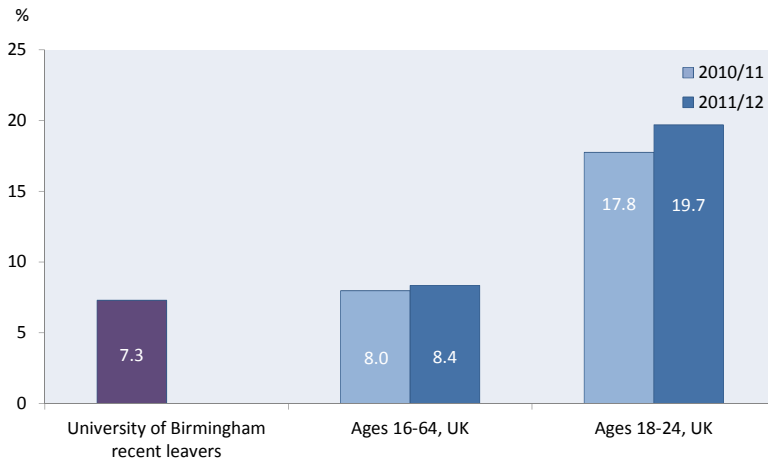


Source: University of Birmingham

While 7.3% of recent graduates self-identified as being unemployed, this is in contrast to an average unemployment rate of 19.7% for those aged 18-24 in the UK during 2011/12 (this is the

period directly following the date of graduation for the most recently surveyed cohort). Furthermore, the unemployment rate for University of Birmingham graduates can be favourably compared to that for those aged 16-64 in the UK overall, which stood at an average of 8.4% during 2011/12 (Chart 2.6).

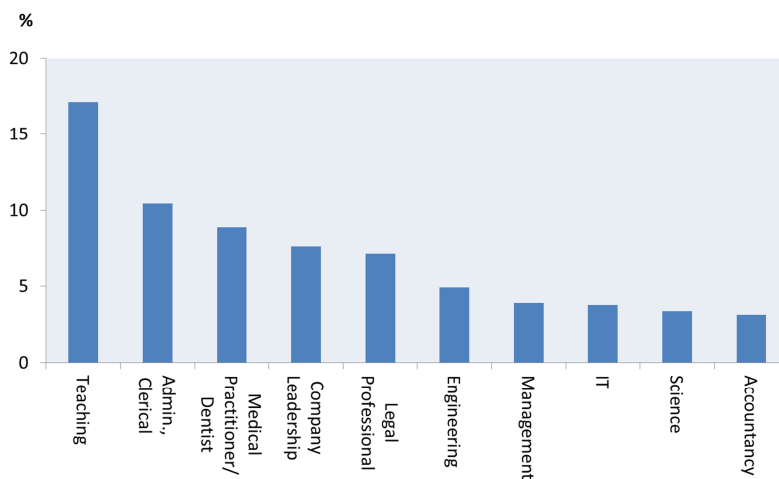
Chart 2.6: Average UK unemployment rate by age in 2011/12



Source: University of Birmingham; ONS

Graduates from the University of Birmingham apply their skills in a range of occupations. For example, based on surveys periodically conducted by the University of Birmingham to track the activities of its alumni (which are conducted in addition to DLHE surveys), 17% of graduates currently report their profession as teaching, 10% administrative and clerical, 9% medical practitioner or dental, 8% company leadership, and 7% legal. Together, these five reported professions account for just over 50% of the UK-based, non-retired alumni (Chart 2.7).

Chart 2.7: Top ten professions of University of Birmingham alumni who graduated between 1970 and 2012 and are working in the UK



Source: University of Birmingham

2.2.2 Alumni in key worker roles

Most of the roles students take on after graduating can be said to be important or useful in the sense that they respond to the needs of employers and consumers, fulfilling a demand for their labour; however, some of these roles may be highlighted for what could be called their ‘social

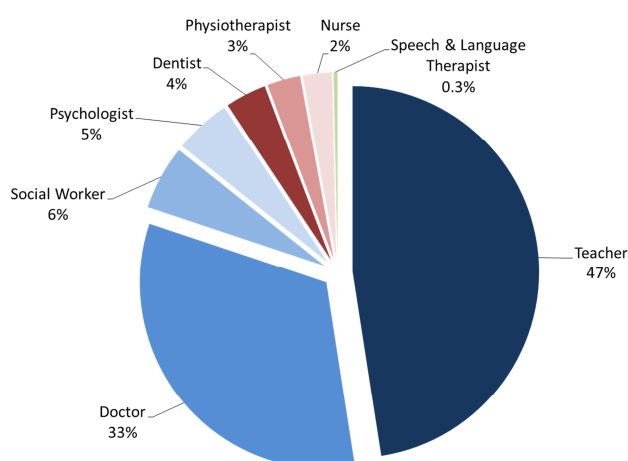
significance'. Social significance can be defined in a number of ways; this study draws from the UK Government's definition of key workers⁷, to look in greater depth at the following occupations:

- Dentist
- Doctor
- Nurse
- Physiotherapist
- Psychologist
- Social Worker
- Speech & Language Therapist
- Teacher

The University's DLHE survey indicates that around one third of the 2010/11 graduate population who are working in the West Midlands are employed in socially significant roles. This amounts to 589 2010/11 graduates moving into socially significant positions within the first six months of leaving studies at the University of Birmingham and entering the West Midlands workforce.

Teachers made up the greatest proportion of these alumni (47%), followed by doctors (33%), and social workers (6%) (Chart 2.8). Psychologists, dentists, physiotherapists, nurses, and speech and language therapists comprised the remaining 14%.

Chart 2.8: Composition of 'socially significant' roles in the West Midlands in 2010/11



Source: University of Birmingham

These represent significant contributions to the stock of key workers in Birmingham and the West Midlands. For example, of the 5,274 people currently undertaking their medical training in the West Midlands, 22% studied at the University's medical school. Within these, University alumni represent 24% of those specialising in paediatrics, 26% of those training to be general practitioners and almost 30% of those undertaking specialty training in anaesthetics.⁸

⁷ As applied under the former Key Worker Living scheme.

(<http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/housing/buyingselling/ownershipschemes/homebuy/keyworkerliving/>)

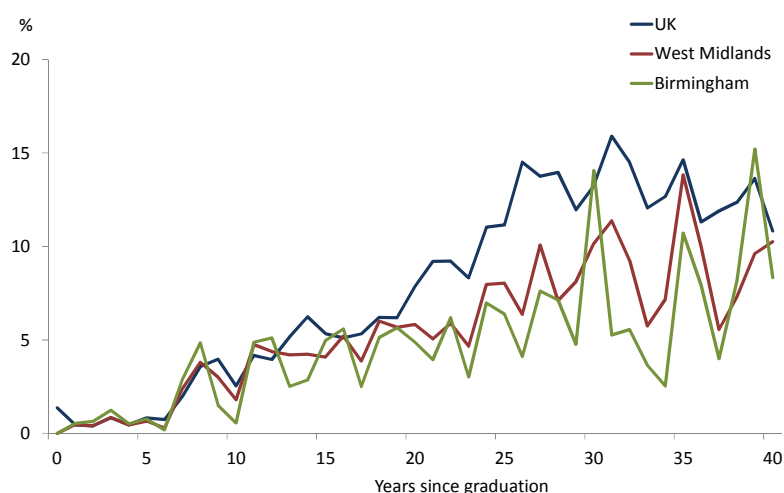
⁸ Data provided by Health Education West Midlands.

2.2.3 Alumni in high-impact, job-creator roles

A proportion of graduates from the University of Birmingham will eventually go on to take leadership roles within existing companies or within companies that they create.⁹ In these positions, graduates serve Birmingham and the UK as job creators. Survey data collected by the University of Birmingham suggest that this impact is significant. Within Birmingham, the West Midlands, and the UK overall, on average, 6.4% of University of Birmingham graduates are acting as CEOs, directors, board members, owners, or in similar leadership roles at any given time (Chart 2.9). With the UK unemployment rate currently at 7.8% for the November 2012 to January 2013 period, the alumni acting as job creators fulfil a critical function in the UK economy.

The likelihood a University of Birmingham graduate is in a leadership role increases with experience in the workforce. In the UK overall, the share of graduates who are in leadership reaches its peak at 16%, which is representative of a cohort that is likely to be around 52 years old.¹⁰

Chart 2.9: Proportion of alumni occupying leadership roles by location and years since graduation



Source: University of Birmingham

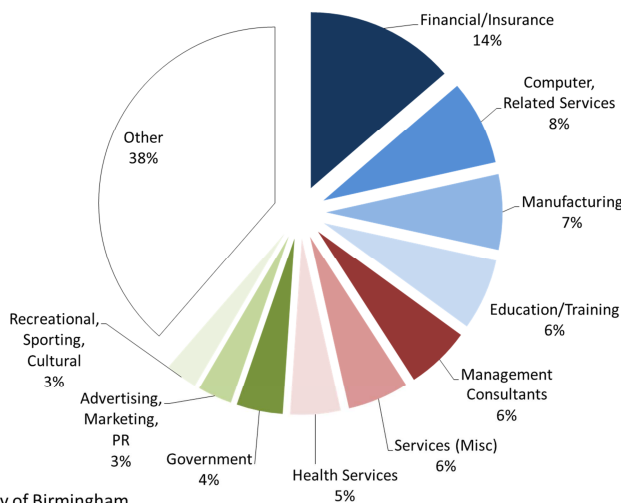
The rate peaks for graduates working in the West Midlands at 14%, which is representative of a cohort that is likely to be around 56 years old. Finally, the rate peaks for graduates working in Birmingham at 15%, which is representative of a cohort of graduates that is likely to be around 60 years old.

Graduates who go on to take positions in job creating roles represent a broad range of sectors within the economy. Chart 2.10 shows the ten most common sectors for University of Birmingham leaders, including financial and insurance (14%), Computer and Related Services (IT, Hardware, Software, etc.) (8%), and manufacturing (7%).

⁹ Leadership positions are defined as CEOs, directors, board members, owners, or similar roles. Alumni self-identify under these coded categories in surveys conducted by the University of Birmingham.

¹⁰ A student graduating at age 21 in 1981 would today be 52 years old.

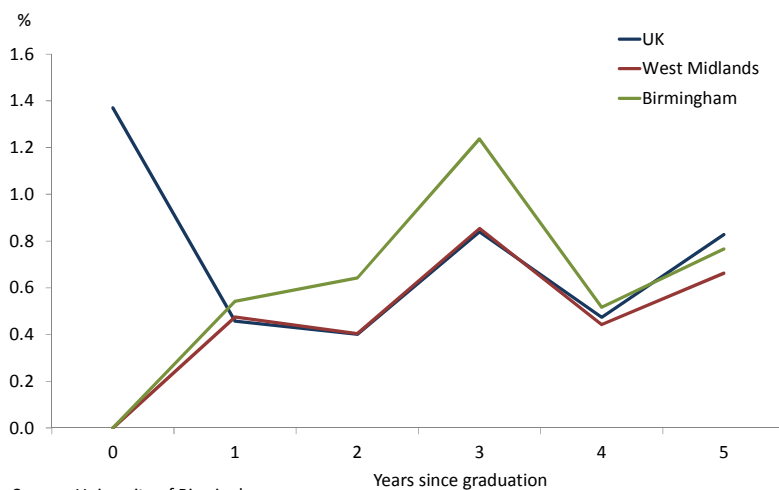
Chart 2.10: Industries represented by job creators in the UK in 2011/12, for all graduates between 1970-2012



Source: University of Birmingham

The movement of University of Birmingham graduates into roles of responsibility and leadership typically takes considerable time. However, some graduates move into these roles remarkably quickly (Chart 2.11). For those having graduated within the last five years, the average share occupying leadership roles is 0.6%.

Chart 2.11: Proportion of recent graduates who occupy leadership roles by location and years since graduation



Source: University of Birmingham

These alumni are likely to have started their own companies. This activity by University of Birmingham alumni is another important path by which jobs are created in the West Midlands and the UK overall.

3 The University as an employer

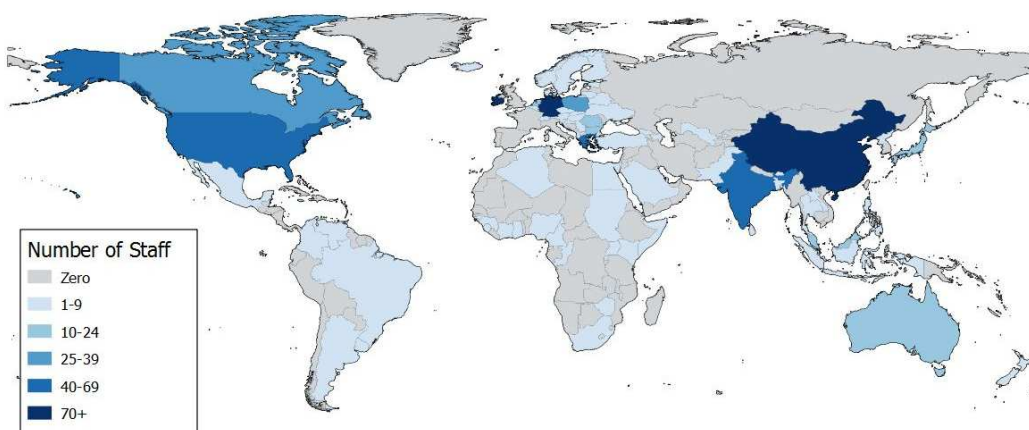
Key points

- The University is a major employer in Birmingham and the West Midlands region. Its workforce of 6,146 people is almost a third larger than the largest private sector employer in the city.
- With 100 nationalities represented, the University's possesses a highly diverse and highly skilled workforce. Over two-thirds of its employees have at least a first degree and 40% hold a doctorate. Over nine in ten of its employees live within the region, with 60% living in the city itself.
- The University's employment acts to provide stability to the city and region by being less volatile than the economy as a whole. A lower degree of volatility provides confidence to the people it employs, who in turn make purchases in the local economy maintaining demand and mitigating the negative impacts of the recession.

The University maintains a large and diverse workforce to deliver teaching and research. The University employed 6,146 people in 2011/12, making the University almost a third larger than the biggest private sector employer in the city.¹¹ Over 53% of the University's employees were female, compared to just 44% of Birmingham's workforce. The majority (84%) of employees reported their ethnicity as 'white'. Asian employees represented 10% of total staffing, while black and mixed ethnicity employees represented a further 3.3% and 1.5% of the University's staff, respectively.

Employees were drawn from a diverse range of backgrounds. Although 84% of its employees were UK nationals, 99 other nationalities were represented in the University's workforce. Almost one in ten employees came from elsewhere in the EU, 3% from Asia and 2% from North America (Figure 3.1).

Figure 3.1: Distribution of the University of Birmingham's non-UK employees' nationalities in 2011/12



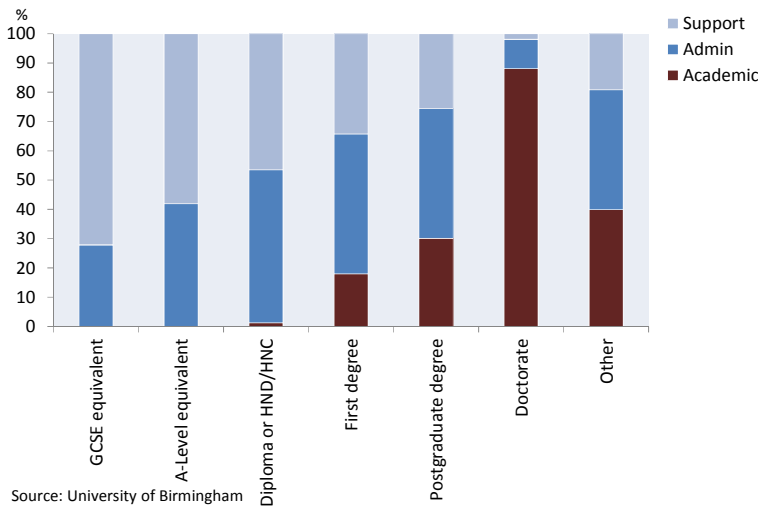
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¹¹ According to research by TBR Observatory, presented by Birmingham City Council.

Almost two in every five of the University’s employees were engaged in academic activity in 2011/12. A further 26% were employed in the University’s administrative departments, while support staff accounted for the remaining 36% of employees.

The nature of the work undertaken at the University – primarily research and teaching – requires a highly skilled workforce. Over 70% of the University’s staff have at least an undergraduate degree, and almost 40% hold a doctorate. There is a correlation between the staff role and the highest level of qualification obtained. Those with higher qualifications that have taken considerable time to achieve are more likely to work as academic staff (Chart 3.1).

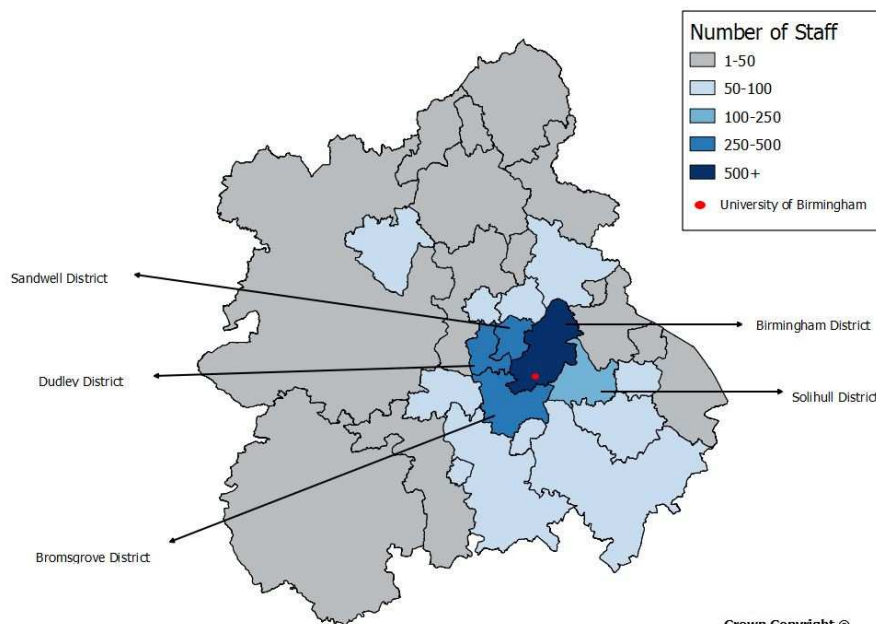
Chart 3.1: Breakdown of University of Birmingham employees by role and highest qualification obtained in 2011/12



Source: University of Birmingham

In 2011/12 almost 92% of the University’s employees live in the West Midlands region, with particular concentrations in Birmingham itself (accounting for 60% of all staff), Solihull, Dudley and Bromsgrove (Figure 3.2).

Figure 3.2: Geographic distribution of the University of Birmingham’s employees in 2011/12



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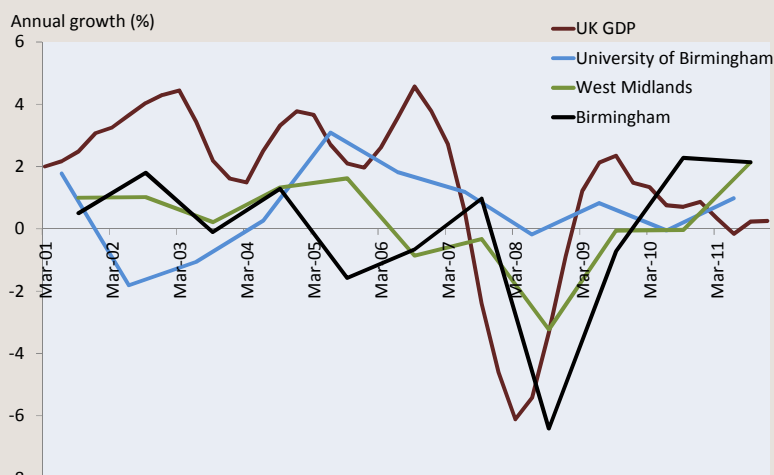
The University as a stable employer

Since entering recession in 2008, economic growth in the UK has stagnated to the point where at the end of 2012 the economy was 2.1% (in inflation adjusted terms) smaller than in 2007. Birmingham and the West Midlands have not been immune to this downturn; indeed, employment in the city fell by 2.25% between 2007 and 2012, and by slightly less than 2% for the region as a whole.

Against a backdrop of stagnation and declining employment, any company or institution that does not follow this trend, either by retaining or employing more staff acts to mitigate the negative impact of a recession. It is often asserted that public sector employment is less pro-cyclical and volatile than the private sector. Comparison of University data and employment levels in the city and region suggest that this true for the University.

Analysis of the University’s employment indicate that although the number of jobs it generates directly has been affected by the weak post-financial-crisis economy, the level of impact has been much more modest than that on the overall Birmingham and West Midlands economies. As employment levels declined by up to 6% in Birmingham and 3% in the West Midlands in the year to late-2008, the size of the University’s workforce declined slightly (0.2%). By 2012, employment at the University had increased by 1.6% compared to pre-recession levels – a distinct contrast to the declines seen in the city and region as a whole (Chart 3.2).

Chart 3.2: Annual growth in employment and GDP



Source: University of Birmingham; ONS

By providing stability, University employees will have greater confidence when making consumption decisions than people employed in the private sector. This greater confidence can translate into continued demand for goods and products in the local economy and mitigate the potential decline in demand in the region, particularly given the size of the University as an employer. The benefit of this is not only felt by the businesses serving University employees, it extends to their supply chains and employees – fostering a greater degree of stability and confidence in the city and region.

4 The economic impact of the University

The presence of the University in the city of Birmingham and the West Midlands region generates significant economic benefits for the local and regional economies. This chapter highlights the different channels by which the University contributes to these economies. It quantifies its impact using three metrics: employment; gross value added contribution to GDP and tax receipts for the 2011/12 academic year.

4.1 Introduction to economic impact analysis

Key points

- The University contributes to the Birmingham and West Midlands economies through its own activities, its capital spending programme, the subsistence spending of those students that are 'additional' to these areas, the spending of people visiting these 'additional' students and the visitors it draws to its cultural attractions.
- Each of these contributions impacts the economy through three channels: the direct, indirect and induced effects.
- The contribution the University makes to its local and regional economy is measured in terms of gross value added, employment and tax receipts.

4.1.1 How the University impacts on the economy

This study investigates five channels through which the University contributes to the economies of Birmingham and the West Midlands:

- The activities of the University itself;
- The subsistence spending of the 'additional' students who would not be in Birmingham or the West Midlands if the University did not exist;
- The spending of visitors who come to the city or region to visit these 'additional' students while they are studying at the University;
- The spending of visitors to the University's cultural attractions; and,
- The impact the University's capital spending scheme.

4.1.2 The channels of economic impact

The study undertakes a standard economic impact assessment, looking at three forms of expenditure (Figure 4.1). These are:

- The first channel of impact is the *direct effect*. This is the economic activity generated by the University itself, and in the businesses supplying goods and services where 'additional' students and their visitors spend their money.
- The second channel of impact is the *indirect effect*, which is the economic activity which results from the University's and the businesses providing goods and services to 'additional' students and their visitors in the economy procurement of inputs of goods and services.

- The final channel known as the *induced effect* captures the economic activity created by staff and those employed in direct supply chains spending their wages on consumer goods and services.

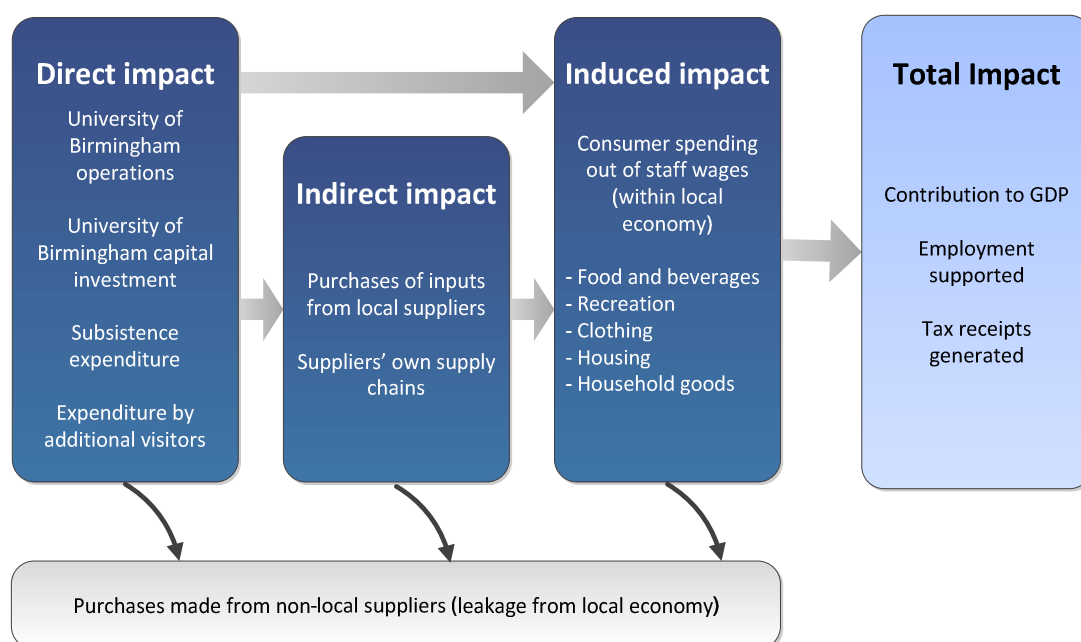
The indirect and induced impacts are calculated using multipliers calculated from regional input output tables. These are developed by combining ONS (2011) input output data for the whole UK with the techniques developed by Flegg, et al. (1995). Employment and tax estimates are calculated using ONS data on labour productivity, average earnings in each industrial sector and tax rates for 2011/12.

4.1.3 The metrics of economic impact

The scale of the University’s for each of the five channels is measured using three metrics:

- *Gross value added* – Gross value added (GVA) is the contribution an institution or company makes to Gross Domestic Product (GDP).¹² GVA is most simply understood as the value of the output (i.e. turnover) minus the cost of bought in goods and services used up in the production of the output.¹³
- *Employment* – measured in headcount terms rather than full-time equivalence to facilitate comparison with ONS employment data.
- *Tax receipts* – this study considers the receipts generated from Income and Corporation taxes, employee and employer National Insurance contributions, and other indirect taxes paid by employees (including Council Tax and VAT).

Figure 4.1: The channels of economic impact



¹² GDP is the main ‘summary indicator’ of economic activity in the UK economy. References to the rate at which the UK economy is growing (or when it enters recession) are made using GDP.

¹³ Gross value added is also equivalent to the sum of employee costs and profits (defined as earnings before interest, taxation, depreciation and amortization (EBITDA))

4.2 The impact of the University's activities

Key points

- The University directly contributes to the economies of Birmingham and the West Midlands through the surplus it generates and the payments it makes to its employees. In 2011/12, this amounted to a £309.4 million value-added contribution to the Birmingham and West Midlands economies. To deliver this contribution the University's employed 6,146 people in 2011/12.
- To operation the University spent £14 million on inputs of goods and services from businesses in Birmingham, and over £31 million from businesses based in the West Midlands.
- In 2011/12, this procurement expenditure supported a gross value-added contribution of more than £7 million to the Birmingham economy, and almost £15 million to the West Midlands economy.
- The people employed by the University and in its direct supply chain spend their wages on consumer goods and services. This spending generated an estimated value-added contribution of £28 million to the Birmingham economy, and £53 million to the region's economy in 2011/12.
- In total, the University's operations generated a gross value-added contribution of £345 million to the Birmingham economy, supporting 6,890 people in employment in the city and tax receipts of more than £104 million. For the wider West Midlands economy, the University supported a gross value added contribution of £377 million in the regional economy, 7,925 people in employment and tax receipts of over £117 million.

4.2.1 Direct impact of the University

In the academic year 2011/12, the University received £472 million in income. Of this, 29% (or £138.3 million) came from Funding Council grants (Chart 4.1).¹⁴ Almost £74 million of income from this source was in the form of a recurrent teaching grant from the Higher Education Funding Council for England (HEFCE), with a further £42.2 million and £7.4 million received from HEFCE as recurrent research and other grants, respectively.

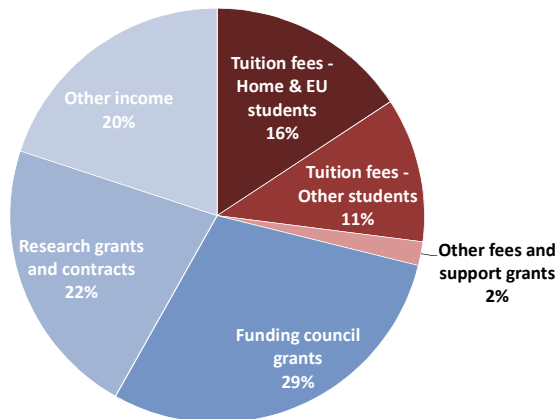
Tuition fees represented the second largest source of income for the University in 2011/12. Of the £136.3 million received in fees, £55.8 million was paid by UK and EU undergraduate students, while non-EU undergraduate students paid almost £18.8 million in fees. Postgraduate study courses raised £52.9 million in fees for the University, with two-thirds paid by non-EU students.

The remainder of the University's income was sourced from research grants and contracts (£103.3 million) and other operating incomes (£94.2 million). Other operating incomes include the revenues the University received for its residence, catering and conferencing services, externally funded posts, property rental and other services rendered.¹⁵

¹⁴ University of Birmingham (2012).

¹⁵ Further discussion of the composition of the University's research income is presented in Section 5.1 and is therefore not discussed here.

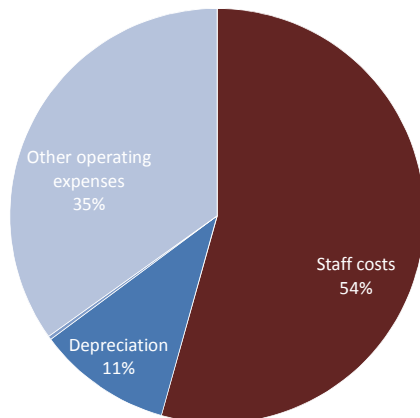
Chart 4.1: The University of Birmingham’s income by source in 2011/12



Source: University of Birmingham

The University spent over £466 million in 2011/12 on current expenditures. The University’s single largest expenditure was its payment of wages and salaries to its 6,146 employees – and other employee costs such as pension and National Insurance contributions – amounting to £253.3 million (Chart 4.2). Depreciation and interest payments amounted to £50 million and £1.3 million, respectively. While other operating expenditures – including the purchase of inputs of goods and services and restructuring costs – accounted for a further £161.8 million.

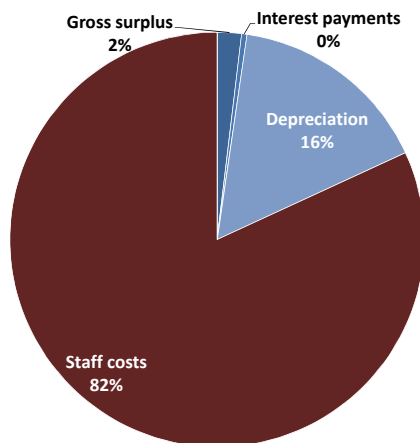
Chart 4.2: The University of Birmingham’s current expenditure by type in 2011/12



Source: University of Birmingham

The financial statements reported that the University recorded a £5.8 million surplus in 2011/12. Therefore, the direct value-added contribution of the University to the Birmingham, calculated as employment costs and surplus on operations before depreciation and interest costs, was £309.4 million in 2011/12 (Chart 4.3).

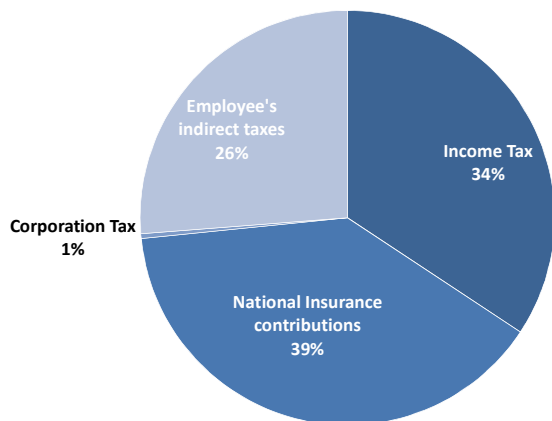
Chart 4.3: The University of Birmingham’s gross value added by source in 2011/12



Source: University of Birmingham

The University and its employees paid over £94.5 million in taxes in 2011/12. Employer and employee National Insurance contributions accounted for almost 40% of the University’s total direct tax contribution (£37 million), while employee Income Tax payments generated a further £32.4 million for the Exchequer (Chart 4.4). The payments of indirect taxes (including council taxes and VAT) by University employees accounted for other a quarter of the direct tax impact of the University.

Chart 4.4: The University of Birmingham’s direct tax contribution by type in 2011/12

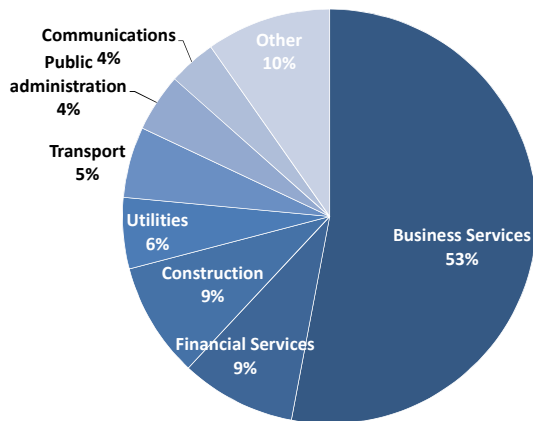


Source: University of Birmingham; Oxford Economics

4.2.2 The University’s supply chain

In 2011/12, the University spent £162.6 million on inputs of brought-in goods and services. The University’s procurement is dominated (53% of total) by the purchases of goods and services provided by business service companies, including advertising, cleaning, training, and computer services (Chart 4.5). Payments to financial service providers and construction companies for maintenance activities both accounted for a further 9% of University’s expenditure.

Chart 4.5: The University of Birmingham’s procurement of goods and services from UK-based suppliers in 2011/12



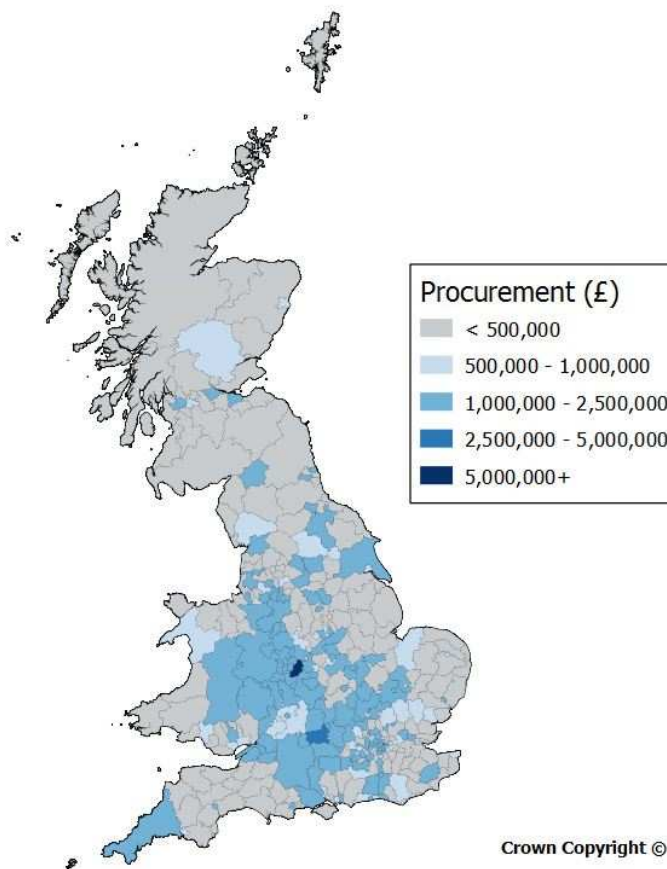
Source: University of Birmingham; Oxford Economics

Procurement data indicate that £82.4 million of purchases in 2011/12 came from UK suppliers. Firms in the West Midlands region provided over £31 million (or 38%) of these goods and services, with £14 million (or 17%) of supplies coming from Birmingham itself (Figure 4.2).

The £14 million of procurement the University sources from suppliers in Birmingham generated a value-added contribution of £7.4 million in the Birmingham economy in 2011/12. This activity supported 190 jobs in the city and generated tax receipts of £2.7 million for the Exchequer.

The £31 million of University purchases in 2011/12 from suppliers across the West Midlands region resulted in a £14.6 million value-added contribution to the regional economy. This activity supported 440 jobs in the West Midland and generated tax receipts of £6.1 million for the Exchequer.

Figure 4.2: Geographic distribution of the University of Birmingham’s procurement of goods and services from UK-based suppliers in 2011/12



4.2.3 The University’s induced impact

In 2011/12, the University’s 3,670 employees who lived within Birmingham received £75.9 million in wages after tax. The spending of this income on consumer goods and services, combined with the wage-financed spending of those employed in the University’s Birmingham-based suppliers generated a £28 million value-added contribution to the city’s economy. This supported over 550 jobs and generated almost £7.6 million in tax receipts.

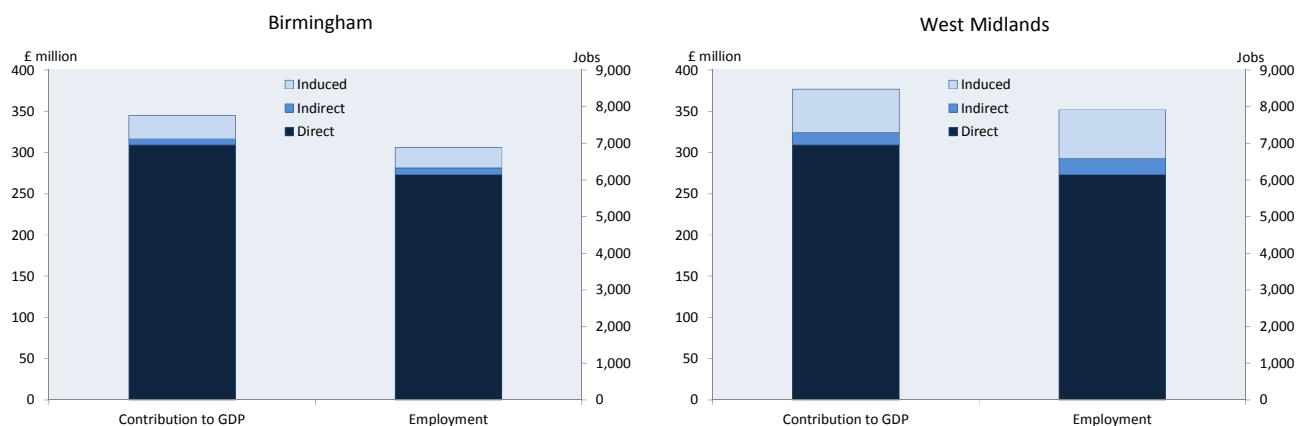
The West Midlands region was home to 5,640 of the University’s employees in 2011/12 . After tax they received £119 million in wages. The spending of this income and that of those people employed in the University’s West-Midlands supply chains supported over 1,300 jobs in the region and a value-added contribution of £52.9 million to the region’s economy. This activity resulted in £16.7 million of tax receipts for the Exchequer.

4.2.4 Total impact of the University’s activities

The total economic impact of the University’s activities on the economies of Birmingham and the West Midlands is the sum of the three expenditure channels (direct, indirect and induced) of impact in each geography. In 2011/12, the University’s activities supported almost £345 million in value added to the Birmingham economy, over 6,890 jobs and raised almost £105 million in tax revenues (Chart 4.6).

In the wider West Midlands region, the impact of the University’s activities supported a value-added contribution to the region’s economy of £377 million, over 7,900 jobs and over £117 million in tax revenues.

Chart 4.6: The economic impact of the activities of the University of Birmingham in 2011/12



Source: Oxford Economics

4.3 The impact of students’ subsistence spending

Key points

- Out of a total of 27,800 students, 20,700 students (or 74%) were attracted to, or remained living in Birmingham in 2011/12 because of the University. For the West Midlands region this figure rises to 22,400 students. Their spending while studying in Birmingham is additional to each economy, and part of the overall economic impact of the University.
- In 2011/12, full-time students spent an average of £11,400 on living expenses. Most (60%) of this was spent on food, personal items and rent.
- The spending of these additional students amounted to £238 million in Birmingham. This translated into a value-added contribution of over £110 million (when multiplier impacts are included), supporting over 2,150 jobs in the city and funding almost £29 million in tax revenues in 2011/12.
- The £257 million spent by additional students in the West Midlands supported a £134 million in gross value added contribution, over 3,100 people in employment in the region and £40 million in tax receipts.

The University attracts students to Birmingham and the West Midlands from other parts of the UK and overseas, and keep students previously resident in the locality within the city and region. The subsistence spending of these students would not otherwise occur in the Birmingham or West Midland economies and are, therefore, part of the overall impact of the University.¹⁶

¹⁶ The spending of students domiciled living in Birmingham or the West Midlands prior to attending University is not deemed to be additional to the local economy as the counterfactual scenario assumes that these students would be spending money in these economies if they were not attending the University.

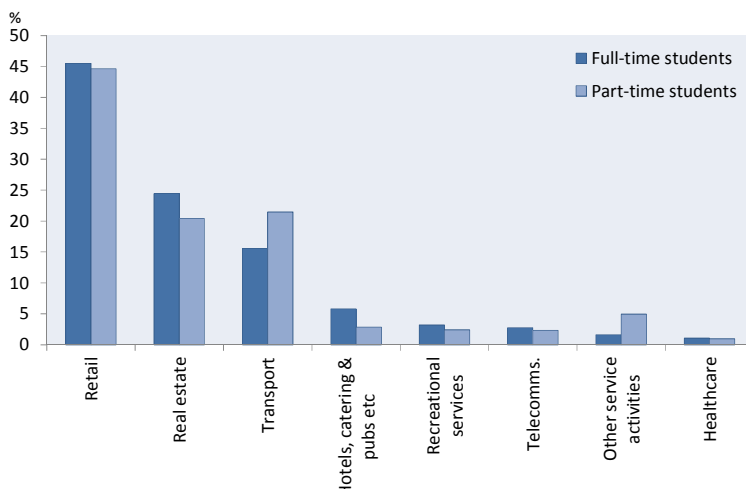
4.3.1 Student subsistence expenditure

Students' subsistence expenditure is all spending that students make while studying at university for one year exception their tuition fees. These payments range from the purchases of items required for facilitating their study – such as transport to University and books – and other consumer expenditure – including spending on food, leisure and social activities. Payments for tuition fees are excluded from subsistence spending as these payments have already been captured in the revenues of the University, and its direct economic impact.

The Department of Innovation, Universities and Skills undertakes periodic surveys of subsistence expenditure by students. The most recent covered the 2007/08 academic year.¹⁷ Making allowance for the change in living costs between 2007/08 and 2011/12 using the consumer price index indicates that each full-time student spent £11,403 in the year, while part-time students spent £18,132.

Housing costs represent the largest single expense for full-time students – accounting for almost a quarter of total spending. For part-time students travel not associated with their course accounts for the largest share (24%); housing costs are the second largest expenditure item accounting for 20% of total spending. The breakdown of spending provided by the survey provides a means of mapping student spending to the industrial sectors which supply the goods and services purchased. For example, student spending on bus and rail fares is allocated to the transport sector. On the basis of this mapping, the retail sector is the largest recipient of student spending, ahead of real estate for full-time students and transport for part-time students (Chart 4.7).

Chart 4.7: University of Birmingham's student subsistence expenditure by sector in 2011/12



Source: Oxford Economics; Department for Innovations, Universities and Skills

4.3.2 Impact on Birmingham

It is only possible to attribute subsistence expenditure to the University for the 18,584 students who came from outside Birmingham to live in the city while studying in 2011/12. A further 3,032 students lived in the city while they studied at the University, but as these students were originally from Birmingham their spending cannot be treated 'additional' unless they would have left the city to go to other higher education institutions (HEIs). Using University tracking data it has been

¹⁷ Department of Innovation, Universities and Skills (2009).

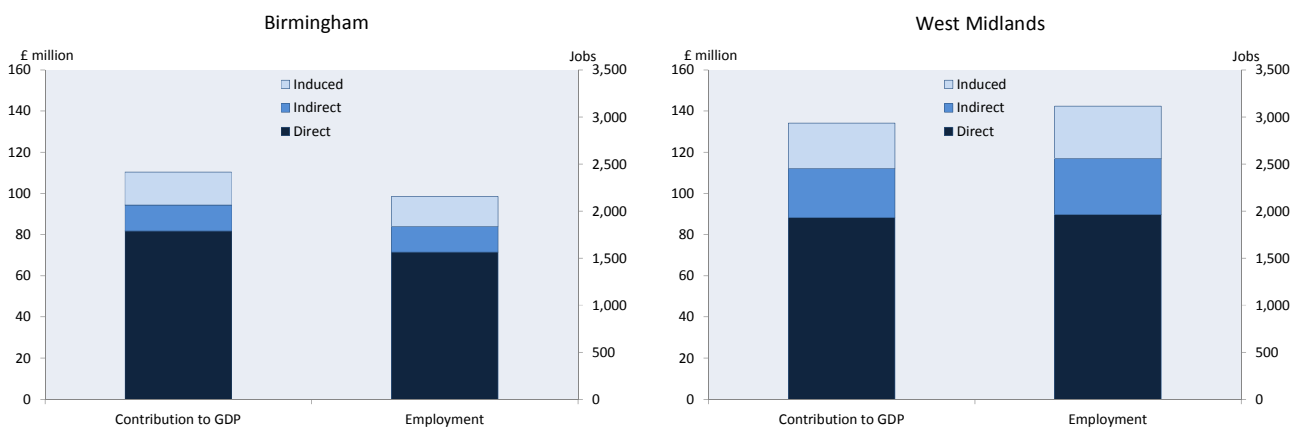
estimated that 2,115 of these students would have left the city to pursue higher education elsewhere.¹⁸ Therefore, 20,700 of the University’s students can be classified as additional to the city, almost all of whom (over 98%) were enrolled in full-time study.

Together these students spent £238 million with businesses in the Birmingham area. When all of the subsequent supply chain and wage consumption impacts are considered, the spending of the University’s students generated a gross value-added contribution of £110.4 million to the Birmingham economy (Chart 4.8). This activity supported over 2,150 people in employment in the city and £28.6 million in tax receipts.

4.3.3 Impact on the West Midlands

The University attracted 17,169 students to the West Midlands to study at the University in 2011/12. A further 5,217 from the region would have left to attend other HEIs elsewhere in the UK. In total, therefore 22,386 students were additional to the West Midlands region. The combined spending of these students – when supply and wage consumption effects are considered – amounted to almost £257 million, generating over £134.2 million in gross value-added for the West Midlands economy in 2011/12. This spending supported over 3,110 people in employment in the region and £39.8 million in tax receipts.

Chart 4.8: The economic impact of the subsistence spending of the University of Birmingham’s students in 2011/12



Source: Oxford Economics

¹⁸ The University supplied data on the destinations of students who applied to study at the University but then took up an offer to study elsewhere. The location of these final destinations was used to determine how many of the University’s students from the city and region would have remained in the city and region.

4.4 The impact of additional visitors to students

Key points

- Students from outside Birmingham and the West Midlands receive visits from friends and relations. These trips would not occur without the presence of the University and the impact of spending that occurs in the locality can be attributed to the University.
- Visitors to students who have moved to Birmingham are estimated to have spent over £4.4 million in the city. When the total economic impact (including multiplier effects) is taken into account, this spending is estimated to have supported a value-added contribution of £2.1 million to the city's economy, over 65 people in employment and £700,000 in tax receipts in 2011/12.
- The students who moved to the West Midlands to study at the University attracted visitors who spent almost £4.6 million in the region. This spending supported a total gross value-added contribution of £2.7 million, almost 100 people in employment and £1 million in tax receipts in 2011/12.

Friends and relatives visiting the students the University attracts spend money in Birmingham and the West Midlands, generating economic activity and supporting employment in these businesses and in their supply chains.

The additional visitors the University attracts to the city and region come from other parts of the UK and overseas. The spending profile of the two types of visitors – domestic and international – differs by a visitor's origin; therefore two methods are used to calculate the spending impact of these visitors on Birmingham and the West Midlands.

4.4.1 Visitors from overseas

ONS *International Passenger Survey* (IPS) data capture the level of spending of international visitors to the UK and its regions, including those who have travelled for the purpose of visiting friends or relatives.¹⁹ Using the IPS it is possible to identify the level of spending by overseas visitors who travel to Birmingham and the West Midlands to visit friends or relatives, split by the nationality of the visitor. Unfortunately, the IPS does not record whether the friends and relatives that these tourists are visiting are students. Therefore, it is assumed that these visitors are all visiting friends and relatives who share their nationality, and that spending by travellers visiting students is similar to other visitors to friends and relatives of that nationality. For example, University data indicate that there were 1,604 students from China living in the West Midlands in 2011/12. The latest census data indicate that there were 4,404 people of Chinese nationality living in the West Midlands in the same period.²⁰ Therefore, 36% of all spending by Chinese visitors to the West Midlands region who were visiting friends and relatives in the region is attributed to the University.

Applying this methodology to the University's 5,278 overseas students who were living in Birmingham indicates that visitors to these students spent almost £3.4 million in the city in 2011/12. The number of overseas students living in the wider West Midlands region while studying at the

¹⁹ Office for National Statistics (2012)

²⁰ Office for National Statistics (2012)

University in 2011/12 was slightly higher, at 5,422. Consequently, the spending of visitors to these students was also slightly higher at £3.5 million.

4.4.2 Domestic visitors

The University’s domestic students also attract visitors to Birmingham and the West Midlands. Although no information is available on how many visitors each student from outside the West Midlands receives, data do exist on the average spend of a visitor from each part of the UK to friends and relatives in Birmingham and the West Midlands.²¹ Using a similar approach to that employed for overseas students it is possible to estimate the level of spending that these domestic visitors introduce into the Birmingham and West Midlands economies. This study assumes, therefore, that each student from outside Birmingham and the West Midlands gets one visitor from their home region each year. With the likelihood that some students receive of multiple family visits over the course of an academic year and that parents are often involved in the transport of personal effects at the beginning and end of session, this is probably a very conservative assumption.

Following this approach, the 11,525 students who came to Birmingham to study at the University in 2011/12 attracted visitors who spent over £1 million in the city. Similarly, visitors to the 11,743 students living in the West Midlands spent almost £1.1 million in the region in 2011/12.

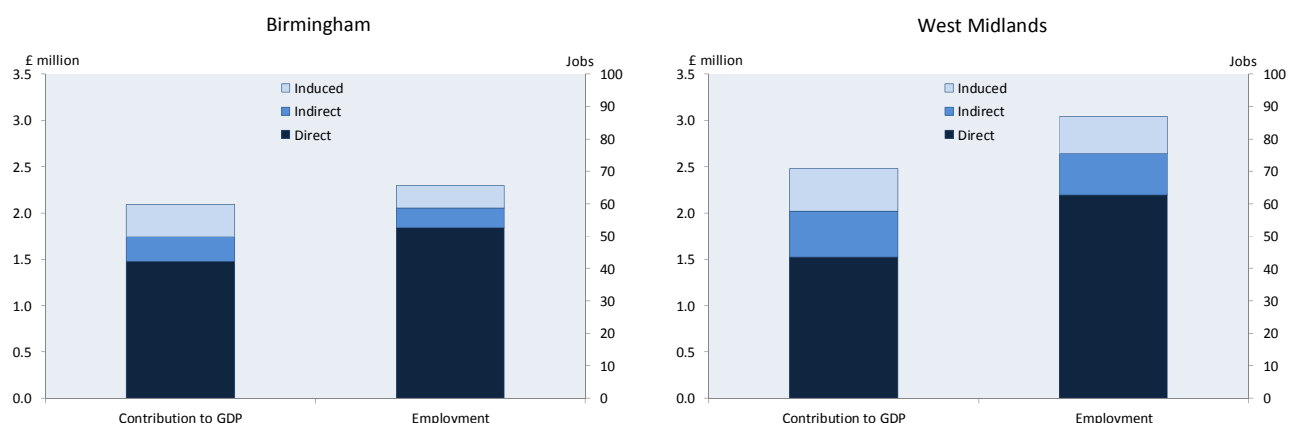
4.4.3 Impact on Birmingham

Visitors to students at the University of Birmingham spent £4.4 million in the city’s hotels, restaurants and recreational sectors. Taking account of the subsequent supply chain and wage consumption impacts, this spending supported a gross value-added contribution of £2.1 million to the Birmingham economy, 65 people in employment (Chart 4.9) and £700,000 in tax receipts.

4.4.4 Impact on the West Midlands

The West Midlands enjoyed a slightly higher spending boost from visitors to the University’s students than Birmingham. In total these visitors spent almost £4.6 million in the region, which – when supply chains and wage consumption are considered – generated a value-added contribution of almost £2.5 million to the regional economy, supported almost 100 people in employment in the region and slightly less than £900,000 in tax receipts.

Chart 4.9: The economic impact of the spending of visitors to the University of Birmingham’s students in 2011/12



Source: Oxford Economics

4.5 The impact of visitors to the University's cultural attractions

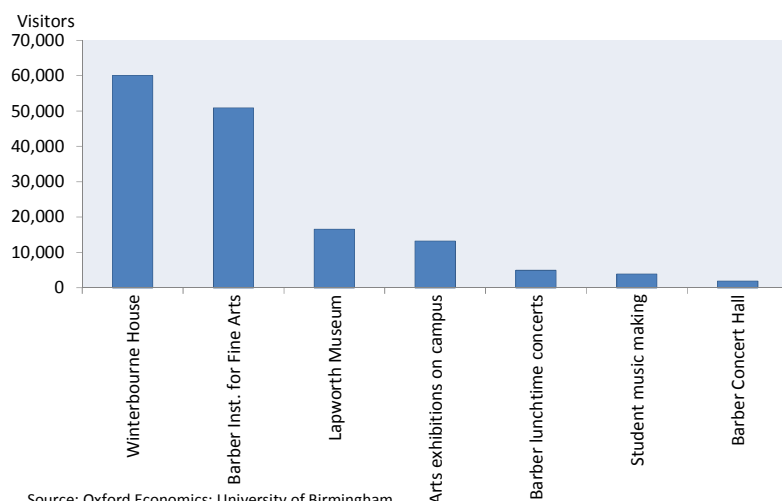
Key points

- Over 140,000 people visited the cultural attractions on the University's Edgbaston campus. Of these, 79% went to Winterbourne House and Gardens and the Barber Institute of Fine Arts.
- In addition to any spending that visitors may make attending and within these attractions, visitors spend money in local restaurants, shops and transport providers. This spending was estimated to equal £5 million in 2011/12.
- In total the spending of visitors to the University's cultural attractions generated a value-added contribution of £2.6 million to Birmingham's economy, supporting 80 people in employment and raising almost £860,000 for the Exchequer.
- At the regional level, the spending of visitors to the University's cultural events and attractions supported 95 people in employment and a value-added contribution of £3 million to the regional economy.

The University also attracts people to Birmingham and the West Midlands to visit the cultural attractions it operates in the city. Located on the University's Edgbaston campus are the Lapworth Museum of Geology, the Barber Institute of Fine Arts, and Winterbourne House and Gardens.²² In addition to the fixed collections housed in these venues, regular concerts are held within the Barber Concert Hall and various student groups frequently hold public performances.

In 2011/12 over 140,000 people attended one of the University's cultural attractions. Winterbourne House and Gardens was the most popular attraction, receiving 60,000 visitors (Chart 4.10). The Barber Institute for Fine Arts was visited by over 50,000 people. Some 16,600 people attended the Lapworth Museum, while over 13,200 people are estimated to have enjoyed the various small-scale exhibitions held on campus and almost 11,000 people attended a music event at the University.

²² The University also operates other attractions, such as the Shakespeare Centre in Stratford-upon-Avon, however these have not been considered for this study. The recently opened Bramall Music Building is also not considered as it was not fully opened until after the period considered by the study.

Chart 4.10: Visitors to the University of Birmingham's cultural attractions in 2011/12

Source: Oxford Economics; University of Birmingham

4.5.1 Visitor spending

The University's cultural attractions generate expenditure in Birmingham and region as visitors spend money in nearby restaurants, shops and on local transport. This spending will support further economic activity in the city and region through supply chains and wage consumption impacts.

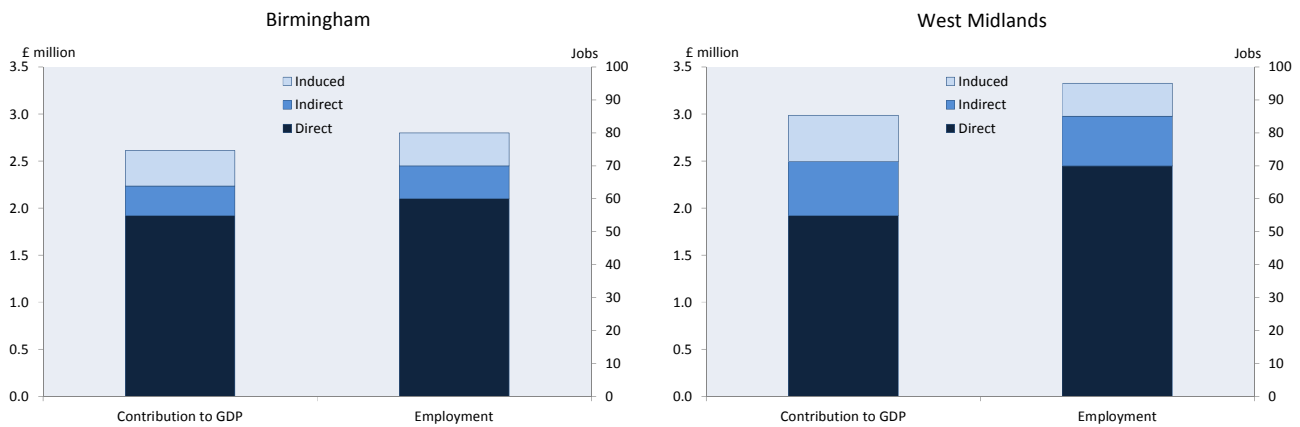
The *GB Day Visits Survey*, conducted by Visit England captures the spending of domestic day trippers within the different nations and regions of the UK. These data are disaggregated by the type of attraction visited. Using these data, Oxford Economics estimate that visitors to the University's cultural attractions spent almost £5 million in businesses located within the city and region in 2011/12. This expenditure excludes the spending on admission and other purchases visitors make within the attractions, as the impact of these will be included in the overall impact of the University's operations.

4.5.2 Impact on Birmingham and the West Midlands

Taking account of the subsequent supply chain and wage consumption impacts, the spending of visitors to the University's cultural attractions generated a value-added contribution of £2.6 million to the Birmingham economy (Chart 4.11). This activity supported 80 people in employment in the city and over £850,000 in tax receipts for the Exchequer.

The greater supply chain linkages in the West Midlands resulted in a slightly larger value-added impact in the region compared to the city. In total, the spending of visitors to the University generated a value-added impact of £3 million in 2011/12. This supported 95 people in employment in the region, and raised almost £1.1 million in tax receipts.

Chart 4.11: The economic impact of the spending of visitors to the University of Birmingham’s cultural attractions in 2011/12



Source: Oxford Economics

Case Study: The Lapworth Museum of Geology

Founded in the late 19th Century and named after Charles Lapworth, the first professor of Geology at Mason College (the forerunner of the University), the Lapworth Museum of Geology provides free access to the largest collection of rocks, minerals and fossils in the Midlands.

The significance of the Museum’s collection is highlighted by its receipt of an annual grant from the HEFCE Museum, Galleries and Collections Fund (in 2011/12 this amounted to £37,000, and in 2012/13 was scheduled to increase to £40,000). This fund is designed to enable HEIs to sustain collections for the use of the wider research community. The Museum is one of only two museums in the West Midlands to receive such funding (the other being the University’s Barber Institute for Fine Arts) and one of thirty-one museums nationally.²³

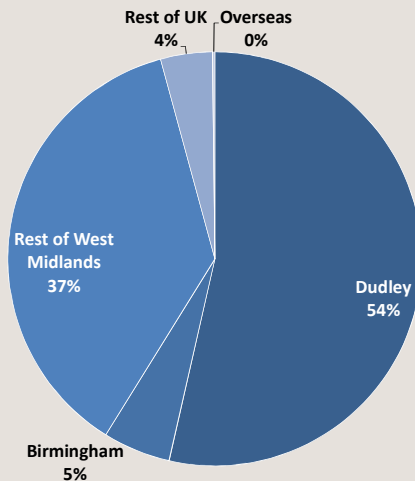
In 2011/12, the Museum employed the equivalent of three full time staff. This team, assisted by four volunteers, enabled the Museum to receive 16,000 visitors. The Museum’s clientele is drawn from an array of backgrounds, with schools, University students, geologists, research and community groups, and families all visiting during the year. Over 40 educational sessions were held by the Museum (either onsite or externally) for schools from across the West Midlands, adult education societies and groups (including the University of the Third Age), and youth groups.

The Museum’s reach is not limited to those visiting. In addition to the collections it holds, the Museum organises a range of events on campus and further afield. In 2011/12, a public lecture series held at the Museum attracted 450 attendees, and a further 150 people attended a series of five lectures for community groups. The Museum also participated in the University’s open Community Day, with over 1,150 people visiting the Museum during the day. Away from campus, the Museum participated in science fairs at Perton (which received over 400 visitors) and Lichfield, and the local history and community fair at Wombourne.

²³ Higher Education Funding Council for England (2012).

The largest external event the Museum participated at which the Museum participated was the Dudley Rock & Fossil Fair organised by Dudley Museum & Art Gallery. The Lapworth Museum plays a major role, in the public event providing large feature objects for exhibitions and various speakers giving talks on popular geological topics. The weekend event was attended by over 1,500 visitors. The majority of these were local, with 54% coming from Dudley, 5% from Birmingham, and 37% of visitors coming from elsewhere in the West Midlands. One in twenty visitors came from outside of the region.

Chart 4.12: Origin of visitors to the Dudley Rock and Fossil Fair in 2011



Source: Lapworth Museum of Geology

The Lapworth regularly loans part of its collection to other institutions to supplement their exhibitions. Often these loans are of a small number of items; however the Museum lent around 60 items to form a significant proportion of the exhibition *Trapped in time: 600 million years of fossils* at the Grosvenor Museum, Chester. The exhibition was visited by over 21,000 people and is to move to Wrexham Museum and Weaver's Hall Museum in Northwich in 2013. The reach of the Museum is further extended by its online presence. In 2011/12 the Museum's website attracted over 30,000 unique visits in 2011/12.

The Museum is actively seeking to improve the visitor experience and widen its audience. In September 2012, the Museum was awarded a Round 1 Heritage Lottery Fund Development grant of £130,000 to progress plans to apply for a full grant for a major redevelopment project. If subsequent plans are successful, the Museum will undergo a redevelopment worth £2.7 million (of which £1.7 million will be sourced from the Heritage Lottery Fund and a further £200,000 from the University itself). Increasing the appeal and reach of the Museum will only enhance its cultural impact and that of the University.

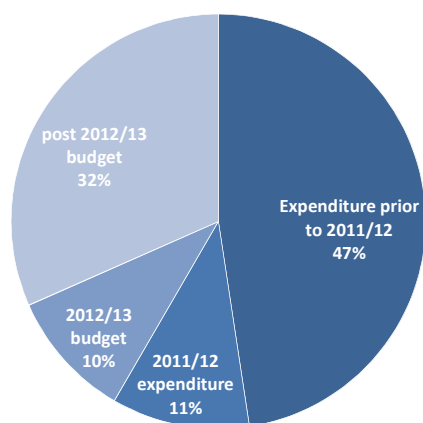
4.6 Impact of University's capital expenditure programme in 2011/12

Key points

- The University spent £51 million on capital investment in 2011/12, on projects with a total lifespan commitment of over £470 million.
- These purchases generate economic activity and tax receipts, and supports employment in the city and region in the same manner as the University's day-to-day operations.
- University data indicate that £6.2 million of capital expenditure was made with Birmingham-based businesses. In total, the University's capital expenditure in 2011/12 generated an economic contribution – when the direct, indirect and induced impacts are considered – to the Birmingham economy of almost £3.5 million in value-added in 2011/12, supporting 450 people in employment in the city and funding almost £5 million in tax receipts.
- Businesses in the West Midlands received £16.4 million of the University's capital expenditure. This generated a total value-added contribution of £14 million to the economy in 2011/12, supporting 620 people in employment in the region and generating £7.1 million in tax for the Exchequer.

The University spent £51 million on capital projects in 2011/12. This spending covered a variety of projects, including refurbishments, relocations and new builds. In total the projects for which spending occurred in 2011/12 had a lifetime budget of over £470 million (Chart 4.13).

Chart 4.13: The spending profile of the University of Birmingham's on-going capital projects in 2011/12



Source: University of Birmingham

4.6.1 Impact on Birmingham

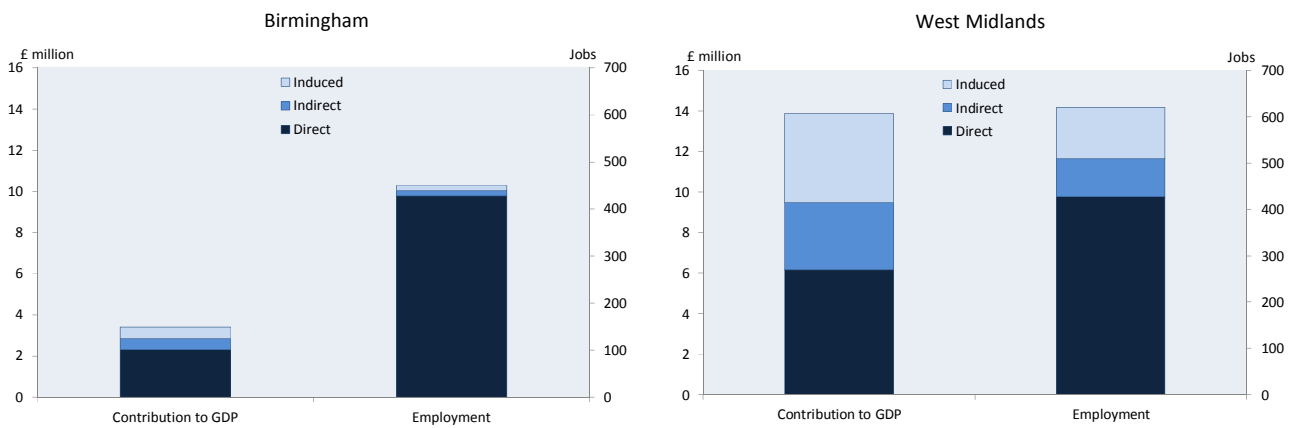
Of the University's capital expenditure in 2011/12, almost £6.2 million was spent with businesses based in Birmingham. In addition to on-site employment, this spending generated activity in these businesses and their supply chains, and the employment supported generated further wage consumption impacts in the city's economy. Taking account of the entire impact chain – direct, indirect and induced impacts – the University's capital spending in 2011/12 led to a value-added contribution of £3.4 million to the Birmingham economy. This activity supported 450 people in employment in the city and generated over £4.5 million in tax receipts.

4.6.2 Impact on the West Midlands

Some of the University’s suppliers in relation to capital projects operate from a base in the West Midlands outside Birmingham itself. Consequently, the University’s capital spending with businesses across the whole of the West Midland was, at £16.4 million, over two-and-a-half times greater than spending with Birmingham-based businesses alone.

When supply chains and wage consumption impacts are considered, this capital spending delivered a £13.9 million value-added contribution to the region’s economy (Chart 4.14), supporting 620 people in employment and generating £7.1 million in tax receipts.

Chart 4.14: The economic impact of the University of Birmingham’s capital spending in 2011/12



Source: Oxford Economics

4.7 Total impact of the University

Key points

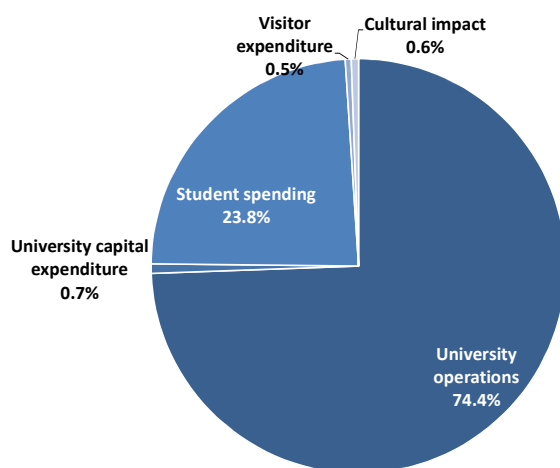
- In total, the University supported a value-added contribution of over £460 million to Birmingham’s economy in 2011/12 (or 2.2% of the city’s total). The University’s impact on the wider West Midlands region was larger at £530 million, or 0.5% of the region’s gross value added.
- In 2011/12, the University supported almost 9,650 people in employment in Birmingham. This is equivalent to one in every 50 jobs in the city. Over 11,800 people in employment in the region were reliant on the University.
- The activity in Birmingham and West Midlands that was supported by the University generated almost £140 million and £165 million in tax receipts, respectively.

The total impact of the University on the city and region in 2011/12 is the sum of the five channels through which it contributes to the economy – the University’s activities, the subsistence spending of its students, the spending of visitors to its students, the spending of visitors its cultural attractions and the University’s capital spending.

4.7.1 Total impact on Birmingham

In total, the University of Birmingham is estimated to have generated an expenditure impact of £898 million in 2011/12, supporting a value-added contribution of over £463 million to Birmingham’s economy. This is equivalent to 2.2% of the city’s economy. Three-quarters of this impact stems from the activities of the University itself. The subsistence spending of students ranks second in importance accounting for almost 24% of the total impact (Chart 4.15).

Chart 4.15: The economic impact of the University of Birmingham on Birmingham in 2011/12 by channel of impact

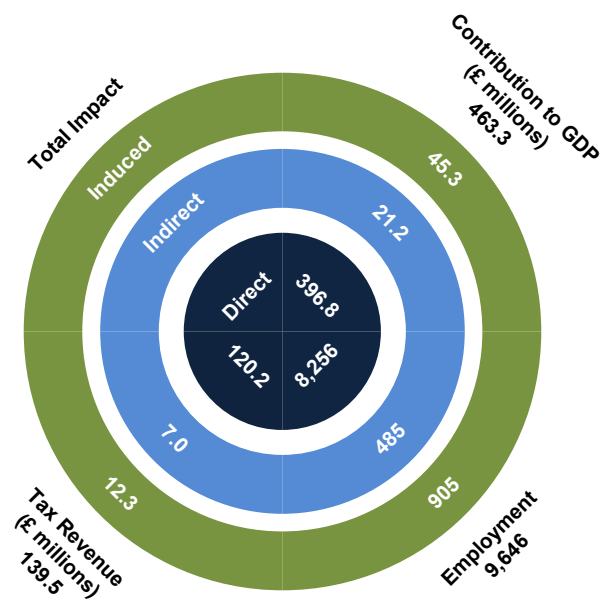


Source: Oxford Economics

The University supported almost 9,650 people in employment in the city in 2011/12 (Figure 4.3). This indicates that one in every 50 jobs in the city is reliant in some part on the University.

The University is estimated to have supported a £140 million contribution to tax receipts in the city. The majority (£104.8 million) of this flows from the University’s activity and payment of wages to its employees. A further £28.6 million in receipts is generated by student subsistence spending.

Figure 4.3: The economic impact of the University on Birmingham in 2011/12



4.7.2 Impact on the West Midlands

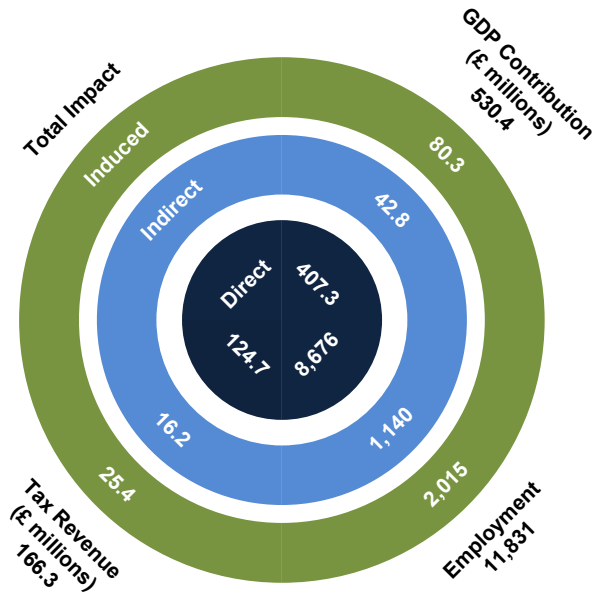
The greater geographical area and more extensive supply chains found in the West Midlands means the University made a larger absolute value-added contribution to the region’s economy, than experienced in Birmingham. In expenditure terms, the University generated almost £1.1 billion in spending in the region, which equated to a £530 million value-added contribution to the region’s economy. The University’s own value-added contribution accounted for almost £380 million of this impact. To put the total contribution into context, the West Midlands economy amounted to £96.4 billion in 2011/12; therefore the University supported over 0.5% of West Midlands’ GDP. The University’s contribution to the region’s economy was almost 50% larger than the combined value-added impact of the region’s 8 largest football clubs.²⁴

By supporting over 11,800 people in employment in 2011/12, the University was responsible for one in every 220 jobs in the West Midlands region.

In total, the activity and employment supported by the University in the West Midlands resulted in a £166 million contribution to tax receipts (Figure 4.4).

²⁴ The football clubs considered were: Aston Villa FC, Birmingham City FC, Coventry City FC, Shrewsbury Town FC, Stoke City FC, Walsall FC, West Bromwich Albion FC, and Wolverhampton Wanderers FC. These clubs were selected for comparison due to the availability of detailed company accounts at Companies House.

Figure 4.4: The economic impact of the University on the West Midlands in 2011/12



5 The University as a research hub

Key points

- In 2011/12 the University received £146 million in research funding. This was 45% of all research funding received by the West Midlands' 12 HEIs.
- According to the latest (2008) Research Assessment Exercise (RAE), Birmingham retained its position as the West Midlands' top university. Highlights from the assessment showed that 90% of the University's research has global reach, meaning it is recognised internationally in terms of its originality, significance and rigour. More recently, the University ranked 12th in the UK overall (out of 159 institutions) in the Research Fortnight University Power Ranking, based on the quality and quantity of UK university's research output.
- The level of research outputs from the University continues apace. In 2011, academics and students at the University published or created 4,827 outputs, two-thirds of which were published in academic journals.
- The latest data show the impact of the University's research. During the period August 2011 to January 2012, 57 new records of invention were recorded at the University, and six new patent applications were filed.
- At the end of January 2012, the University had a portfolio of 19 spinout companies.

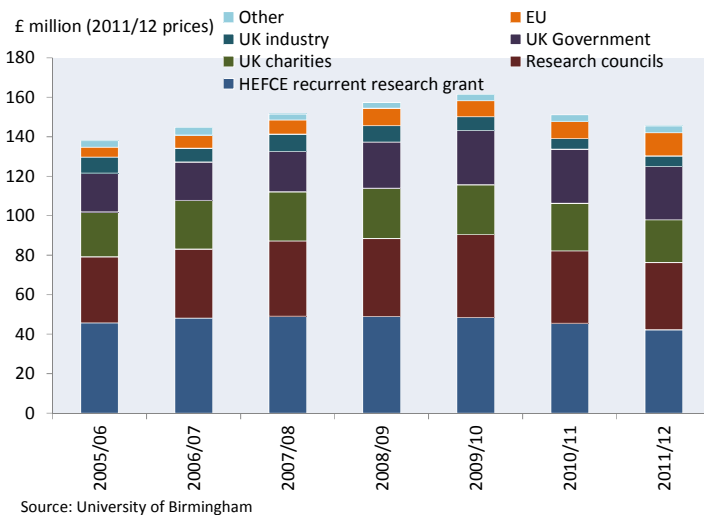
The University of Birmingham has a long history of pioneering research; eight of its staff and alumni have been awarded Nobel Prizes. Research plays an important role in the innovation process. It results in new technologies and processes that bring new products and services to the marketplace, enhances efficiency, or provides significant social benefits (such as in healthcare). Progress in any one of these areas facilitates increased productivity and economic benefits.

The University contributes to this innovation through the research that is conducted by its staff, with the scale of the University's role measured in terms of inputs (such as funding), outputs (including published articles) and impacts (such as revenue from patents and spinout companies, and social and commercial benefits).

5.1 Inputs into research

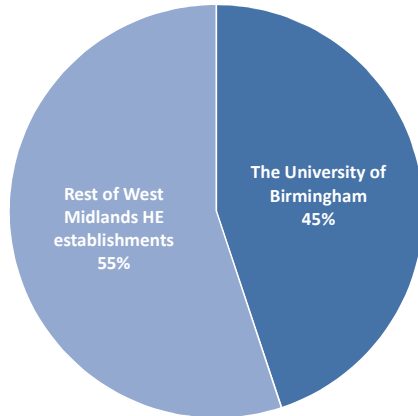
In 2011/12, the University received £146 million of research funding. Of this 29% was provided by the HEFCE recurrent research grant (Chart 5.1). Other important contributors were the Research Councils (23%), UK charities (15%) and UK government (19%). In 2011/12, the University's research funding was more diversified than previous years. This may lower its vulnerability to changes in individual sources research budgets.

Chart 5.1: Sources of funding for research at the University of Birmingham between 2005/6 to 2011/12



To put the level of research funding in context, figures for 2011/12 show that the University of Birmingham received 45% of all research funding received by the 12 HEIs in the West Midlands (Chart 5.2). The University captured almost 90% of research funding received by the HEIs based in Birmingham.

Chart 5.2: Share of research funding received by HEIs in the West Midlands in 2011/12

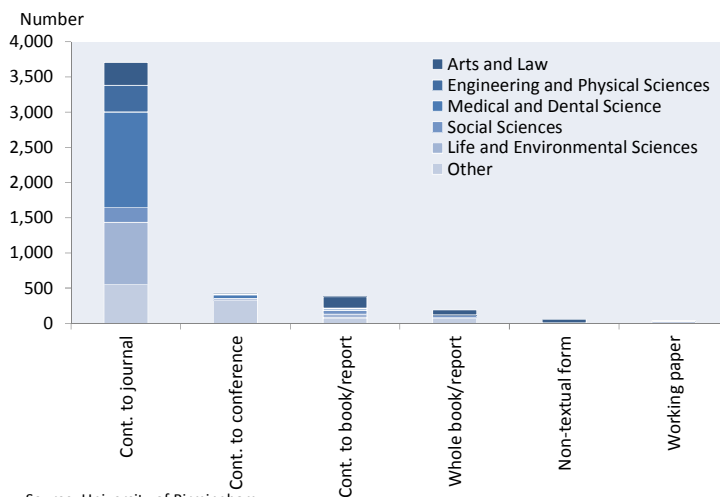


Source: HESA

5.2 Research outputs

5.2.1 Types of research outputs

In 2011, academics and students at the University published or created 4,827 outputs. Of these, two-thirds were articles published in academic journals, 8% papers presented at conferences, and 7% chapters in books (Chart 5.3). The Medical and Dental Science department contributed the most published or created outputs in 2011 (30%), followed by Life and Environmental Sciences (23%), and Arts and Law (13%).

Chart 5.3: Outputs from University research in 2011

Source: University of Birmingham

5.2.2 Ranking the quality of research outputs

The University has many International and UK leading research departments. The latest (2008) Research Assessment Exercise (RAE) confirmed Birmingham's position as the West Midlands' top university. According to the RAE:

- 90% of the University's research has global reach, meaning it is recognised internationally in terms of its originality, significance and rigour;
- The University was ranked in the top five for its research in Primary Care, Cancer Studies, Psychology, Sport and Exercise Sciences, Music, European Studies and Physics; and,
- The University ranked 12th in the UK overall (out of 159 institutions) in the Research Fortnight University Power Ranking, based on the quality and quantity of UK university's research output.

5.3 Impact of research

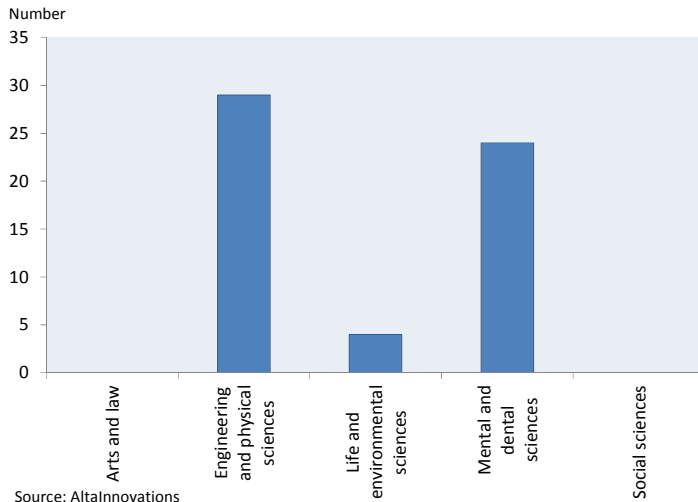
The impact from research conducted by the University of Birmingham can be demonstrated using data collected by Alta Innovations Ltd for the 6 month period 1st August 2011 to 31st January 2012. Several metrics are considered: the number of inventions; new patent applications; and spin-out companies.

5.3.1 Inventions

An invention represents a unique or novel device, method, composition or process. The University has been involved in many important inventions and developments in science. The cavity magnetron was developed at the University in the Physics Department by John Randall, Harry Boot and Jim Sayers. The University's history in nuclear research includes scientists such as Rudolph Peierls, Otto Frisch, Claus Fuchs and Mark Oliphant during the 1940s.

Today, inventions from research conducted at the University continue apace. In the first six months of the 2011/12 academic year, 57 new inventions had been recorded at the University. Twenty-nine inventions were reported by the College of Engineering and Physical Sciences and a further 24 by the College of Medical and Dental Sciences (Chart 5.4).

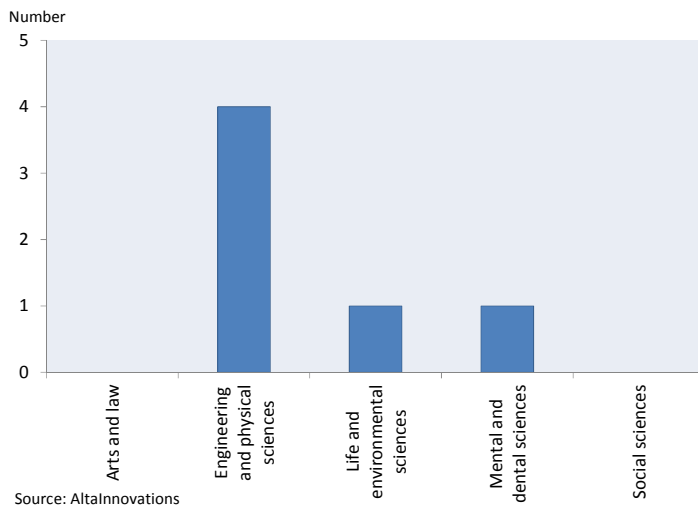
Chart 5.4: Inventions by college between August 2011 and January 2012



5.3.2 Patents

The University dedicates a fund for pursuing patents for new inventions. Six new patent applications were filled by the University in the six month period August 2011 to January 2012 (Chart 5.5).

Chart 5.5: New patent applications by college between August 2011 and January 2012



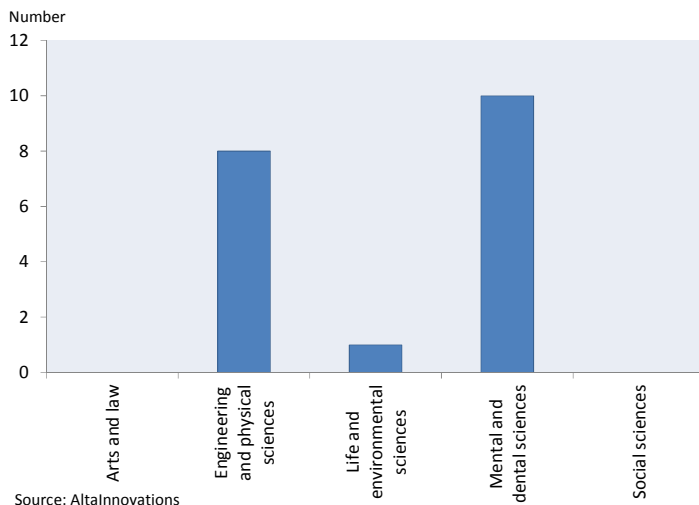
5.3.3 Spin-out companies

The University is also contributing to new firm formation by setting up successful spin-out companies off the back of their research and so supporting economic development in the UK.

The University's existing portfolio of spinout companies contains 19 companies (Chart 5.6). Several spinout companies have been established for well over 5 years. The current level of

University shareholding for each company ranges up to 75%, thus ensuring potential future revenue streams for the University off the back of the initial research phase.

Chart 5.6: Spinout company portfolio at end of January 2012



6 The University as an international gateway

As well as directly benefitting the economy, the University plays a key role as an international gateway for the city and region. It draws international students and staff to the city and region. The University also raises the profile of the city and region, through its international alumni, the conferences it hosts and its academics attend, and the media coverage it receives.

6.1 Alumni as informal ambassadors

Key points

- Graduates who return to their country of origin can act as informal ambassadors, recommending that friends and family attend the University and visit Birmingham, the West Midlands and the UK.
- Survey evidence suggests 79% of alumni living abroad have recommended studying at the University of Birmingham and 63% have recommended visiting Birmingham and the West Midlands.
- International alumni also return to the region as tourists or on business. These visits are estimated to have brought £2.1 million in additional expenditure into the UK.

The University attracts a considerable number of students from other countries. International alumni play an important role in promoting the University, city and region, by acting as informal ambassadors. Personal recommendations can increase the number of future students and visitors who attend or visit the University, city and region, adding expenditure into the local economy.

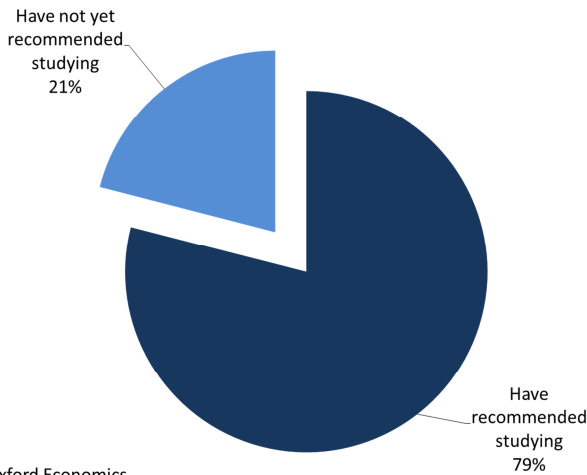
International alumni may also visit the West Midlands after they graduate. By returning to the city and region as tourists or on business, international alumni undertake additional spending into the region's tourism economy, generating economic activity.

To investigate the economic impact of the international alumni Oxford Economics conducted a survey of almost 20,000 graduates and postgraduates who were registered on the University's databases as living abroad. These alumni were invited by the University to participate in an online survey between 1st and 16th December 2012. Almost 1,900 international alumni (or 10% of those invited) responded.

6.1.1 Recommending studying in Birmingham

Almost four-fifths of the international alumni who responded had recommended studying at the University to others (Chart 6.1). This figure is similar to that produced by the 2012 International Student Barometer survey (ISB Autumn Wave 2012), which found that 85.7% of the University of Birmingham's current international students would recommend studying at the University to others. In contrast, 83% of all non-UK students from all UK Universities surveyed by the ISB would recommend studying at their universities.

Chart 6.1: Alumni living abroad who have recommended studying at the University of Birmingham to others



Source: Oxford Economics

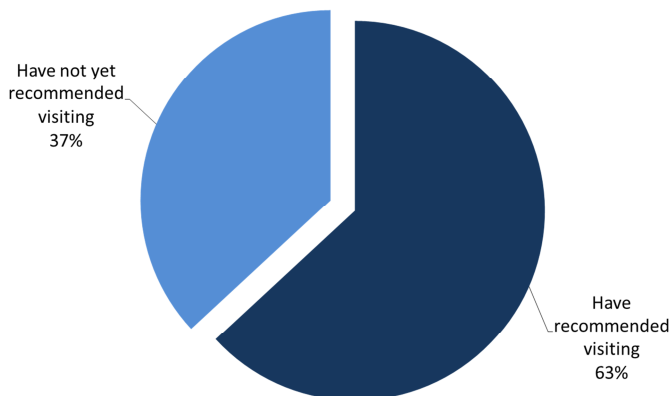
While estimating the number of people who have gone on to study at the University due to alumni recommendations is difficult, respondents were asked to estimate their influence in this regard. The results suggest that recommendations are an important source of students moving to the West Midlands and taking up studies. Within the last decade, alumni living abroad estimated that just over 850 students had taken up studies at the University of Birmingham due to their recommendations.

As seen in Chapter 4, students contribute significantly to the economy while they study. Therefore, the more international students the University receives as a result of alumni recommendations the greater economic impact it has on the city and region.

6.1.2 Recommending visiting Birmingham, the West Midlands and the UK

Just under two thirds (63% of respondents) have recommended visiting Birmingham and the West Midlands to others (Chart 6.2).

Chart 6.2: Alumni living abroad who have recommended visiting Birmingham and the West Midlands to others



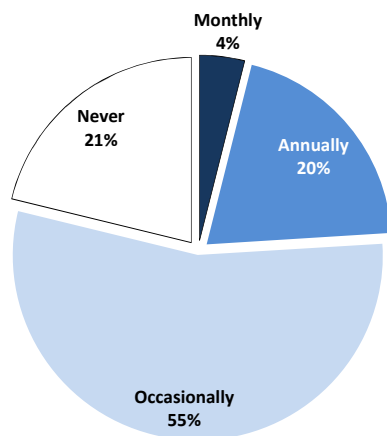
Source: Oxford Economics

The survey also asked alumni living abroad how many visits friends or family had made as a result of their recommendations. Within the last decade, these 790 alumni estimated that over 1,450 visits had been made to Birmingham and the West Midlands due to their recommendations. This represents a ratio of approximately 1.8 visits for every graduate over a ten year period.

6.1.3 Alumni returning to Birmingham, the West Midlands and the UK

Finally, many University of Birmingham alumni who live outside of the UK make return visits. These visits contribute additional expenditure into the UK economy. In the survey, almost one in four respondents reported that they visited the UK at least once a year, with a further 55% of respondents indicating that they visit the UK occasionally (Chart 6.3).

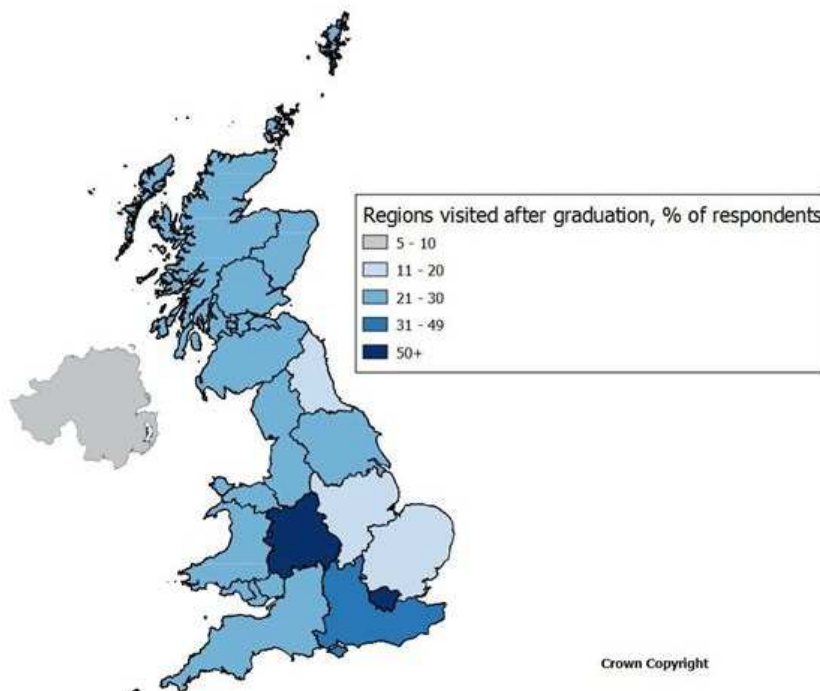
Chart 6.3: Frequency of return visits to the UK by alumni living abroad



Source: Oxford Economics

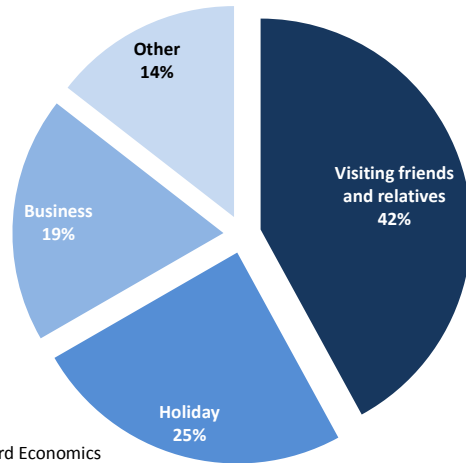
Alumni living abroad report visiting the West Midlands with greater frequency than any other region apart from London (Figure 6.1). Almost 60% of respondents indicated making at least one return visit to the West Midlands after graduating (compared to 61% for London). Other popular destinations included the South East (31%) and the South West, Scotland, Wales, the North West, and Yorkshire and the Humber – which have been each visited by at least 20% of alumni.

Figure 6.1: Regions visited by international alumni returning to the UK (all graduation years)



From the survey data, it is estimated that the University of Birmingham's graduates and postgraduates currently living abroad,²⁵ made just over 6,900 return trips to the West Midlands in 2011/12. Over two-thirds of these trips were either to visit friends and relatives or for other leisure purposes. Almost one in five visits by alumni to the region was for business purposes (Chart 6.4).

Chart 6.4: Purpose of alumni return visits to the West Midlands in 2011/12



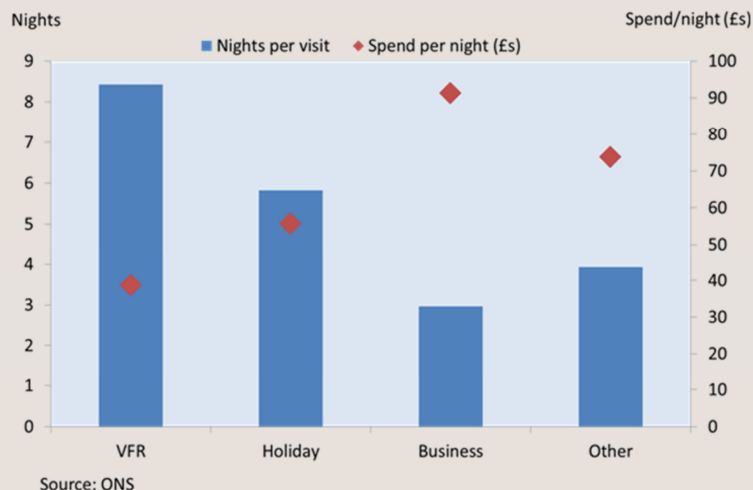
Source: Oxford Economics

²⁵ According to University of Birmingham records, there are approximately 18,750 graduates living abroad.

The value of alumni living abroad return visits

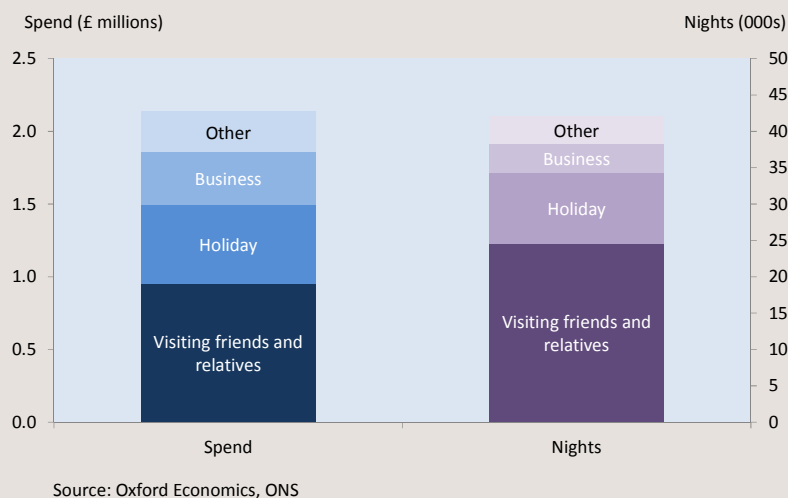
During their visits, alumni living abroad spend money on accommodation, restaurants, transportation, and tourist attractions. While exact spending figures per visitor are unavailable, it is possible to provide an estimate for the value to the UK economy of these return visits using reported activities of visitors from the survey and ONS International Passenger Survey data on the average spend in the West Midlands region by purpose of visit. In 2011/12, tourists visiting friends and relatives spent an average of £327 per trip, visitors travelling for a holiday spent £324 per trip and business visitors spent £271 per trip (Chart 6.5).

Chart 6.5: Estimated nights and spend by purpose of visit to the West Midlands by international tourists in 2011/12



Combining the two data sources it is possible to estimate the visits of returning alumni generated an estimated £2.1 million in the region in 2011/12. Alumni visiting friends and relatives accounted for £951,000 of this total (Chart 6.6), with holidays and business trips accounting for a further £543,000 and £361,000, respectively.

Chart 6.6: Nights stayed and total spending by return visits from overseas alumni to the West Midlands in 2011/12



6.2 Conferences

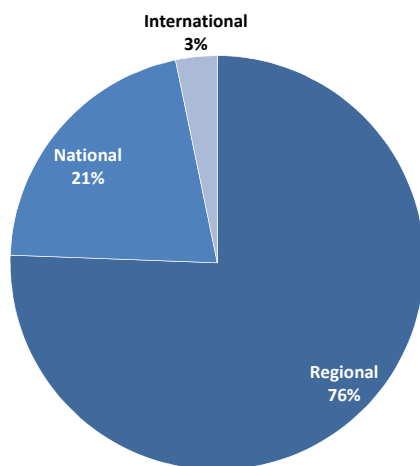
Key points

- Over 75,000 people attended conferences at the University of Birmingham in 2011/12. Of these, a quarter attended conferences rated as being of national or international importance.
- Attendance at University of Birmingham conferences contributes to an estimated £3.8 million in additional expenditure in the region. ONS data suggest attendees spend on average £193 per domestic trip and £277 per international trip.

In a similar manner as alumni, conferences held at the University of Birmingham can also have a positive effect in promoting the University, city and region. High profile conferences with significant coverage in the media and academia can enhance the reputation of the University, attracting students and academics to the city. Moreover, conference attendees may be visiting the city and region for the first time and their experiences and impressions may lead them to make return visits in the future.

In 2011/12, over 75,000 people participated in conferences held on campus (60%) or at the conference park (40%). A quarter of these attended conferences rated as of national or international importance (Chart 6.7). Academics at the University are also responsible for and attend high-profile conferences off-campus at the various conference centres located in the city (for example, the International Conference Centre). Data are unavailable on the number of these conferences, but they will play a similar role in enhancing the reputations of the University, city and region.

Chart 6.7: Conference attendees by conference type in 2011/12



Source: University of Birmingham; Oxford Economics

In addition to promoting the region, conference attendees have an immediate impact on the city and region through the additional expenditure they undertake in the local economy. Some of this will accrue to the University through attendance fees, accommodation and catering expenditure, but some will benefit local businesses. ONS data indicate that domestic attendees staying overnight at conferences in the West Midlands spend an average of £193 per trip, including accommodation, while international attendees spend £277 per trip. In 2011/12 there were nearly

18,400 national or international trips, suggesting a total spend of £3.8 million due to conference attendance at the University of Birmingham.²⁶

University of Birmingham staff attend other Universities' conferences as well, which raises the profile of the University of Birmingham. Data indicate that academics at the University contributed 390 papers to conferences in 2011, each of which will have made a positive impact on the University's profile.

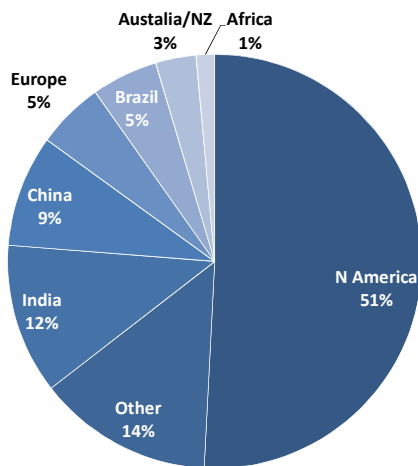
6.3 Press coverage

Key points

- In 2011/12, over 4,000 articles mentioned the University of Birmingham in the international press and media. Of these, nearly four-fifths were published in North America, India, China, or Brazil.
- The 'advertising-rate equivalent' value of media coverage of the University of Birmingham, calculated using global advertising rates, is estimated at almost £8 million in 2011/12.

A further channel by which the University acts as an international gateway for the city and region is through the press coverage it generates. In 2011, the University achieved 801 impact articles, and set a target of 1,000 impact articles in 2012.²⁷ University tracking traced 4,068 articles mentioning the University of Birmingham in international publications. Over half of these were published in North America, with a further 12% published in India, 9% in China, and 5% in both Brazil and Europe (Chart 6.8). The remaining 18% were published in Australia, New Zealand, Africa, or elsewhere in the world. This analysis suggests that University of Birmingham research has significant, global reach.

Chart 6.8: International impact articles featuring the University by location in 2011/12



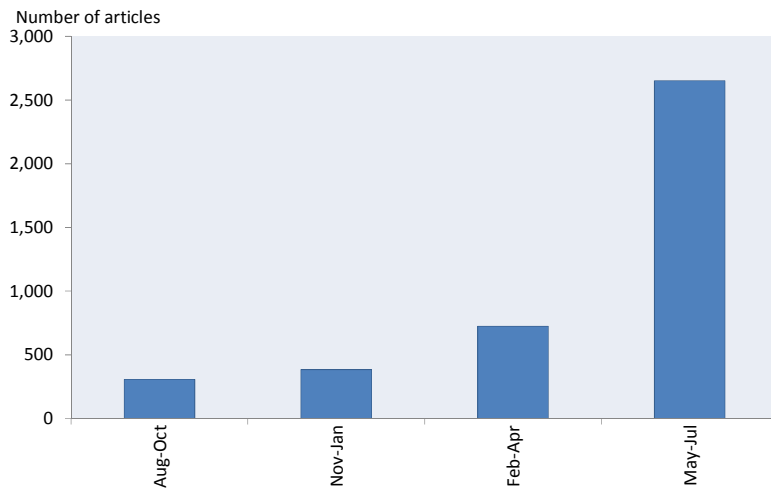
Source: University of Birmingham; Oxford Economics

²⁶ Note that this amount is not included in the total economic impact of the University.

²⁷ An 'impact article' is defined by the University as articles that reflect positive stories and/or contain significant mentions of the University.

The 2011/12 academic year included the London 2012 Olympic and Paralympic Games. The University of Birmingham participated in the lead-up to the Games by hosting the Jamaican Track and Field team for their final pre-games training camp. As a host site for a major training camp for one of the key teams – and possibly the highest-profile athlete (Usain Bolt) participating in the Games – the University received over half of its media coverage for 2011/12 in the final quarter of the academic year (Chart 6.9).

Chart 6.9: Number of impact articles featuring the University in 2011/12



Source: University of Birmingham

Potential value of positive press coverage

Media coverage can advertise and raise the profile of the University, city and region. It is possible to estimate the value of this coverage using newspaper advertising rates in each of the markets where coverage is received. In 2011/12, the University would have to of spent £8 million on advertising in the international press to get the same amount of column inches as it achieved through articles.²⁸

²⁸ The Wall Street Journal's *General Advertising Rate Card 2012* was used to identify the standard advertising rates in each market.

7 The University as a neighbour

The impact of the University on the community extends beyond its economic impact and the skills its graduates contribute to the region's labour force. The University plays an active role in trying to ensure that the opportunity of higher education is not limited to a select group by running schemes aimed at increasing access to higher education for local potential students coming from deprived backgrounds and families without a history of university education. On a smaller, but still important scale, volunteering by the University's students enables local schools and charity organisations to expand their activity. Finally, the University's campus provides the local community access to facilities that may not be available otherwise.

7.1 Widening participation in higher education

Key points

- The Access to Birmingham Programme (A2B) aims to attract local students from deprived areas by increasing their awareness of higher education and helping them to prepare for the transition from school. Over the last 5 years over 2,600 pupils, primarily in the West Midlands, have accessed the programme.
- In 2011-2012, 74% of A2B participants lived in areas classified as disadvantaged. Furthermore, 71% of participants lived in areas where less than a quarter of adults hold a higher education qualification.
- Despite coming from deprived areas, A2B students achieve marginally higher results than average students at the University.

7.1.1 Socioeconomic barriers to higher education

Research shows that young people from more disadvantaged backgrounds in England are five times less likely to enter university than their more advantaged peers.²⁹

Studies on the impact of educational attainment have consistently shown that parents' level of education affects children's educational achievement. In a study conducted with UK data, Chevalier (2004) found that after allowing for other influences such as parent's income, labour market status and neighbourhood characteristics, each year of parents' education increases the probability of students staying on after GCSE exams by as much as 8 percentage points – an impact greater than the 6 percentage point increase that followed the introduction of education maintenance allowance.³⁰ In the United States, Oreopoulos et al (2006) showed that each additional year of education for either parent substantially reduced the probability of children dropping out of high school.³¹

Parents' level of education also impacts children's performance in GCSE exams. In turn this performance influences the predicted levels of achievement in A levels (if taken) that are often an

²⁹ Jerrim, et al. (2012)

³⁰ Chevalier (2004).

³¹ Oreopoulos, et al. (2006)

important component of university admission processes. A recent study found that one extra year of education for parents raised children's GCSE scores by approximately 14 points – equivalent to over two grades – with the effect even more pronounced when the focus was on parents with relatively low levels of education.³²

7.1.2 Life-time income benefits to graduates from disadvantaged backgrounds

For students from more disadvantaged backgrounds a university education impacts significantly on their expected lifetime incomes from employment. The Department of Education and Skills estimate that this lifetime earnings gap was £400,000 in today's prices.³³ Sloane and O'Leary (2004) find that the wage premium for university graduates (compared to someone who has achieved two or more A-levels but has not entered university) is 20% for men and 35% for women. Compared to those with no formal educational qualifications, the earnings premium for men is 97% and 102% for women.³⁴

Table 7.1: Wage premiums associated with a University education

	University Wage Premium Relative to A-Level	University Wage Premium Relative to no Formal Qualifications
Male	20%	97%
Female	35%	102%

Source: Sloane & O'Leary (2004)

As well as offering the benefit of higher lifetime earnings, university education is also likely to provide benefits to employers of graduates and the economy more generally. Higher average earnings by graduates reflect their higher levels of productivity. This higher productivity supports the efficiency of organisations for which graduates work and feeds into the local, regional and national economies via a higher level of GDP per worker.

7.1.3 Easing the transition to the University: the *Access to Birmingham Programme*

For more than 10 years the University of Birmingham has been a leader in programmes to widen participation in higher education that, on the basis of the available research, brings long-term benefits to individuals, businesses and society as a whole. These programmes target pupils from localities – primarily in the West Midlands – and socioeconomic groups where there is low participation in higher education.

The Access to Birmingham (A2B) scheme helps students from families and communities in the West Midlands who have little or no experience of higher education learn more about what studying at university involves. The main thrust of the programme provides pupils from lower-income households and from schools where a low quotient of students go on to higher education with the

³² Dickson, et al. (2013)

³³ Greenaway and Hayes (2003) highlight that the accepted measure of the lifetime earnings differential was £400,000 in 2003. The figure presented here is obtained by growing this differential in line with earnings growth between 2003 and 2012.

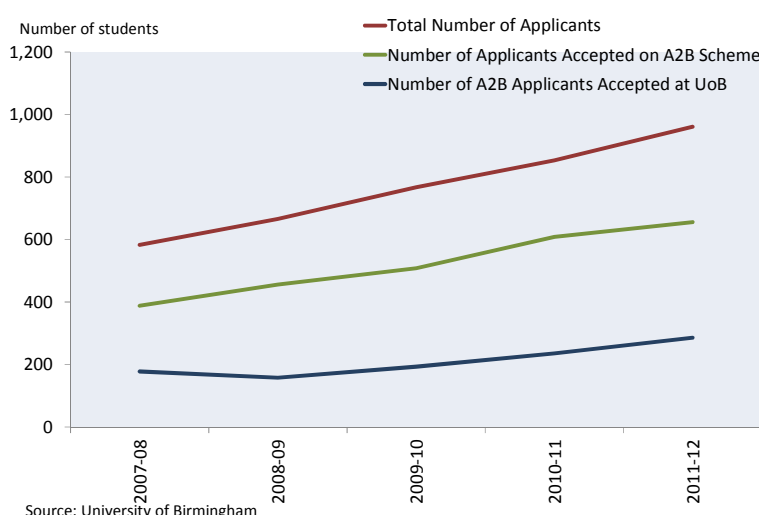
³⁴ Sloane & O'Leary (2004)

learning skills for successful participation in higher education. Programme participants complete a pre-induction module consisting of a student shadow or visit day, an online study skills support module and assessment, and an assignment supervised by an academic tutor.

Accepted programme participants receive an alternative A2B offer to study at the University in addition to their standard one. This provides participants with a place on their chosen course with reduced entry requirements (e.g. BBB rather than AAB at A level) if they successfully complete the Higher Education Learning Module and make the University of Birmingham their first choice.

Over the last 5 years 2,617 pupils in 172 secondary schools, primarily in the West Midlands, have accessed the programme. The popularity of the scheme is currently growing with the total number of applicants rising to 961 in 2011/12, up 12.5% on the previous year. The programme's expansion has increased the number of students from disadvantaged backgrounds matriculating at the University. In 2012, 65% of A2B applicants were given an offer, with 285 A2B applicants entering the University in September 2012, an increase of 22% on 2011 (Chart 7.1).

Chart 7.1: Expansion of the A2B Programme enhances access to university education for the local population



An analysis³⁵ of the residence of A2B participants and deprivation data shows that the programme targets populations that are at risk of not continuing to university studies. This shows that 74% of programme participants live in disadvantaged areas.³⁶ In the context of participation rates of 18-20 year olds in higher education, 53% of programme participants lived in areas where less than a quarter of their peers are in higher education. Furthermore, 71% of programme participants live in an area with less than a quarter of adults holding a higher education qualification.

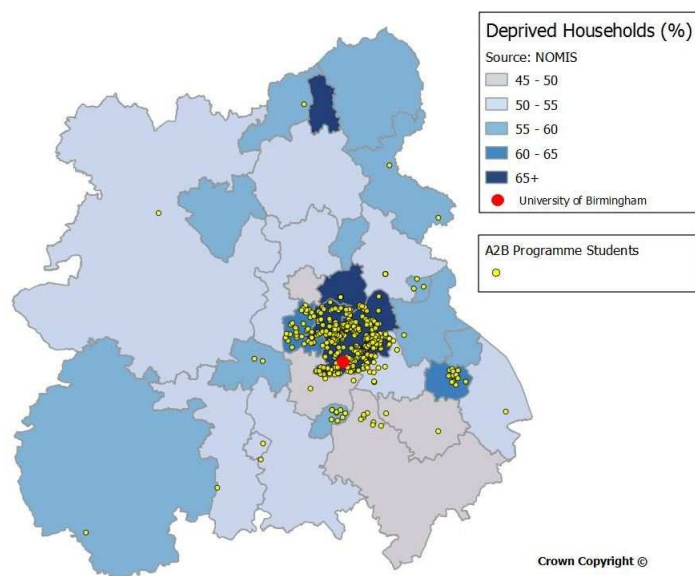
The A2B scheme has now been expanded to 200 partner schools and colleges, with 28 new partner institutions. An assessment of deprivation data by location of each school shows the University's commitment to helping less advantaged students. Specifically, 58% of learners in partner schools live in deprived areas and six out of ten of these schools have 58% or more learners living in areas where less than a quarter of adults hold a higher education qualification. In

³⁵ Using deprivation data provided by Aimhigher West Midlands.

³⁶ Defined as the 40% most deprived postcode areas.

terms of eligibility for free school meals, another measure of deprivation, 45% of schools have at least one sixth of their students eligible for free school meals.

Figure 7.1: Distribution of A2B participants and local deprivation in the West Midlands in 2011/12



Using ONS criteria³⁷ to assess levels of deprivation, the Figure 7.1 demonstrates that the majority of the A2B participants come from the most deprived parts of the West Midlands. As discussed in the preceding section increased access to university education for students from these areas is likely to have the most impact on individuals, households, and society at large.

The success of the scheme is witnessed in the results that its participants achieve. Despite coming from deprived areas and families with little, or no, history of higher education, A2B students achieve marginally higher results than average students at the University. Between 2008 and 2012, almost 98% of A2B participants obtained a degree at a 2:2 classification or above; the University average in that period was 96%.

7.1.4 Early intervention - *Academic Enrichment Programme*

In addition to the A2B programme, the University of Birmingham runs a parallel programme that gives earlier guidance to students from disadvantaged backgrounds. The Academic Enrichment Programme (AEP) aims to support students from Year 12 to secure a place at research-led universities. The programme supports students through the process of applying to a leading research university by:

- Supporting students to raise academic grades;

³⁷ The four characteristics are: Employment (any member of a household not a full-time student is either unemployed or long-term sick); Education (no person in the household has at least level 2 education, and no person aged 16-18 is a full-time student); Health and disability (any person in the household has general health 'bad or very bad' or has a long term health problem), and Housing (Household's accommodation is either overcrowded, with an occupancy rating -1 or less, or is in a shared dwelling, or has no central heating).

- Giving students first-hand experience of the academic learning to be expected from a research led-institution; and,
- Raising student's motivation, knowledge and understanding of applying to a research-intensive university.

Students join the AEP in Year 12 and attend a week-long residential school at the University's Edgbaston campus in the summer of Year 12. They also receive on-going, one-to-one e-mentoring from current undergraduates. In Year 13, students attend two study-skills sessions at key points and have access to on-line revision materials to support exam performance.

The University is also a member of Realising Opportunities. This is a collaboration of 12 leading universities promoting fair access to higher education and encouraging social mobility for able students from under-represented groups. The Realising Opportunities programme is designed to support students through their post-16 studies with skills development and guidance, as well as allowing students to demonstrate their potential to study at a research-intensive university.

7.2 Value of student volunteering

Key points

- Over 4,000 of the University's students volunteered in 2011/12, giving over 60,000 hours of time (equivalent to almost 7 years) in the course of the year.
- These volunteers provide local organisations with the means to increase their capacity and capabilities, offering a greater level of service to the community. The time students provide was worth almost £575,000 in 2011/12.

Students at the University of Birmingham are keen volunteers, with over one in seven volunteering at some point in 2011/12. The University offers two routes for students to become volunteers: through the Guild of Students, and for sports-based volunteering, University of Birmingham Sport.

7.2.1 Guild of Students volunteers

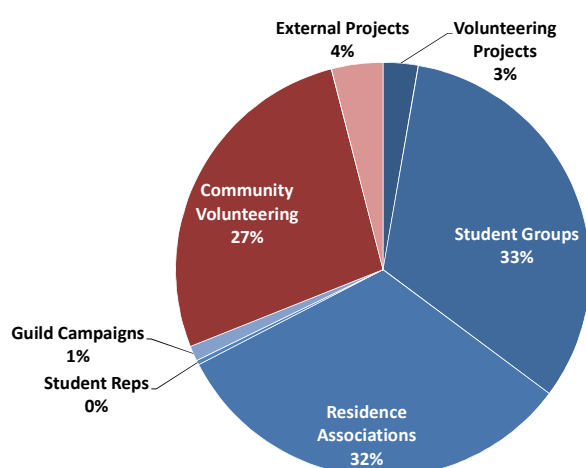
The Guild of Students coordinates the majority of student volunteers that occurs both on and off campus. Through its website, students are informed of the latest volunteer opportunities within the Guild itself, in the University or in the local community.

The Guild enabled over 3,400 students to volunteer in 2011/12 – an increase of over 200% on the previous year. Almost 90% of those volunteering³⁸ were enrolled in an undergraduate degree, with a similar percentage being UK nationals.

On average each volunteer spent 12 hours volunteering. This sums to a total of almost 41,500 hours – equivalent to almost four and three-quarter years. Over two-thirds of this time was spent volunteering for on campus activities; the most popular being running student groups and residence associations (based around each hall of residence (Chart 7.2)). Other on-campus projects included the development of a student garden. Converted from a piece of unused University land, the garden is designed to promote healthy eating and disseminating gardening skills.

³⁸ Where degree level was known.

Chart 7.2: Guild of Students hours of volunteering by activity in 2011/12



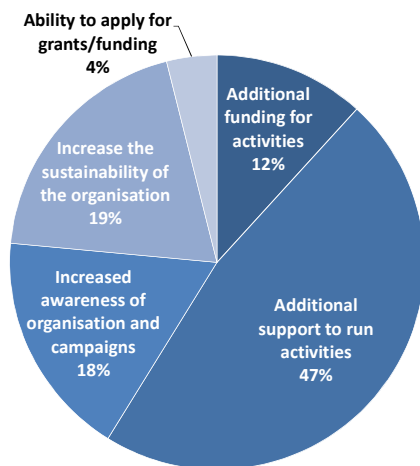
Source: University of Birmingham; Oxford Economics

Slightly less than one hour in every three of volunteering was located in the local community; however this time has a significant benefit for the organisations hosting volunteers – primarily the opportunity for capacity building. A survey by the Guild of the organisations hosting student volunteers identified that almost 60% saw volunteers as important for enabling the scale of activities to increase – either through the extra support volunteers offer, or the availability of additional funding (Chart 7.3). Student volunteers can also have a long-run benefit for community organisations that outlasts their period of volunteering – almost 20% of organisations thought that having student volunteers had increased awareness of their organisation and campaigns. A similar proportion believed that student volunteers had increased the sustainability of their organisation.

Although the students do not donate funds to the organisations they help, by giving their time for free. It is possible to estimate the value of this time by using ONS data on the average hourly wage in the West Midlands for individuals employed in the sectors in which community organisations operate.³⁹ Matching the volunteering activities students undertake, with the average hourly wage for these activities in the West Midlands indicates that local community organisations benefited from £133,000 worth of time in 2011/12. When volunteering within the University is also considered the value of time given by students through the Guild amounted to almost £430,000 in 2011/12.

³⁹ The ONS compile the *Annual Survey of Hours and Earnings* (2012) for each region of the UK, with detailed sectoral breakdowns of earnings. The sectors in which community organisations operate are education, health and social work, arts, recreations and entertainment, and other services.

Chart 7.3: Capacity building in community organisations due to student volunteering in 2011/12



Source: University of Birmingham; Oxford Economics

7.2.2 University of Birmingham Sport volunteers

University of Birmingham Sport provides opportunities for students who are keen to base their volunteering around sports. Volunteering placements in the local community include delivering or assisting in sports activities within after-school clubs, or at evenings and weekends, and helping to run the 48 sports clubs based at the University.

In total, 615 students volunteered through University of Birmingham Sport in 2011/12. Over 80 students were volunteer coaches and were placed in 28 local schools and community clubs. A further 300 students were committee members in the University’s sports clubs, and 233 students were volunteer marshals at the BUPA Great Birmingham Run.

London 2012

The London 2012 Olympic and Paralympic Games also offered a different form of volunteering opportunity to students at the University. The Jamaican track and field team held their pre-Games training camp at the University and where they were assisted by the University’s ‘Green Team’ – 72 student volunteers. These students each volunteered for approximately 56 hours, during which time they acted as attachés for the athletes and coaches.

Almost 40 University students also volunteered as Games Makers for the Olympic and Paralympic period. During which time they served athletes, coaches, dignitaries, members of the media and supporters by fulfilling a variety of roles.

When one-off special events, such as the Olympics and Jamaican training camp, are excluded, students volunteering through University of Birmingham Sport gave 17,700 hours of time to deliver sports activities and coaching at the University and in the local community. While the vast majority of this time (15,000) was devoted to the operation of sports clubs within the University, volunteer coaches in the local community each gave an average of 15 hours to help deliver sports sessions to children.

ONS data suggest the average hourly wage for workers delivering sports activities in the West Midlands was £8.18.⁴⁰ Given this wage rate, the University's sports volunteers made a contribution worth £145,000 in 2011/12. Of this total, almost £22,000 was received by the local community.

7.3 Benefits derived from University facilities – the new sports centre

Key points

- The University's facilities provide benefits to student, staff and the local community. In many cases the quality of the amenities offered cannot be matched in either the city or region. The development of the new sports centre on the University's Edgbaston campus is one such facility.
- Construction of the new centre is estimated to generate a value-added contribution of £3.4 million to the city's economy, supporting 450 jobs during the construction period. At a regional level, the impact increases to £13.9 million in value-added and 620 jobs.
- The benefit of the sports centre extends beyond the impact of construction. By enabling more people to undertake physical activity society will enjoy savings through lower costs to the NHS, less productivity lost due to illness and fewer premature deaths. It is estimated that the combined savings to society resulting from membership of the new sports centre will amount to £2.8 million annually, of which £1.4 million are only possible due to the increased capacity offered by the new centre.

One of the University's major investment projects over the next few years is the development of a new sports centre on its Edgbaston campus. The new centre is designed to replace the University's existing sports facility – the Munrow Sports Centre, which, built in 1965, has been out-grown by the University – with a large multi-activity facility. The new centre will provide for a wide range of activities, and will support all levels of participants – from absolute beginner to elite athletes, and those with specific health problems. The centre will also address some of the significant gaps that exist in terms of sports facilities in the city and south Birmingham in particular - for example, the centre will house Birmingham's first 50 metre swimming pool.

Facilities at the New Sports Centre

- *50 metre swimming pool* – Birmingham's first 50 metre pool, which will be divided into two and have a moveable floor.
- *Large sports hall* – the size of three basketball courts this will enable the city to host Super League Netball and National League Basketball games, with seating for 800 spectators.
- *Fitness suite* – with 215 exercise stations and professional fitness instructors and advisors.
- *6 squash courts.*
- *Indoor climbing wall.*
- *Small/hybrid sports hall, activity studios and martial arts room.*
- *Performance sports unit.*

⁴⁰ Office for National Statistics (2012).

- Wellbeing centre.
- Café.

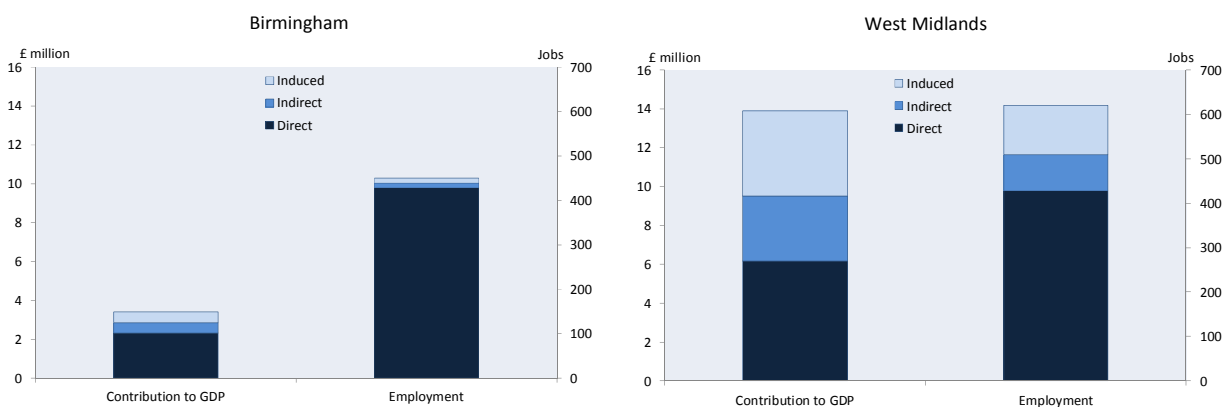
7.3.1 Impact of construction

The construction of the new sports centre will stimulate economic activity in the city and region, supporting employment and generating tax revenues for the Exchequer. The expected cost of the new sports centre is £55 million. At time of writing businesses have not been contracted to deliver the project, therefore the full geographical distribution of this spend is not known. However, if it were to follow the same distribution as the University’s capital spending in 2011/12, approximately £6.3 million would be spent with businesses based in Birmingham and £16.7 million with West Midlands-based firms.

Over the construction period it is estimated that 430 people will be employed onsite with a further 20 people employed in Birmingham-based supply chains and as a result of wage-funded consumption in the city. The activity generated by the construction will contribute £3.4 million in value-added to the city’s economy (Chart 7.4), and raise £4.6 million in tax receipts.

In the West Midlands as a whole over 80 people will be employed in supply chains, and a further 110 as a result of wage-financed consumption by the 510 people directly and indirectly employed by the build. A total of £13.9 million in value-added will be contributed to the economy and over £7.1 million raised for the Exchequer.

Chart 7.4: The economic impact of the construction of the University’s new sports centre



Source: Oxford Economics

7.3.2 Wider community benefits

The benefits of the new sports centre extend beyond the economic activity and employment created by the centre. The new facilities will enable more students, staff and members of the local community to engage in regular exercise.

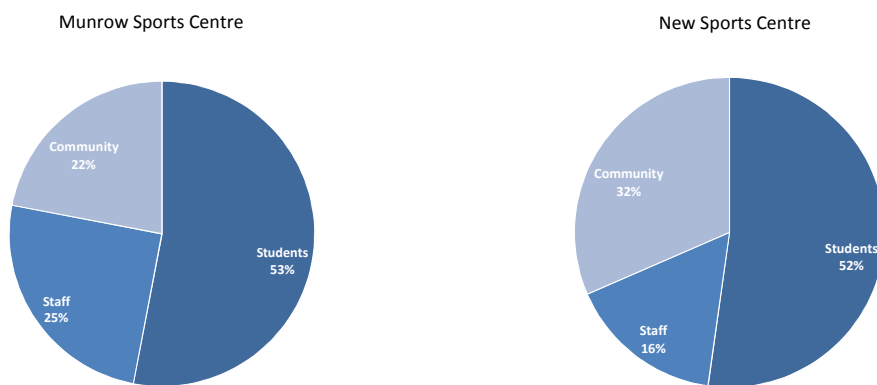
The NHS encourages adults to exercise for more than 30 minutes five times a week in order to reduce susceptibility to major illnesses. However, the majority of the UK’s adult population do not meet this minimum. Data from Sport England indicate that only 29.6% of adults in the West Midlands region did at least 30 minutes of exercise one time a week; adults in Birmingham do

marginally better, with 35.7% doing at least 30 minutes of exercise a week – close to the England average of 36%.⁴¹

It is not only the individuals who suffer from failing to undertake exercise; considerable costs are placed on society as a result of higher disease incidence. In 2009, the UK Government reported that physical inactivity was costing the NHS between £1 billion and £1.8 billion annually, due to the treatment of long-term conditions and acute events (such as heart attacks) which could be mitigated with exercise.⁴² Moreover, a further consequence of these conditions is potential lost productivity through increased illness, absences and premature death, with an estimated combined cost of £6.5 billion to the UK.⁴³ Even by a conservative measure, therefore, inactivity costs society £7.5 billion annually.

One of the key benefits of the new sports centre will be the increased membership capacity over the Munrow Sports Centre (Chart 7.5). The current centre has 5,000 members, split between students (53%), staff (25%) and community members, including alumni and corporate members (22%). The new centre will enable membership to more than double to 10,150. Within this total, student memberships will double and community memberships will almost triple to 3,200.

Chart 7.5: Breakdown of sports membership under the current and new sports centres



Source: University of Birmingham

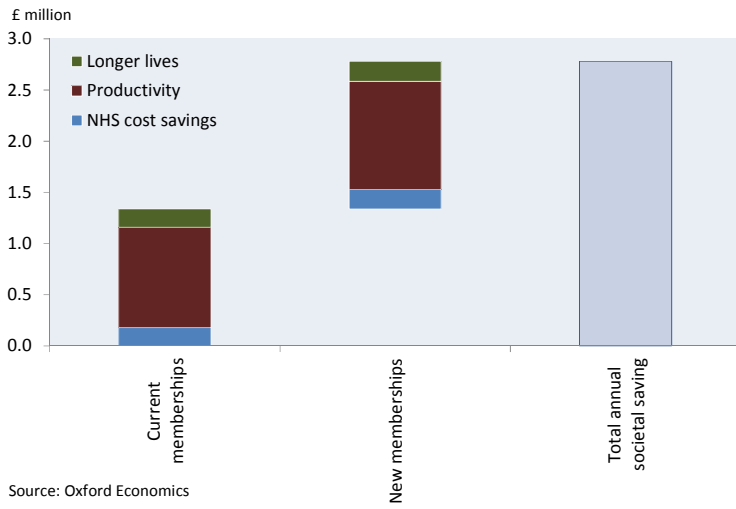
Greater levels of membership will likely result in an increase in lower level of inactivity and cost savings to society. If every member were to use the new sports centre for at least 30 minutes per week, the saving for society would be almost £2.8 million per year, of which over £1.4 million is the result of the expansion in membership numbers made possible by the new centre (Chart 7.6).

⁴¹ Sport England (2012).

⁴² Department of Health (2009).

⁴³ Allender, et al. (2007) and Ossa & Hutton (2002).

Chart 7.6: Breakdown of societal cost savings from the new sports centre



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