



Degrees of value

How universities benefit society

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Executive Summary

Universities yield benefits way beyond the individual financial returns to students and human capital gains for the economy. We find that just three social outcomes – greater political interest, higher interpersonal trust and better health – contribute a benefit of £1.31 billion to UK society over and above the economic benefits.

University performance is often evaluated according to a limited set of indicators, namely financial returns to individuals and impact on economic growth. Such narrow valuations ignore the role universities play in building a stronger and more tolerant society – both directly through public outreach and indirectly through the student university experience. Where attention has been paid to the broader outcomes the lack of quantitative evidence has led to an assumption that their value to society is marginal.

This report aims to challenge this assumption. Using principles based on the Social Return on Investment (SROI) methodology, it finds monetary values for three UK-wide societal outcomes: greater political interest, higher interpersonal trust and better health, alongside a number of community outcomes derived from community outreach activities at two universities, Manchester Metropolitan University (MMU) and the University of Warwick (UW).

This research has attempted to quantify public value in a way previously not thought possible, however, it does not give a **full** account of all the broader benefits produced. For example, it does not quantify the vital contribution of scientific research on issues such as combating climate change and diseases such as cancer. Instead, it is an initial attempt to evoke discussion about the broader public contributions from the diverse ways in which everyone profits from the university sector in the UK.

Headline figures

The key monetary values relate to:

- 1. Societal benefits from individual social outcomes:** The public value generated from just three society-wide outcomes – greater political interest, higher interpersonal trust and better health – amount to £212 million from the 1.9 million current undergraduate students and a total of £1.31 billion for all 11.8 million graduates in the UK.
- 2. Facilitating social mobility:** At MMU the principal public benefit is created by having higher than average levels of students from low-income households. Through this one activity MMU contributes £147.2 million to society a year.
- 3. Public outreach and access to cultural resources:**
 - Just one reading programme organised by Warwick Volunteers works with over 100 primary school students and helps improve reading fluency, the enjoyment of reading and aspirations to the value of £290,000 for pupils and the local community.
 - International students involved in volunteering at the UW add cultural learning benefits for the local community. We estimate these cultural and community cohesion benefits to be almost £48,000.

- Aggregating the value of student volunteering for just mentoring alone reveals a contribution to the local community of £954,000. Crucially, the experience of volunteering at university has a sustained effect. The likelihood of these individuals volunteering again in the future is at least twice that for those who do not volunteer in early adulthood.
- Finally, Warwick Arts Centre, based on campus, stages high calibre cultural performances for the public. The locality of the Centre increases the variety of live theatre, music and dance performance available to those in the community and enhances the reputation of the local area. We estimate that the cultural benefits sum to £27.7 million.

The above valuations are for just two universities and an isolated number of community engagement programmes. Thus, it is fair to assume that the university sector as a whole is delivering benefits through facilitating social mobility, community engagement and cultural enrichment to the value of billions of pounds every year.

Our findings demonstrate the significant contribution universities can make in strengthening the glue that holds society together, providing cultural facilities and raising the aspirations of children and young people. As such, higher education impacts on wider policy objectives including those related to health, citizenship, community cohesion, social mobility and the 'Big Society'.

Recommendations

Based on our findings we recommend that:

- 1. Universities should seek to maximise their public value and impact.**
For example, by making the most of activities such as student volunteering, opening up cultural facilities, and bringing together individuals from a variety of ethnic and socio-economic backgrounds.
- 2. Universities become more vocal about the public value they deliver.**
This will require a sector-wide adoption of common methods and language to capture, value and communicate the broader outcomes they produce. Collating such figures should ensure a much better understanding by the Government and the public on the broader benefits universities contribute to society.
- 3. Both universities and the Government must be mindful of the impact of fee levels on delivering public value.** Universities and the Government must monitor the impact of the new student finance system on applicants from under-represented groups and consider new opportunities to encourage and increase their participation.

1. Introduction

The central aim of any university is to enrich knowledge and understanding through education and research. Their success in achieving this objective is most frequently judged on impacts to the labour market and scientific innovation, captured through financial returns to students and economic benefits to society as a whole.

However, benefits for individuals, society and the economy stretch way beyond these more obvious outcomes. Broader benefits that are delivered by higher education (HE), such as better health and student volunteering in local communities, also have a societal value. By overlooking such contributions we are currently underestimating the value of the university sector to UK society.

Existing research has demonstrated the economic benefits of higher education. The private financial returns to those who attend are estimated at £100,000¹ over a lifetime and were the focus of the recent Browne Review.² Export earnings as well as student and institutional spending in local economies have been estimated to generate over £59 billion.³ Other economic benefits also include growth spurred on by a more educated workforce and academic research producing technological innovations.⁴

Impressive as these figures are, this is not the whole picture. Universities are often engaged in a wide variety of community outreach work – from students mentoring school pupils to bringing cultural performances to a non-traditional audience. Universities are also commonly where students volunteer for the first time, mix with people from different social and cultural backgrounds and where they become more involved in democratic processes.

Marginalisation of the broader outcomes from HE stems from difficulties in measurement and monetary valuation and typifies the common focus on economic, rather than social and environmental outcomes that are just as important for building a well-functioning and happy society.

This short study seeks to begin to set the story straight. Using an extended cost-benefit analysis tool, Social Return on Investment (SROI), it pinpoints some of the broader UK-wide public benefits using two case study universities, Manchester Metropolitan University (MMU) and the University of Warwick (UW), and estimates the value these deliver for society.

The report is ordered as follows: section 2 provides a review of the literature demonstrating the individual and societal gains from higher education and develops a narrative around the public value generated from universities based on case study findings.

Sections 3, 4 and 5 take each of the three strands of broader benefits identified in section 2 – individual social outcomes which result in better societal outcomes, social mobility and community engagement – and provide an explanation of how we applied financial valuation to all key outcomes for society and local communities.

The study concludes by making recommendations on the best way to maximise the social value generated by universities.

Box 1: Research methodology and Social Return on Investment (SROI)

This study drew on SROI methodology. SROI is a method for measuring and reporting on the social, environmental and economic value created by an activity or intervention. Although based on traditional financial and economic tools such as cost-benefit analysis, SROI builds on and challenges these. It includes a formal approach to identifying and measuring the things that matter to stakeholders. These are often outcomes for which no market values exist, for example an improvement in quality of life. As such outcomes can be difficult to quantify, they have tended to be excluded from more traditional analyses, preventing a full understanding of value being created or lost for society.

Carrying out an SROI analysis involves six stages:

1. Establishing scope and identifying key stakeholders. We spoke to university faculty staff, students, and representatives of the local community in both MMU and UW.
2. Mapping outcomes. We used information gathered from the interviews and workshops, alongside academic literature to develop an impact map, or theory of change, which shows the relationship between inputs, outputs and outcomes.
3. Evidencing outcomes and giving them a value. This stage involved finding data to show whether outcomes have happened and then valuing them.
4. Establishing impact. Having collected evidence on outcomes and monetised them, those aspects of change that would have happened anyway or are a result of other factors are eliminated from consideration.
5. Calculating the SROI. This stage usually involves deducing a ratio of inputs to value of outcomes. However, as this study was only able to value an isolated number of outcomes for a handful of programmes we focused on the total value of the outcomes alone.
6. Reporting, using and embedding. Easily forgotten, this vital last step involves sharing findings with stakeholders and responding to them, embedding good outcomes processes and verification of the report.

2. Understanding the broader societal benefits of universities

In this section we briefly review the well-known individual and societal economic benefits from HE before turning attention to a discussion of the less well-known social outcomes associated with HE.

Individual and societal economic benefits

Existing research typically emphasises the financial benefits to those individuals who pursue higher education. It is well established that those with a university degree earn substantially more than those without one and that this uplift accumulates over a lifetime. Sianesi estimates that average annual earnings of graduates are more than 26.9 percent higher than the earnings of those who do only A-levels or equivalent.⁵ These additional earnings sum to an average of over £100,000 over a lifetime.⁶

A second category of economic returns often relates to the financial and economic benefits to society in general. Society benefits from an educated populace in the form of higher economic growth. Economic growth models include human capital as one of the key contributors to growth – Jenkins suggests one percent increase in graduates can increase output by 0.42 and 0.63 per cent.⁷

Also in this category is the contribution that research conducted within universities makes to technological advance, scientific knowledge and innovation. These outputs are also often captured through their impact on economic growth. However, this can often miss the benefit of social research that has a less direct monetary impact but that can result in better social policy resulting in broader benefits to society.⁸

The final component of the literature on economic outcomes highlights the direct expenditures by the institutions, their employees, and their students that impact on the local economy. Several universities have considered their regional economic impact. For example, the University of Warwick found that in 2006 they were already contributing around £260 million to the West Midlands economy.⁹ Centre for Cities found that student spending alone accounts for up to 10 per cent of total economic activity in smaller cities including Cambridge, Swansea and Stoke.¹⁰

Kelly, McLellan and McNicoll looked at the total economic benefits of the UK university sector to the local economy and found that through direct and secondary multiplier effects the sector generated over £59 billion of output.¹¹

Although there is considerable variation in the contribution of universities to their local economies, they remain important employers, consumers and engines of local economic activity.¹²

The broader benefits to society: What we found out

The literature referred to above provides evidence of the important contribution of HE to the individual and economy. Through our case studies we found that there were a number of other broader benefits that can be broken down into the three strands identified below.

- 1 *Public engagement and open cultural facilities*: Programmes that are convened and led by universities, as well as the cultural benefits from the universities allowing public access to university cultural facilities.
- 2 *Public gains through social mobility*: The direct benefits related to a university's socio-economic profile. This is particularly relevant to current debates around the role of universities in promoting social mobility.
- 3 *Additional Outcomes*: The broader outcomes that result in positive impacts on the whole of society, such as greater levels of interpersonal trust and political interest.

The evidence for each of these three strands is discussed in detail below.

Findings and analysis

Figure 1 (on the next page) provides a theory of change, describing the inputs or resources that are used, the activities that take place and what changes as a consequence of these activities for four stakeholders: students, the local community, employers and society. In particular the theory of change focuses on outcomes traditionally excluded from discussions about university performance.

The impact map is based on what researchers heard first-hand from the two university case studies, MMU and the UW, as well as academic literature that helped draw the causal connections between columns.

Strand 1: Public engagement and open cultural facilities

Two activities in particular stood out from the case studies – volunteering and open resources, including 'free lectures, open galleries and cultural activities'. An orange line has been drawn to show the connections between outputs and outcomes for the local community and society at large.

According to our case study universities, the most important outcome from volunteering was higher aspirations among young people because of mentoring work. This outcome is in turn linked to overall social inclusion. A further society wide outcome comes from the role that volunteering activity has in creating more active citizens. This point is particularly relevant to those who are championing the 'Big Society', as we will discuss later on in this report.

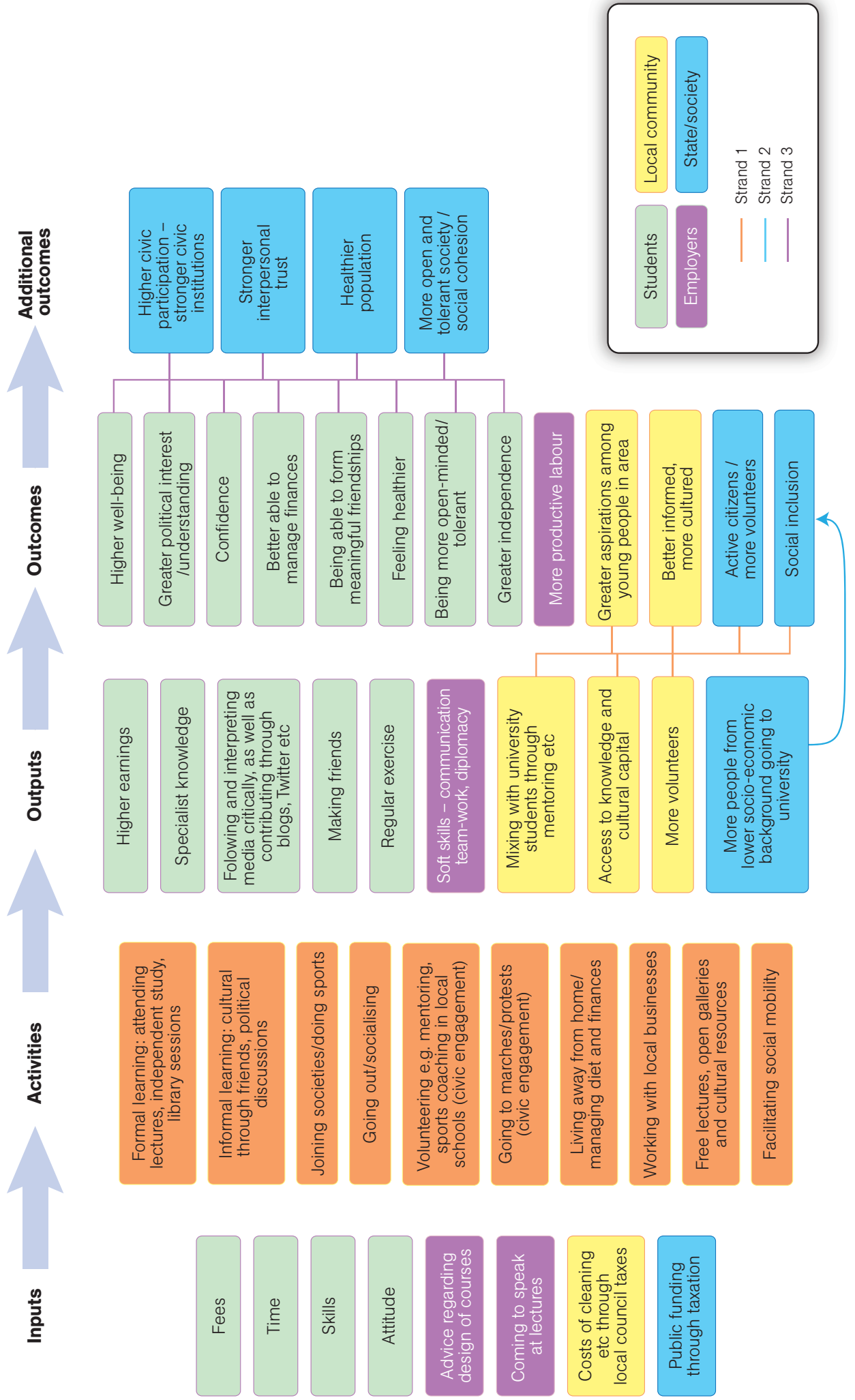
It could be argued that greater access to university cultural facilities and knowledge transfer is linked to a better-informed and a more cultured public, which also promotes social inclusion. The Higher Education-Business and Community Interaction Survey recorded over 980,000 people attending free lectures and just over seven million attending free exhibitions in university galleries and museums over a one year period.¹³

While data is not available to assess how far these lectures are opening doors to those who do not already have access to cultural and knowledge facilities, there is likely to be at least some impact on public knowledge. Moreover, such activities ensure that universities are not 'black boxes', dislocated and misunderstood by broader society. A report from HEFCE and UUK suggests:

*"[lectures, seminars and exhibitions] all raise awareness of how new discoveries are changing the world, and how the public can engage with new ideas, using them to achieve socially valuable purposes."*¹⁴

This study has only picked up on some of the ways that universities engage with the public. There is much more happening on the ground, as is clear from the three case studies discussed in Box 2 and Box 3 below. Taken together, the vast number of activities underway¹⁵ demonstrates that universities can be important actors in their local communities.

Figure 1: An overview of the broader social outcomes derived from universities



Box 2: Universities bringing new technologies to local communities

Lancaster University – provision of broadband

University researchers and engineers have provided a 100Mbps fibre connection into the Village Institute at Wray, Lancashire, and supplied special boxes to homes across the village to create a 'mesh' network providing internet access to hundreds of homes. The University has deployed a 'next generation' broadband network in the village, which provides the community with access to one of the fastest Internet connections in the region.

University of Cumbria – IT course to retired residents

Student volunteers from the University of Cumbria are delivering a basic IT course to retired residents living near the Lancaster campus. The Students Union volunteers delivered their first weekly session to Moorlands and Bowerham residents this year.

Eight student volunteers each assisted two residents at a time. It is hoped that the training will create an opportunity for the students to introduce themselves, get to know and hopefully, over the coming weeks build relationships with the residents.

Box 3: Birkbeck's outreach to parents

Birkbeck, University of London, has successfully developed an area of work to deliver education in Children's Centres aimed at people with no previous qualifications.

It aims to make part-time, higher education available locally for parents from under-represented communities through delivering Higher Education Introductory Studies. The curriculum is designed to meet students' goals, interests and take account of any previous learning. It is particularly distinctive in the amount of face-to-face learning for parents within the nursery environment, while their children are being cared for. On completion of the course, students receive a Certificate of Higher Education, and are able to progress to degree courses at Birkbeck or elsewhere. The programme includes support to develop students' learning and study skills and advice on how to apply for a degree. English language support is also available.

The scheme is currently being run at six Sure Start and Children's Centres in London; recently it celebrated its 100th successful student. Birkbeck is actively looking for new partners in order to expand the scheme.

Strand 2: Public gains through social mobility

Government has strongly signalled its desire to improve social mobility, and has acknowledged that universities play a key role in contributing towards this goal.¹⁶ The question in the context of this research is: in what ways does an increase in social mobility result in a public gain and how much of that value is attributable to universities?

Economic value from social mobility has been demonstrated through studies looking at increased employment and productivity. For example, Boston Consulting Group found that improving levels of social mobility for future generations in the UK would boost the economy by up to £140 billion a year by 2050 in today's prices – or an additional four per cent of Gross Domestic Product (GDP) over and above any other growth.¹⁷ However, this research is more concerned with the broader benefits that universities deliver beyond the traditional economic impacts.

The fundamental way that social mobility itself delivers broader value is through making the UK a more meritocratic and fair society. This is the key stated reason for the recently announced programme of initiatives to tackle low levels of social mobility.¹⁸

It follows that any institution facilitating higher levels of social mobility is delivering a service to society by helping achieve the qualities that all liberal

democracies strive for. The impact map captures the role of universities in supporting this outcome by linking social mobility to greater social inclusion.

Our study found that, as an indication, MMU was exceeding the national average in terms of the number of students from disadvantaged backgrounds (see section 5). The Vice Chancellor, John Brooks, associated this with the fact that the university is situated in a region with a significant number of deprived areas. Students from low-income backgrounds tend to live at home,¹⁹ and the flexibility of studying part-time and on more vocational courses made the university more accessible to this group.

Strand 3: Additional Outcomes

The final strand of public benefit highlighted in Figure 1 is summarised in the column entitled 'additional outcomes.' The lines in purple show the connection between individual outcomes and broader social benefits. As discussed earlier, research on who gains from higher education has been able to effectively argue that individual financial returns to education also result in gains for society. However, a similar connection has not been made in the case of individual social gains, including those problem solving and emotional skills learnt from the broad range of activities that students do outside of their academic study. Students spoke at length about all the skills they had gained from living away from home with other students, such as diplomacy skills, and from mixing with new people.

"I tell them [family] I'm not at university solely to get a career, I'm here to learn whether that's academic or non academic..."

(Second year student)

"Living with people I really had to learn how to be diplomatic so I wouldn't get into arguments over things like cleaning."

(Second year student)

"In the second year you move into houses and there's often five or six of you and you need to make sure your rent and bills are paid. If you haven't got a washing machine or one that's working at home, how are you going to do that? Your bus.... managing your day sort of thing... I also had to learn to deal with my landlord. I grew a lot more in the second year."

(Final year student)

The literature exploring the social outcomes of education has been slowly emerging. Most frequently university education has been associated with higher levels of interpersonal trust, greater interest in politics, better self-reported health, lower incidence of obesity, and even less crime.²⁰ The debate surrounding these associations has been whether it is *correlation* rather than *causation* that is being picked up in statistical analysis. For example, can the differences found in better health be attributed to higher income among those that have graduated, rather than university per se? Or is it greater individual well-being, associated with higher levels of income and health,²¹ which is acting as an intermediary factor?

Recent evidence from the OECD has been able to shed more light on the true difference higher education makes. They find that even when controlling for gender, age and income, higher education does make a difference to at least three social outcomes – better self reported health, greater interest in politics and levels of interpersonal trust.²² Table 1 summarises their results for the UK. The figures suggest that there is something particularly important about the university experience that stimulates political interest.

The gain in political interest because of higher education is associated with a number of factors. Students spoke about being actively encouraged by Student Unions to vote in elections through poster campaigns and having access to relevant literature which helped them make better informed decisions.

Table 1: Incremental impact of education on political interest, interpersonal trust and health in the UK

	<i>Difference between upper secondary to higher education (controlling for age, gender and income)*</i>	<i>As a number of all current undergraduate students**</i>	<i>As a number of all graduates in UK***</i>
Political interest	0.14	268,060	1,656,060
Interpersonal trust	0.10	191,472	1,182,900
Self-reported good health	0.07	134,030	828,030

* OECD (2010) *Education at a glance 2010*, Tables A9.4-6.

** Higher Education Statistical Agency (HESA) data on total number of current undergraduate students.

*** Labour Force Survey (Dec 2009- Dec 2010), NOMIS.

“Like when I was voting on AV yesterday, I didn’t want to take just one person’s opinion on it so I went and looked for ways in which I could find out what it meant and what impact it would have on the country. University gives you the desire for knowledge. You want to find out about things instead of just thinking ‘I’ll do what everyone else does’.”

(First year student)

In total, it is likely that while attending university individuals receive more information and experience of civic engagement, helping to shape their attitudes’ and beliefs. One study found that a student’s degree subject is also important. Those following a curriculum that develops language and civic skills, often social sciences, are more likely to be politically engaged.²³

Greater interpersonal trust is born from mixing and meeting others. Evidence from the Citizenship Survey suggests that those that benefit from a higher education are more likely to have friends of a different race or religion and from a different socio-economic background from themselves.²⁴ The OECD believes that education can help students to ‘embrace the values of social cohesion and diversity’, and that greater interpersonal skills can be the consequence of those with higher levels of education being more able to live and work with those with similar levels of education and in environments without crime and anti-social behaviour.²⁵

“I don’t think I was homophobic but I’d never met any lesbians before, I did through doing sports and we’ve become good friends.”

(Final year student)

Better self-reported health among those that have been to university does have broader benefits to society, not least through reduced burdens on the NHS. Other possible benefits include:

- The increased likelihood of healthy choices and vaccination against communicable diseases.
- Reduced concern for others who are unwell. There is a theory that argues that people feel concerned if others feel ill, even when they themselves are not directly affected. According to this theory, individuals get anxious about these sick individuals getting the healthcare they need. As such, a decline in the number of sick people should result in less worry for everyone.²⁶

Case study research helped highlight some of the causal reasons that higher education is related to better health. Attending university, especially when living away from home, comes with a number of freedoms including over personal diet. Several students spoke about eating unhealthy foods when they first started university but, after having seen the impact on their weight, they then had to switch

to healthier eating and had to start having regular exercise. For many there was a steep learning curve as they gained a clearer idea of the risks associated with lifestyle choices and were forced to improve their self-discipline.

“In the first year my diet went downhill then I had to get use to budgeting and not eating rubbish like crisps and chocolate all the time and so it got better.”
(Final year student)

In addition to learning through trial and error, the positive effect of higher education on health is likely to be through greater access to health-related information and improved cognitive ability.²⁷

Businesses also gain in their own right through student voluntary activity and extra-curricular activities of students. One clear output is ‘soft skills’ defined as the cluster of personality traits, team-working, communication, language and problem solving, that enhance an individual’s interactions and hence their employability. The lack of soft skills among young people entering the labour market is a major complaint from the business sector.²⁸ This study does not value these benefits to businesses but is an important addition to the formal knowledge that skills students gain at university and constitutes another way in which value is delivered to society.

Beyond the three wider outcomes considered in detail in this report, there are undoubtedly more social outcomes derived from higher education. For example, there is some evidence to suggest that those that attend university are more likely to make better consumer choices and are less likely to get in troublesome debt.²⁹ Furthermore, some outcomes are yet to be discovered – links between higher education and greener behaviour for instance. In the US context, a comprehensive study by Walter McMahon finds that the societal benefits are about 88 per cent above and beyond the earnings benefits experienced by graduates.³⁰

In this study, we chose only to value those outcomes for which there is robust evidence to infer benefits on society and the community, namely:

- Individual social outcomes – greater interpersonal trust, political interest and better health.
- Social mobility.
- Community engagement activities, in particular student volunteering as well as access to university cultural facilities.

Box 4: UPP and The Prince’s Trust get young people into construction

UPP is the leading provider of campus infrastructure, student accommodation and residential management services to the HE sector. They have teamed up with The Prince’s Trust to pioneer a scheme providing opportunities for unemployed young people in facilities management (FM). UPP along with university partners, the University of Nottingham, Nottingham Trent University and Loughborough University hosted unemployed 16–25 year olds on The Prince’s Trust ‘Get Into FM’ scheme.

During the scheme, participants gained experience in a variety of areas including: reception duties, administration, housekeeping, maintenance and the role of being a ‘handyperson’. Each person paired up with a UPP ‘buddy’ for support and advice throughout the scheme.

Accredited training in health and safety, fire safety and first aid were incorporated into the course; providing valuable and tangible skills for future work in the facilities management sector. Training in customer service and interview skills, provided by the University of Nottingham’s team, gave participants a boost in their presentation skills.

At the end of the course, participants gave presentations about their experiences at a celebration event to mark the end of the two-week period.

3. The value of the broader benefits for the UK

In this section we attempt to both count and value the three best-documented individual social benefits – greater political interest, interpersonal trust and better self-reported health.

Table 1 above provides the base indicators for the number of people predicted to gain individual social benefits over and above those who finish their education at A-level or equivalent (controlled for age, gender and income). The table includes figures for current undergraduates and the total number of graduates in the UK. For all three benefits we deduced suitable financial proxies based on best practice valuation techniques including:

- Contingent valuation: Based on (a) the willingness to pay for the outcome to happen or (b) the willingness to accept compensation for damage or to accept a condition of being deprived of the outcome.
- Revealed preference pricing: This method derives the values of non-monetised goods and services from market prices. They comprise market valuation of economic losses, hedonic pricing methods and travel costs methods.³¹

A more in-depth explanation of valuations is provided in the Technical Appendix.

Greater political interest

As discussed, higher levels of education are positively correlated with higher political participation, electoral turnout, civic engagement, political knowledge, and democratic attitudes and opinions.³² Greater political interest due to higher education has been linked in turn to healthier democracies.

To reflect these benefits to societies we valued greater political interest due to university education by:

- Deriving a figure for how much the Government pays to get young people interested in civil society through citizenship studies in secondary school.
- Assessing the cost of encouraging electoral registration per citizen based on the Electoral Commission's budget³³ and the salaries of local Electoral Officers.

In total we found that this outcome results in a gain to society of £43.3 million for current undergraduates and £268.1 million for all graduates in the UK.

Interpersonal trust

Greater interpersonal trust has been commonly associated with the concept of social capital. While there is considerable dispute over the definition of social capital, it is broadly conceived as the value of social networks, bonding similar people and bridging between diverse people, with norms of reciprocity.³⁴ Following the substantial evidence underlining the importance of social capital and particularly trust in facilitating transactions in the economy,³⁵ some more recent models of economic growth have incorporated social capital alongside the traditional human and physical capital variables, as a determinant of economic output.³⁶

While interpersonal trust is an imperfect measure of social capital, it has been used in academic studies to explore the causal links between social capital and less fear of crime,³⁷ higher levels of tolerance³⁸ and economic growth.³⁹

As a consequence we valued the increase in levels of interpersonal trust through the following proxies:

- **Less fear of crime:** Once controlling for income, gender and age greater interpersonal trust has been found to only account for a small reduction in the fear of crime.⁴⁰ The financial costs of home and personal security were used to approximate the value of reduced fear.
- **Greater tolerance:** This was valued using the Home Office budget for hate crime victim projects and on reducing hate crimes. The use of this measure represents how much government, and by association, society, is willing to pay for higher levels of tolerance.
- **Economic growth due to higher levels of interpersonal skills:** We used a study that found that a one standard deviation rise in social capital should increase growth by 0.3 percentage points in strongly institutionalised countries such as those of the UK.

These three indicators alone sum to a total value of £36.8 million for current undergraduates and £230 million for all graduates, with the economic growth value being the single biggest contributor to the totals.

Higher incidences of self reported good health

Self-reported health indicators have become a conventional measure of health status. The simple question of 'how is your health in general?' with respondents rating their response as very good, good, fair, bad or very bad,⁴¹ has been found to be surprisingly accurate at capturing true health status, even when compared to more in depth medical assessments.⁴²

As discussed in the previous section, the most obvious value for the UK from better self reported health is savings in healthcare costs to the NHS. Visits to General Practitioners (GPs) are closely related to self-reported health levels, with a lower average number of visits for those self-reporting good and fairly good levels of health.⁴³ This saving is particularly salient given the growing demographic pressures on the NHS. In fact, education is viewed as a preventative or cost containment method by which to tackle escalating costs to the NHS.⁴⁴

Based on the most robust academic data we valued the benefits to society through two indicators:

- **A reduction in GP visits:** Based on an academic study we predict that the average number of GP visits per year falls by 2.4 visits between those who rate their health as 'poor' compared to those who say it is 'good'.⁴⁵ Currently, the average GP visit costs £32.⁴⁶

Box 5: University of Hertfordshire – behavioural treatments

Some universities are working to improve the health of the local population directly. Do Something Different (DSD) is a behavioural change method developed at the University of Hertfordshire. It is a collaboration developed between the University of Hertfordshire and West Norfolk Partnership (Borough Council of King's Lynn and West Norfolk, local NHS trusts, Police, Community Support Agencies, etc) who wanted to improve the health and well-being of people living in their most disadvantaged areas, particularly targeting smoking, obesity, anxiety, depression, and family functioning.

Around 100 staff from local organisations as well as local residents, were trained in the DSD method and supported in delivering it to their clients or other groups, to reach members of the community who were particularly 'at risk'.

Outcomes to date, including Quality and Outcomes Framework data from GP practices, show considerable improvements in health and well-being. Following DSD programmes people are exercising regularly, eating more fruit and vegetables, giving up smoking, managing their weight and reporting greater life satisfaction and less anxiety and depression.

- **Higher productivity:** A study in the US has demonstrated the impact of life dissatisfaction, job dissatisfaction and poor self-reported health on presenteeism and the costs to employers.⁴⁷ We used the findings of this study to estimate cost-savings derived from productivity gains. The inclusion of job and life satisfaction in this figure allows us to capture some of the broader well-being benefits that have been strongly connected with those who go to university.⁴⁸

Valuing the outcome of better health on just these two indicators alone we derive an estimate of £131.9 million for current undergraduates and £814.8 million for all graduates in the economy.

Due to a lack of sufficient data this value does not include other health outcomes that have been associated with education such as lower levels of obesity. It also does not take account of the intergenerational affects that occur because of the impact of healthier parents on the health of their children. Thus, this is a conservative figure of the societal benefits produced from the health related outcomes associated with higher education.

Combining the three outcome values derived above, we find a value for society amounting to £212.0 million from the 1.9 million current undergraduate students and a total of £1.3 billion from all 11.8 million graduates in the UK.

4. The value of social mobility

Deciding on a financial proxy for social mobility requires an understanding of the value society places on its occurrence. In April of this year the Government detailed its vision for a more socially mobile UK in a strategy document.⁴⁹ The document sets goals from foundation years to adulthood and stresses the importance of being a more meritocratic society.

In his Foreword Nick Clegg writes:

“Fairness is a fundamental value of the Coalition Government. A fair society is an open society. A society in which everyone is free to flourish and rise. Where birth is never destiny...The true test of fairness is the distribution of opportunities. That is why improving social mobility is the principal goal of the Coalition Government's social policy.”⁵⁰

Increasing the number of individuals from low-income backgrounds at universities is commonly seen as an effective way to increase social mobility, especially in the current labour market where those without a degree can be penalised in terms of opportunities and pay.⁵¹ It is not surprising then that the Coalition Government sees widening access to Higher Education Institutions (HEIs) as key to improving the UK's record on social mobility. All universities charging above the £6,000 graduate contribution threshold for fees will have to participate in the new National Scholarship Programme and provide matched funding to be agreed with the Director of Fair Access.⁵²

MMU's performance on social mobility is particularly impressive. 38.7 per cent of their undergraduates are from households with incomes of less than £20,000 a year, compared to an estimated sector average of 7.5 per cent.⁵³ A further 6 per cent of MMU undergraduate students are from households with incomes between £20-25,000.

The driving factors behind this high proportion were discussed briefly in the previous section. In particular the outcome seems to be closely related to the educational and financial realities of accessing higher education when coming from a low-income household. In a recent publication, Grist and Margo summarise the difference between the 'middle class shibboleth' of the university experience compared to those without financial support from parents.⁵⁴ As is clear from MMU figures, most tend to go local and stay at home to avoid high levels of debt, and this seems to be especially true of ethnic minority groups.⁵⁵

MMU has a higher than expected proportion of students from low-income backgrounds even when compared to other post 1992 universities. We calculate the number of students from low-income households above what would be expected to be 6,839 (see Technical Appendix). These students are the focus of our valuation as it can be argued that without MMU these students would not be continuing their education, and this reflects the additional value MMU creates in terms of social mobility.

As discussed in the previous section, the value of social mobility can be conceived as a fairer and more meritocratic society. We valued the benefits of social mobility to the UK through three outcomes:

1. Greater 'fairness' in society: It is difficult to place a monetary value on an increase in fairness. One way is through government willingness to pay to

ensure more individuals from low-income households attend university, for example through paying the maximum university fees for two years (£18,000 for a three year degree).

2. Greater meritocracy: Society gains from fewer barriers to people achieving their ambitions because they are likely to be more economically active. We capture this through a higher tax take due to an uplift of wages from £17,800 (average of those who do not go to university) and £27,325 (average of those who do go to university with deduction from not going to more selective institutions)⁵⁶ and greater economic growth.
3. Greater social inclusion: More people being able to access university can be captured through the individual uplift in wages as a financial proxy, i.e. from £17,800 (average of those who do not go to university) to £27,325 (average of those who do go to university with deduction from not going to a more selective institutions).

In total MMU makes a contribution to society of £147 million a year in greater fairness, meritocracy and social inclusion through just its facilitation of social mobility. This is not including any possible indirect benefits achieved from increases in overall well-being from living in a fairer society. Greater social mobility has been associated with higher individual social well-being, even when that individual has not been socially mobile themselves.⁵⁷ Unfortunately, it has been difficult for researchers to provide exact figures and details of the causal connection between the two outcomes. More research is needed in this area before an appropriate indicator and monetary value can be attached.

Results here confirm that social mobility is hugely valuable to society. This MMU case study is indicative of how universities are already playing a major role in delivering greater fairness and meritocracy through social mobility. The implications of these findings will be discussed further in the conclusions of this report.

5. The value of university community outreach and cultural enrichment programmes

Our research conducted at the University of Warwick provided an insight into the most common types of community engagement activities that universities promote – student-mentoring schemes.

In most cases, this is done through formal learning activities and aspiration raising ‘buddy’ programmes. Our observations at Warwick’s Arts Centre allowed us to explore the additional cultural enrichment activities provided for the public in a university setting.

Mentoring work in schools

Warwick Volunteers enables UW students and staff to volunteer on different projects across Coventry and Warwickshire. It runs over 50 community volunteering programmes ranging from sports coaching to collecting unwanted items for recycling or donating to charity. On its ‘Volunteers in Schools’ programme Warwick Volunteers worked with 81 local primary and secondary schools and in the 2010/11 academic year, and had over 400 volunteers working directly with pupils. Key components of the ‘Volunteers in Schools’ programme include reading, numeracy, language and IT tuition.

The largest component of the ‘Volunteers in Schools’ programme is the ‘Right to Read’ scheme, which has 104 students working with pupils in primary schools across the region. All components of the ‘Volunteers in Schools’ programme either explicitly or implicitly, include a mentoring element.

“The children really enjoy the opportunity to work with somebody other than their teacher or the teaching assistant and those relationships that are built up between the children and the volunteers, the students, are just as important as the actual reading work.”

(Primary school Head Teacher)

Unfortunately, very little data on the outcomes of initiatives running under the ‘Volunteers in Schools’ programme banner is collected by either the school or Warwick Volunteers. We based our calculations on evaluations of similar programmes elsewhere and on feedback from the Head Teacher of one of the participating schools. In particular, he pointed out that through mixing with students from outside Canley, and even from outside of the UK, the mentoring was resulting in more than just increased aspirations:

“Maybe it's more than raising aspirations, it's an awareness-raising of a bigger, wider world out there.”

(Primary school Head Teacher)

He also suggested a way to measure the value of this outcome – through the cost of putting on school assemblies:

“I can remember last year, one of the assemblies was on Poland, it is a bit of a whistle stop and you do a bit on buildings, culture, food etc. some historical stuff, some cultural stuff. We also try to do a lot to counteract any of those preconceptions that children have but it means so much more coming from people from those countries.”

(Primary school Head Teacher)

The outcomes, indicators and financial proxies we used are summarised in Table 2.

Table 2: Key outcomes for the Volunteers in Schools Programme
(for full details of calculations see Technical Appendix)

Outcome	Indicator	Financial proxies	Total
Increased learning	Number of hours of one-to-one tuition over a school year	Average cost of a private one-hour tuition session.	£223,668.00
Higher aspirations	We used the average across three studies to estimate an increase in aspirations ^{58,59,60} of 14 per cent of the pupils involved.	The difference in earnings between those who do and do not go to university and the gain in tax.	£680,552.40
Greater enjoyment of reading	Based on a similar programme we estimate that 15 pupils will see an improvement in their reading fluency and hence enjoyment of reading. ⁶¹	Average number of books read by an eight year old multiplied by the average cost of a children's book.	£1,544.52
Greater cultural awareness	We assumed that all children involved would gain some cultural awareness through working with international students	Cost of a one-hour assembly on different countries (see quote above) and Coventry council budget for community cohesion projects.	£47,692.95

SROI methodology dictates that we must consider deadweight. That is, what would have happened anyway if the initiative had not taken place. Fortunately, many of the studies used to derive indicators already account for deadweight by having a control sample. An additional deadweight was not added as, in the case of extra reading time, the Head Teacher of the principle school involved was clear that both the reading and the children's exposure to students from different countries would not happen if it were not for university volunteers:

"We sometimes find that it can be quite difficult to engage our parents to come in and support the school in this way, for lots of different reasons: perhaps they had bad experiences themselves at school, or are just not confident to do it. So that's a gap that the Warwick Volunteers are able to fill which otherwise we just wouldn't be able to."

"The majority of the adults and the young people that our children meet will be from Canley, or from Coventry. These schemes offer the children an opportunity to meet people who are not just from other parts of the country, but from all over the world."

(Primary school Head Teacher)

In total, we found the value of the 'Right to Read' programme to be £290,000 for pupils and the local community.

We estimate that the 'Volunteers in Schools' programme makes a contribution to the local community of just over £953,400. This sum is achieved through raising aspirations, developing reading, language and numeracy skills among school children as well as increasing cultural understanding and tolerance through mixing with the local population (see Technical Appendix for more details).

A major longer-term outcome of students volunteering is the increase in civic participation in later years. Academic evidence has found that those that volunteer in early adulthood are more than 1.57 times more likely to be volunteering eight years later.⁶² Another study found that 73 per cent of those volunteering in middle

Box 5. University of Reading – tutoring local children

The University of Reading's student tutoring scheme has been running for 20 years. Over 4,000 volunteers have been involved with 30 local schools.

The tutoring scheme places students currently in HE in the classroom alongside teachers, to give help and to act as positive role models. It aims to raise the aspirations of pupils in schools and to encourage them to continue in education beyond the age of 16.

The scheme has been running since 1991 when 12 students visited Theale Green School to help out in science lessons. Around 200 student volunteers each year have been visiting at least 30 local primary and secondary schools, special schools and an after-school club.

to late adulthood were still volunteering ten years later,⁶³ suggesting a sustained positive benefit for society.

Students also spoke about the likelihood of volunteering again, believing that the positive experiences they had encountered and the skills they had learnt would attract them to voluntary activity later in their lives. In addition, one student believed that he had discovered broader non-monetary benefits of work through volunteering.

"I wouldn't have even thought about being a teacher before I came here but from all the activities I have done through Warwick Volunteers, seeing the difference you can make from giving some time to the children, your gains from that are much greater than just financial."

(Final year student)

Warwick Arts Centre

Warwick Arts Centre (WAC), based in the heart of UW's campus, offers a high calibre cultural centre to all attracting over 250,000 visitors a year. It is the largest of its kind outside the Barbican Centre in London with an ensemble of live musical performance, theatre productions as well as comedy shows. While the Centre itself leads on a number of community engagement projects, we focus on the value of the cultural enrichment for those who attend performances. In particular, the variety of shows at the Centre extends the cultural offer available in the area.

We valued the benefits of the Centre through three outcomes (see Technical Appendix for more details):

- A more cultured society: To account for the value that society places on the shows that WAC hosts, on top of the individual enjoyment, we used the Arts Council grant given to the Centre for a year as a proxy monetary value.
- A more cultured local community: As a value of the cultural enrichment that all visitors receive at the Centre we take the price of an average ticket. This, alongside the travel costs saved for visitors and the Arts Council grant, brings the total value of the cultural benefits to the local community to £8.98 million.
- Increased local reputation: Finally, there is an additional value added from more highly skilled individuals attracted to the area. Cultural amenities have repeatedly shown to be one factor when highly skilled individuals chose to relocate to a given area.⁶⁴ An increase in the highly skilled in an area has a number of benefits to a local community, such as an increase in incomes circulating in the local economy. When including this economic benefit we estimate the total value to the local community from the Arts Centre to be £27.7 million.

Summary

It is important to stress that the community benefits valued here are a small proportion of the benefits offered to the local area by the University of Warwick. It does, however, provide a sample of the types of activities underway at universities and the value they bring for local communities.

6. Conclusions and report recommendations

The findings of this report remind us not to underestimate the wider power of education. Results of the valuation exercise demonstrate the significant contribution universities can make in strengthening the glue that holds society together, promoting social mobility and raising overall well-being.

These outcomes are achieved through developing students, having a more mixed socio-economic and ethnic profile, raising the aspirations of those in the local community and providing access to cultural facilities. The significance of our findings is discussed in relation to:

- The need for more research on the broader outcomes that universities are delivering and their value for society.
- The ways in which universities can better maximise their societal value.
- Their relevance to debates on current higher education public resource allocations.
- The inter-linkages between education and other policy objectives, including health and community cohesion.

Spreading the word: The need for universities to make more of the broader benefits they deliver for society

"I would imagine that very few parents would recognise that there are some really positive aspects to the university being there."

(Primary school Head Teacher, Warwick)

The first conclusion to be drawn from these findings is that much more needs to be done to record and measure the public benefit universities deliver. This is important both for universities to champion their contribution to society and in raising awareness among members of the public of how the sector benefits them and their communities.

Universities can also learn from current debates about the problems of focusing on Gross Domestic Product (GDP) as the yardstick of society's progress.⁶⁵ As for other institutions, judging university performance through purely economic measures risks incentivising them away from wider activities and outcomes, such as public and community engagement work. To understand the full value of an activity or institution means that capturing these broader outcomes must be on par with measuring economic benefits.

During this study, researchers found multiple barriers to measuring broader outcomes including a lack of awareness of the specific outcomes achieved through community outreach work. Universities should be much more systematic in how they record this activity or risk this valuable work being hidden from society. To ensure that universities can be compared, common methods must be adopted. SROI methodology is just one of several possible approaches and research is currently underway to establish the best way forward in this respect.⁶⁶

In summary, while universities do not consider delivering outcomes such as increased interpersonal interest as their central objective, they should publically

recognise that they are contributing to these social outcomes. By not owning and taking proper account of these positive externalities universities are missing an opportunity to demonstrate their full public value and hence build stronger support for investment.

Maximising the public value generated from the broader outcomes

There are several noteworthy findings that give some indication of the ways universities can maximise their social value. These include:

- Where universities are a melting pot of cultures and backgrounds, there can be significant effects on surrounding communities through community outreach. This is particularly valuable when the local community is not culturally diverse.
- Universities that have higher than average numbers of students from low-income backgrounds deliver considerable benefits to those students and society as a whole. The implication of this finding for policy is discussed in the next sub-section.
- Cultural amenities provided by universities can bring notable cultural benefits for the local community and economic benefits through enhanced area reputation, especially when there is not much on offer locally. This is not to argue that every university should have an arts centre similar to that of the UW, rather they should make the most of what they have and open facilities to the local public as much as possible.

Policy implications

This new information regarding public value suggests a need to re-evaluate the difference between individual and public returns to investment in higher education. In the context of the debate surrounding student fees, further research on this topic would be both timely and policy worthy.

Findings in this report suggest that higher education can make a significant contribution to policy objectives other than those in education and research, including health, citizenship, community cohesion and social mobility. This begs the question of how more integrated thinking can be encouraged. For instance, education promotes health, but the reverse is true too. In addition, findings about community engagement from volunteering suggest that education could be a cost effective way to increase tolerance in society. In order for more to be made of this an enhanced dialogue across government departments is required.

Both the voluntary activity facilitated by universities and the way in which the university experience can instil a sense of civic responsibility also speaks to the 'Big Society' policy agenda. While there continues to be some confusion as to what exactly is meant by the idea, there is some consensus that it involves an attempt to galvanise community engagement to meet more social needs.⁶⁷ Evidence here suggests that universities are embedded into local communities and are already delivering and contributing to the 'Big Society.'

The role of universities in facilitating social mobility

Greater fairness and meritocracy from more individuals from low-income households going to university further supports the drive to ensure that, within the diversity of the university sector, there is greater consideration of opportunities to support social mobility. While universities argue they must retain standards, there is evidence to suggest that those from more disadvantaged backgrounds perform better at degree level, even when they have come in with lower grades than their more fortunate classmates.^{68,69} This suggests that universities should pay more attention to student contextual information and offer opportunities to students with the potential to succeed.

Evidence from community outreach work also demonstrates the difference universities can make to aspirations. By working directly with young people to increase the likelihood that they apply to university while admitting more young people from low-income backgrounds where appropriate, universities can truly argue that they are delivering a considerable public benefit to society.

Currently the rhetoric surrounding discussion and debate on increased HE participation focuses on the more selective universities. The evidence presented in this report, however, highlights the significant role universities like MMU play in allowing those from more deprived backgrounds to continue their education locally. The sector must, as a result, monitor the impact of the new regime on *all* universities, and give credit to those that do well in this respect.

Recommendations

On the basis of this report we recommend that:

1. Universities should seek to maximise their public value and impact.

For example, by making the most of activities such as student volunteering, mentoring and through open cultural facilities. In addition, they must recognise that when they bring together individuals from a variety of ethnic and socio-economic backgrounds there can be significant added benefits to society.

2. Universities become more vocal about the public value they deliver.

This will require a sector-wide adoption of common methods and language to capture, value and communicate the broader outcomes they produce. Collating such figures will provide an evidence base which should facilitate a much better understanding by the Government and the public on the broader benefits universities contribute to society.

3. Both universities and the Government must be mindful of the impact of fee levels on delivering public value. Recognising the value to society produced through higher incidences of social mobility, universities and the Government must monitor the impact of the new student finance system on applicants from under-represented groups and consider new opportunities to encourage and increase their participation.

Together these developments should encourage a shift away from the current focus on the individual to the public benefits of higher education offering a more accurate reflection of who gains from university and by how much.

This research has attempted to quantify public value in a way previously not thought possible. Findings from this research should act as the basis of further exploration on the public benefits of universities to ensure we are better able to understand the importance of the UK university sector to both the economy and society.

Technical Appendix

Table 1: Outcomes, indicators and financial proxies for society and the state for university-wide benefits

Outcome	Indicators and source (to 0 dp)	Financial proxy (per year)	Rationale and source of financial proxy
Greater political interest	14%, OECD, Education at a Glance 2010. = 268,060	£0.17	Amount of money spent by the Electoral Commission on increasing electoral registration (A total budget of £8,197,000 divided by voting age population). Sources: NOMIS Population estimates. Electoral Commission Annual report 2009/10, see Electoral Commission website.
	Of all those currently undergraduates at university (HESA) = 1,656,060	£0.25	Cost of 1 electoral officer per constituency. Calculated by taking the number of parliamentary constituencies (650) multiplied by the average pay of an electoral officer (£19,000 calculated as a midpoint between estimates from http://www.lgcareers.com/careers-az/elections-officer/) to get 12,350,000 as a UK wide figure. This is divided by voting age population (Source: NOMIS Population estimates).
	Of all those graduates in UK population (Annual Population Survey Jan09–Dec09)	£161.48	One year of average costs of citizenship per secondary school student. Calculated by taking what the DoE pays schools per pupil (£4,037) and working out the cost of 1 hour a week on citizenship in a 39 week school year with 5 lessons a day
Higher levels of interpersonal trust	10%, OECD, Education at a Glance 2010. Impacts of interpersonal trust on fear of crime = 4.5% decrease (van Beek, 2006) = 8,616	£110.5	Fear of crime calculated by average costs of fitting a house alarm spread over ten years and maintenance costs for one year (£106.96) added to the cost of a rape alarm (£3.60). Source: Which, (2011) <i>How choose a burglar alarm</i> , can be retrieved at: http://www.which.co.uk/home-and-garden/home-improvements/guides/how-to-choose-a-burglar-alarm-contract/protecting-your-home/ [last accessed 6 June]
	(0.045* 191,471.50, based on all those currently undergraduates at university, HESA) = 53,231		
	(0.045* 1,182,900 Based on all graduates in UK population, Annual Population Survey Jan09- Dec09)	£0.00616	The Home Office provide in excess of £300,000 in 2009/10 for hate crime victim projects through the Victims' Fund Hate Crime Section, taken as an average over the UK population. (Source: NOMIS Population estimates).
	= 191,471.50		
	Based on all those currently undergraduates at university = 1,182,900		
	Based on all graduates in UK population (Annual Population Survey Jan09- Dec09)		
	N/A (calculated for the UK economy as a whole)	£35,806,633.64 (for current undergraduates) £222,070,457.14 (for all graduates)	Proxy based on research done by Pelle Ahlerup, Ola Olsson and David Yanagizawa. They estimate that controlling for stronger institutions – a one standard deviation increase in interpersonal trust results in 0.3% increase in growth. (Source: Ahlerup, P., Olsson, O., & Yanagizawa, D. (2008). Social Capital vs Institutions in the Growth Process. Available at http://www.hks.harvard.edu/fs/dyanagi/Research/Social%20Capital.pdf)

Outcome	Indicators and source (to 0 dp)	Financial proxy (per year)	Rationale and source of financial proxy
Better health	<p>7%, OECD, Education at a Glance 2010</p> <p>Difference in number on average that would report poor/ fairly poor health multiplied by reduction in GP visits. Reduction in GP visits based on research by Miilunpalo and Vuori (=2.4 per individual).</p> <p>= 321,672.12</p> <p>Based on all those currently undergraduates at university. (HESA)</p> <p>= 1,987,272</p> <p>Based on all graduates in UK population (Annual Population Survey Jan09- Dec09)</p> <p>(Source: Miilunpalo S, Vuori I, Oja P, Pasanen M, Urponen H. (1997). Self-rated health status as a health measure: the predictive value of self-reported health status on the use of physician services and on mortality in the working age population. <i>Journal of Clinical Epidemiology</i>, 50: 517–528).</p>	£32.00	<p>Average cost of a GP visit to the NHS, NHS. (2010). <i>NHS Annual Choices Report</i>. Retrieved from http://www.nhs.uk/aboutNHSChoices/professionals/developments/Pages/annual-report.aspx</p>
	<p>7%, OECD, Education at a Glance 2010.</p> <p>= 134,030.05</p> <p>Based on all those currently undergraduates at university. (HESA)</p> <p>= 828,030</p> <p>Based on all graduates in UK population (Annual Population Survey Jan09- Dec09)</p>	£907.27	<p>Cost to the employee of lost productivity through presenteeism – better job satisfaction, life satisfaction (through well-being) and better health</p>

Table 2: MMU facilitation of social mobility

Outcome	Indicators	Financial proxy (per year)	Rationale and source of proxy
A fairer society	For all those coming to MMU from low-income households (MMU = 38.7%, total number of undergraduate students = 28.354, MMU data) = 10,973	£6,000	Valued through government willingness to pay £9,000 for two years for those from low-income households.
A more meritocratic society	1. For extra undergraduate students above average for similar post 1992 universities (MMU = 38.7%, benchmark=14.6%). Total number of undergraduate students = 28.354 (MMU data) = 6,839 2. nef estimate: For all those that may not have gone to university otherwise N/A as worked out for whole economy	1. £1,905 2. £3,188,072,46	1. Gain in income tax to the state from uplift in above wages (calculated according to current rates of taxes http://www.hmrc.gov.uk/incometax/basics.htm#6) 2. Greater economic growth 1% increase in graduates, output grew between 0.42 and 0.63 per cent (Jenkins, 1995)
Greater social inclusion	For extra undergraduate students above average for similar post 1992 universities (MMU = 38.7%, benchmark=14.6%). Total number of undergraduate students = 28.354 (MMU data) = 6,839	£9,525	Difference in average annual wages for those that do not go to university (£17,800) and those that do (£27,325) Office of National Statistics, 6 April 2011, Graduate Earnings, can be retrieved at http://www.statistics.gov.uk/cci/nugget.asp?id=1166 Figure here has been adjusted to account for lower average wages for those who do not go to a research-led university see The Boston Consulting Group (2010).

Table 3: University of Warwick – Volunteers in Schools Programme

Outcome	Indicators (to 0 dp)	Financial proxy (per year)	Rationale and source of proxy
Higher aspirations	<p>Average of three studies (Miller et al. (2009); Smith (2009); Myers et al (2004)): 14.4% of all those having some form of one-to-one tutor session (Warwick Volunteers data – we've included all 327 pupils benefiting from student tutoring, language tutoring, mentoring, right to read, technology, fun with numbers)</p> <p>= 47</p> <p>Miller, S., Connolly, P, Odena, O., & Styles, B. (2009). <i>A Randomised Controlled Trial Evaluation of Business in the Community's Time to Read Pupil Mentoring Programme</i>. Queen's University Belfast: Centre for Effective Learning.</p> <p>Smith, S. (2009). <i>Evaluation of the learning mentor provision in school</i>. Canterbury: Aim Higher Kent and Medway.</p> <p>Myers, D., Olsen, R., Seftor, N, Young, J., Tuttle, C. (2004). <i>The Impacts of Regular Upward Bound: Results from the Third Follow-Up Data Collection</i>. Mathematica Policy Research. Jessup, MD: ED Pubs.</p>	<p>1. £12,100.00</p> <p>2. £2,420.00</p>	<ol style="list-style-type: none"> 1. Difference in average annual wages for those that do not get to university (£17,800) and those that do (£29,900) Office of National Statistics, 6 April 2011, Graduate Earnings, can be retrieved at http://www.statistics.gov.uk/cci/nugget.asp?id=1166 2. Gain in income tax to the state from uplift in above wages (calculated according to current rates of taxes http://www.hmrc.gov.uk/incometax/basics.htm#6)
Greater cultural awareness	<p>All those having one-to-one sessions</p> <p>= 327</p> <p>While not all of these will be international students, The Warwick Volunteers spoke of the 'country days' in schools which all pupils in the school would attend. The 327 figure captures the one-to-one interaction plus some of the benefits gained by all pupils from meeting international students.</p>	<p>1. £99.37</p> <p>2. £41.96</p> <p>3. £4.52</p>	<ol style="list-style-type: none"> 1. Cost of putting on a 1 hour assembly on different countries based on average cost per pupil per hour = £4.14 (schools on average given £4,037 per pupil, assume 5 hours of teaching per day, 39 week academic year, DoE, 2010) multiplied by a session with international student. 2. nef estimate: As the headteacher spoke of the added value of having international students talk about their country of origin and increased levels of curiosity among children to travel we took a small proportion (10%) of the cost of an average flight to the capital cities of the most common student country of origins – Malaysia, China, India, Nigeria and the average price of a trip to Europe = £419.60) 3. Coventry Council's budget for projects linked to community cohesions = £1.4m, per member of the Coventry population (based on ONS figures available at NOMIS).
Learning benefits	<p>Number of hours spent with pupil through student tutoring, language tutoring, mentoring, right to read, technology, fun with numbers = 327 X (0.75 of 38 week school year)</p> <p>= 9,320</p> <p>We have assumed only three quarters of a school year to account for the weeks when students are still on their breaks and the occasions they cannot make it.</p>	<p>£24.00</p>	<p>Average cost for 1 hour private tuition based on:</p> <p>Tanner, N. <i>et al.</i> (2009). <i>Private tuition in England</i>. DCSF – RR081. Can be retrieved at https://www.education.gov.uk/publications/eOrderingDownload/DCSF-RR081.pdf</p>

Table 3: University of Warwick – Volunteers in Schools Programme (Continued)

Outcome	Indicators (to 0 dp)	Financial proxy (per year)	Rationale and source of proxy
Greater enjoyment of reading	<p>Based on Miller <i>et al</i> (2011) research assumes higher reading fluency correlated with more enjoyment of reading. Their research showed 14% of pupils experienced an improvement in reading fluency.</p> <p>14% of the 103 pupils participating in the Right to Read programme</p> <p>=15</p> <p>Miller, S., Connolly, Maguire, L. (2011). <i>A Follow-Up Randomised Controlled Trial Evaluation of the Effects of Business in the Community's Time to Read Mentoring Programme</i>. Queen's University Belfast: Centre for Effective Learning.</p>	£1,544.52	<p>Enjoyment of reading valued through the average number of books an 8 year old reads in a year = 16 (The National Literacy Trust)</p> <p>X (multiplied by)</p> <p>Average price of children book = £6.63</p> <p>= £106.08</p> <p>Creaser, C., & Maynard, S. (2006). <i>A survey of library services to schools and children in the UK 2005-06</i>, Loughborough: LISU. Available at http://www.lboro.ac.uk/departments/dils/lisu/pages/publications/sch-chil06.html</p> <p>Chartered Institute of Public Finance and Accountancy. (2007). <i>Public Library Statistics Actuals 2005-06</i>. CIPFA: London.</p>

Table 4: Warwick Arts Centre

Outcome	Indicators	Financial proxy (per year)	Rationale and source of proxy
Greater enjoyment of the arts in the local community	<p>For all individuals going to a show in the theatre, hall and studio (i.e. excluding film screenings)</p> <p>= 155,909</p> <p>For breakdown of tickets sold/ given see Warwick Arts Centre Annual Report [for 2009/10] available at http://www.warwickartscentre.co.uk/about-us/annual-reports/</p>	<p>1. £46.13</p> <p>2. £8.25</p>	<p>1. nef estimate: Average cost of travel from Coventry train station to Birmingham Repertory Theatre based on average cost if travel by car (calculated through cost of taxi to account for time and effort as well as cost of car use) and cost of a train journey (calculated by cost of train, taxi ride and extra time valued at minimum wage to Birmingham Rep and back)</p> <p>- (minus)</p> <p>Cost of travel by taxi from Coventry Rail Station to WAC (proxy to account for travel from home to WAC)</p> <p>2. Average cost of ticket calculated from total income from ticket sales divided by number of visitors, see Warwick Arts Centre Annual Report [for YEAR?] available at http://www.warwickartscentre.co.uk/about-us/annual-reports/</p>
A more cultured society	N/A for whole Centre	£507,409.00	<p>According to the Arts Council, Warwick Arts Centre will receive an average grant of £507,409 in 2010/11 and 2011/2012. We use this figure divided by the total number of attendees, as a proxy for the value society places on individuals being able to access cultural facilities at WAC.</p>
Enhanced reputation of the area	<p>Measured by more highly skilled individuals being attracted to the area. Cowling (2009) found that greater cultural amenities in an area increased the likelihood of the highly skilled being attracted to an area by 8.7% (the biggest contributor was the availability of jobs).</p> <p>We thus take 8.7% of all residents with NVQ4 level qualifications and above in Coventry and Warwick (not Warwickshire as taking a conservative estimate) = 88,700 (Taken from the Annual Population Survey, Jan 2009- Dec 2009, available through NOMIS). To account for the impact of other cultural amenities we then divided this total by 5.</p> <p>= 1,543.4</p> <p>Cowling, M. (2009). <i>The geographical distribution of UK talent: Causes and consequence</i>. Institute of Employment Studies, Working Paper 24. Available at http://www.employment-studies.co.uk/pdflibrary/wp24.pdf</p>	£12,100.00	<p>There are many perceived benefits of having increased number of highly skilled individuals in an area. The proxy we used to capture some of these benefits is the difference in average annual wages for those that do not go to university (£17,800) and those that do (£29,900) Office of National Statistics, 6 April 2011, Graduate Earnings, can be retrieved at http://www.statistics.gov.uk/cci/nugget.asp?id=1166</p>

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