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About this report

The Education Focus Group of the Birmingham Commonwealth Association was created in 2014 following the publication of the Distinctly Birmingham report towards the end of 2013. The latter summarised Birmingham City Council's mission, 'to build Birmingham's global competitiveness and influence by working in partnership with the public sector, universities and Colleges; the business community; sporting and cultural organisations and local community groups plus the people they represent, to support the city's objectives.' In this context, the Education Focus Group aspires to coordinate the efforts of all members towards enhancing the international dimension of collaborative engagement between Birmingham's educational institutions and their Commonwealth counterparts whilst continuing to attract overseas students to the city as a source of revenue, social and academic enrichment and to build future influence in the world.

With the social and cultural impacts of all international students on study destinations being relatively clearly articulated, the Group elected to specifically examine the economic impact that international (non-EU) students had on the city of Birmingham and that proportion which might be attributable to students from the Commonwealth. Working in collaboration with Marketing Birmingham and in seeking guidance from Michael Swift, Senior Economist, Economic Research & Policy, Birmingham City Council, this report seeks to quantify the economic impact in the academic year 2013-14 of international students and the friends and relatives who visit them on the city.

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The Economic Impact of International Students on the City of Birmingham

The aim of this report is to provide an assessment of the economic benefit of international students to the economy of the city of Birmingham.

For the purposes of this analysis, the benefits of international students are evaluated purely on the basis of short-term impacts (while studying in Birmingham and in respect of visitation by friends and relatives as tourists), although it is recognised that further economic benefits will be generated in the long-term (after graduating) when such students may potentially join the local labour market or conduct business in the city for overseas organisations. Furthermore, the analysis does not consider international research funding attracted into the City's universities, save that which is used by international research students to fund their studies. Accordingly, the report does not seek to duplicate the findings of the Oxford Economics report for the University of Birmingham's [2013] 'Our Economic Impact on the City of Birmingham and the West Midlands Region report', but rather to complement the findings in presenting an overview of the short term impact of international student recruitment across all FE and HE institutions in the city.

The short-term impacts of international students on the City of Birmingham are presented based on data for the academic year 2013/14. Drawing upon recruited numbers of international students and in making an assessment in respect of the average annual fees paid to the city based institutions concerned, benefits are measured in terms of revenues generated. However, it is the spending of this money in the City economy and the leakages existing which leads to an evaluation of the full economic impact of such expenditure.

1. Terminology

This report takes the definition of an international student to be a student originating from outside the European Union for fee assessment [The Education (Fees and Awards) (England) Regulations, 2007]. In this context, it is recognised that institutions in Birmingham will recruit Further Education learners, undergraduates, postgraduates and research based international students.

The report seeks to provide an assessment of the economic benefits of international students studying at FE and HE institutions in Birmingham and uses data covering the following institutions:

Aston University
Birmingham City University
Birmingham Metropolitan College
Bourneville College
Newman University
South & City College Birmingham
University of Birmingham
University College Birmingham

The analysis excludes 6th form colleges, based on the assumption that they are likely to have enrolled few international students. Private colleges and schools have also been excluded from the analysis, this stemming from the difficulty in obtaining enrolment and international student fee generated data.

The impact on GDP in the City is quantified in terms of three distinct effects: direct, indirect and induced, as is shown below:

Direct

The economic activity resulting from the direct presence of international students at an FE or HE institution

Fee income
Subsistence expenditures
Spending of Friends and Relatives

Indirect

Consists of activity that is supported as a result of local supply-chain purchases, the additional local procurement resulting from these purchases and so on.

Business Services
Logistics
Wholesale
Utilities

Induced

Involves activity that is supported by the spending of those employed as a result of the direct and indirect impacts

Clothing
Food & beverages
Recreation
Household goods

Source: Oxford Economics [2013] The Economic Costs and Benefits of International Students, A Report for the University of Sheffield, January. p.4

The impact is evaluated over an academic year (September, 2013-July 2014) as this is the period over which academic fees are collected and is when those international students paying fees in September 2013 or February 2014) will be living in the city.

2. Methodology

In this report the value and impact of international students on the city of Birmingham economy in 2013/14 is explored based on their expenditure. The short-term economic benefits of international students are analogous to those generated by an international tourist, with the added addition that international students will generate a second stream of visitors, these being those family and friends (the VFR market) who may visit over the course of the year. As such, three separate channels exist through which the spending related to international students supports economic activity: fee income paid to the FE or HE institution; the subsistence spending of international students whilst studying; and finally the expenditure of friends and relatives that come to visit the international students during the year. As in any Income Multiplier Model, both 'on and off-site' expenditure by international students needs to be considered with multiplier effects being applied to establish wider impacts.

2.1 *The Impact Model*

The main economic impact of tourism from the spending of international students arises from their payment of fees to an institution and in their subsistence spending in businesses throughout the City. Such spending takes place in:

- Accommodation outlets
- Catering establishment supplying a range of food and beverages
- Retail shopping activity
- Transport services and parking.

Such spending results in increased turnover within the receiving institutions. Furthermore, a proportion of that turnover is also used to pay the salaries of employees in establishments used by international students and their visitors. Further employment is generated by additional jobs in addition to the direct and indirect jobs created through the induced or multiplier effect. These jobs arise from the expenditure of wages earned by those in jobs directly and indirectly supported by international student expenditure.

It follows that there are three sets of three broad categories of economic benefit to consider and quantify within the impact assessment, with one set being formulated on the basis of international student's fees being spent by the receiving institution, another being the subsistence spending of such students and with the third being constructed on the basis of the expenditure by those VFR tourists connected with international students studying in the city:

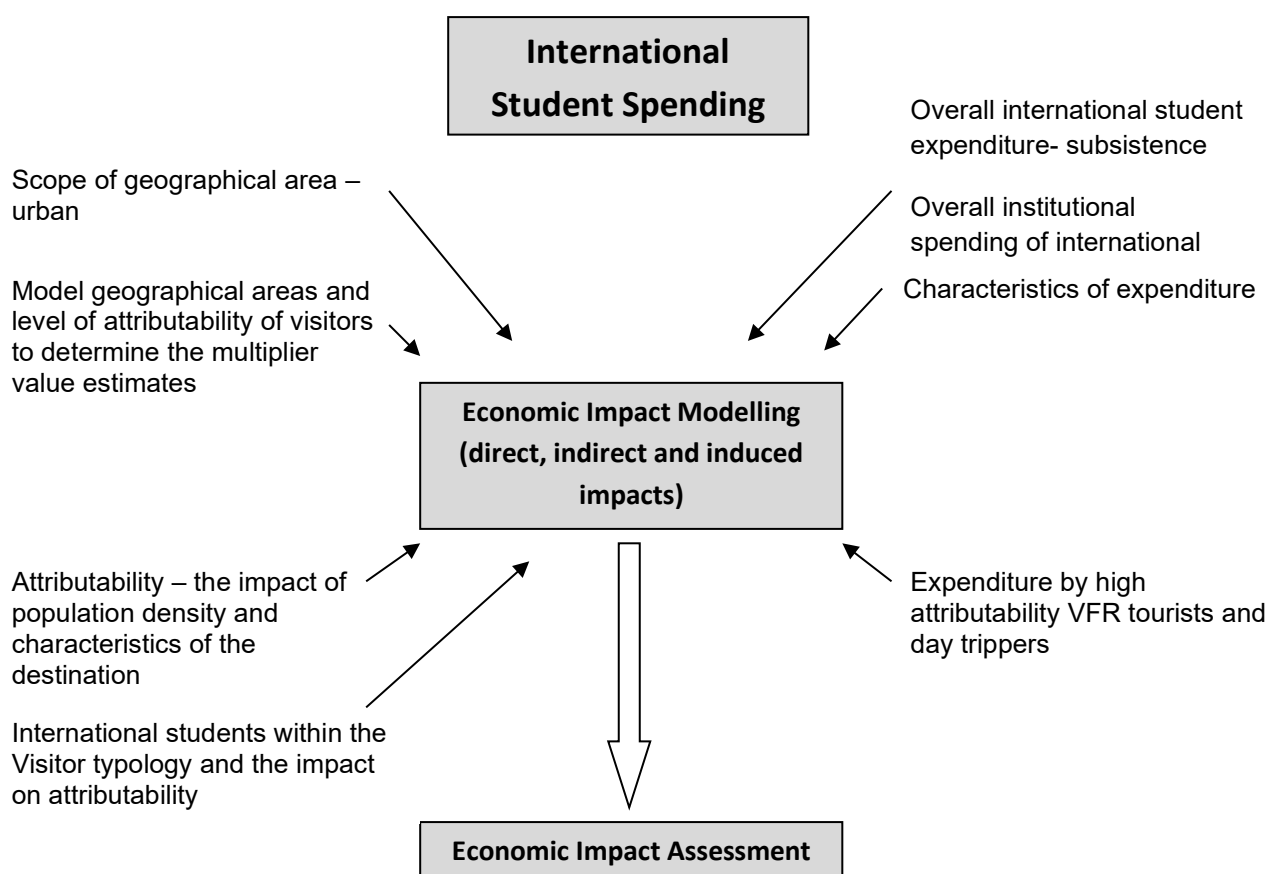
- Direct impacts – these include the expenditure and income generated within the City directly by international students and the institutions they pay fees to.
- Indirect impacts – these include the effects on businesses in receipt of direct expenditure and as a result increased supply chain activity as a result of institutions spending international student fees and international student spending in Birmingham.

- Induced impacts – these include increases in expenditure derived as a result of increased wages directly or indirectly associated with international students. This additional income generates further repercussive effects and generally stimulates economic activity.

2.2 Themes in the Study

Table 1 reveals the themes of the model developed for this study and details the indicators used to assess the economic impact and value of international student expenditure, which have been adapted from consultancy reports produced by SQW [2006] Wildlife Attraction; Visitor Expenditure Model, Assumption Report and the Oxford Economics [2013] The Economic Costs and Benefits of International Students, January report. The geographical focus of the model is the city of Birmingham, with the economic impacts being considered at the city level.

Table 1 Themes of the Model Developed for this Study



The methodology for the study comprises the following key components:

- Data derived from each FE and HE institution within the City of Birmingham covering the enrolment (of new and continuing students) for the academic year 2013/14, including enrolments, where applicable, in February 2014.
- Visitor arrival and expenditure statistics – derived from The Regional Observatory of Marketing Birmingham, covering nationality arrival trends to Birmingham for 2013 and 2014. These statistics play a vital role in the research in enabling the projection of the VFR market and its expenditure as related to international students studying in the City.

- Data identifying the average student fee and expenditure per year derived from HESA as cited by UK Universities [2014] The Impact of the HE Sector on the UK Economy
- Economic Impact Modelling – The net economic impact is calculated by estimating the direct, indirect and induced expenditure arising from the payment of fees to institutions, student subsistence expenditure and the expenditure from that part of the of the visiting friends and relatives market visiting international students. The economic impact assessment uses the basic formula shown below.

In simple terms, the net economic impact assessment is derived from:

The Sum of Expenditure X The extent of Attributability X An Output Multiplier Value

2.3 Calculating Modelling Values

Attributability

In most economic impact models, resident expenditure is simply discounted as it is not deemed to be an additional expenditure. That is, it is assumed that this expenditure would not have been incurred in the locality on another activity if the destination was not visited or did not exist. However, if it can be proved that if it were not for the destination resident expenditure would have been taken out of the locality, to study elsewhere for example, then this can be claimed as additional expenditure, with the destination having high attributability. It follows that international students, attracted to the city on account of their course of study, might have studied elsewhere if not in Birmingham, and therefore can be characterised as having high attributability. As such, the attributability factor used in the model will be 1.

Adopting Multiplier Values

In order to determine an appropriate multiplier value, account has to be taken of the three aspects of expenditure contributing to the overall economic impact of international students on the city of Birmingham. This leads to the need to consider multiplier values for each of the three aspects of expenditure:

- (i) For international student expenditure, the output multiplier of 1.55 is used as recommended by SQW [2006] for urban tourists in the North of England. In other words, for every £1 million expenditure by international students, a further secondary output of £0.55 million is generated in the region in the form of indirect and induced expenditure.
- (ii) In respect of spending by the institutions in Birmingham in receipt of international student fees, Universities UK [2014] in their report 'The Economic Impact of the West Midlands Higher Education Sector', claim that the multiplier should be:
 - UK: 2.30
 - Regional: 1.98

In other words, for every £1 million of higher education revenue a further secondary output impact of £0.98 million in the region is generated, plus a further £0.32 million in the rest of the UK.

Universities UK [2014] justify these values on the grounds that in the case of universities (and institutions) that are long established in a particular location, purchasing linkages will be highly developed within their host region and hence

leakages out the region will be relatively lower and in turn the multiplier value will be relatively high.

- (iii) In respect of the Visiting Friends and Relatives market to Birmingham, Global Tourism Solutions (GTS), who own the Scarborough Tourism Economic Activity Monitor (STEAM) model, used a multiplier value of 1.3179978 to determine the impact of this market's expenditure in 2013. In other words, for every £1 million of Visiting Friends and Relatives expenditure a further secondary output of £0.3179 million is generated in the region each year.

In multiplying spending by the appropriate multiplier and the attributability value of 1.0 for all international students and the VFR market that come to visit them the overall economic impact can be evaluated.

3. Findings - Quantifying Short-Term Benefits

3.1 International Student Admissions 2013/14 in Birmingham Institutes

Responses by city institutions reveal that in 2013/14 the city hosted 10,782 international students. The most numerous nationalities received were Chinese (35.456%), followed Nigerian (6.69%), Indian (6%) and Singaporean (5.18%) students. As shown in Table 2, the top 12 sending destinations accounted for 73.88% of all international students received by the city, whilst students from the Commonwealth accounted for 23.92%, although as this study did not encompass Cyprus or Malta as Commonwealth members in the EU, this figure is likely to be a little higher in reality.

Table 2 International Students Enrolled in Birmingham Institutions in 2013/14

Ranking	Country	Number of Students
1	China	3,823
2	Nigeria	721
3	India	646
4	Singapore	558
5	Malaysia	406
6	Hong Kong	352
7	Saudi Arabia	321
8	Thailand	286
9	Canada	249
10	Vietnam	235
11	Indonesia	192
12	Taiwan	179
Others		1,817
Total		10,782

This study only uses the returned enrolments from the city's universities and colleges and excludes private institutions in the city who recruit international students. In 2013/14, in addition to the institutions contributing to this study, an additional 34 private and public institutions in the city were on the 2013 Home Office register of approved sponsors for Tier 4 visas. Despite requests for enrolment data from these institutions, none was forthcoming, other than two institutions whose numbers were very small. Nevertheless, when the numbers of international students these 34 institutions recruited in 2013/14 are accumulated, it can be concluded that the true figure of international students in the city in 2013/14 is likely to have been at least 11,000.

3.2 Expenditure on Tuition fees

The sensitivity in releasing income earned from international student enrolments meant that it was not possible to obtain such data from every institution in this study. Certainly, the cost of enrolments for international students varies between courses and between institutions, whilst it has to be recognised that there are some international students who are in receipt of scholarships from universities in the city which cover all or part of their fees.

UK Universities [2014], arrive at an average fee of £9,026.73 in 2013/14, a figure lower than that cited by HESA in 2012/13 when they published a figure of £12,871.32, although the UK Universities figure would make some allowance for students on full or partial scholarships.

This study uses non EU enrolment data from the Higher Education Statistics Agency [HESA], whilst data on overall fees by HE institution are drawn from the 2013-14 HESA [2015] publication Finances of Higher Education Providers. HESA provides fee data directly as reported by HE institutions, and thus net of scholarships and other fee exemptions.

HESA [2015] give the total fee income in 2013/14 from non-EU domiciled students attending institutions in Birmingham as £112,464,000. In addition, FE institutions in Birmingham reported a financial return of £119,897.55. When these figures of fee income are added, this gives a total fee income for Birmingham institutions of £112,583,897.55. Dividing this sum by the 10,782 students attending HE institutions in the City, gives an average figure of fees paid per head of £10,441.84.

3.3 Subsistence Spending

Subsistence spending refers to all spending by international students on goods and services other than tuition fees. It includes, for example, expenditure on food, accommodation, travel and entertainment, as well as expenditure on course materials.

In estimating subsistence expenditure, a simple measure would be to take the sum identified by the Home Office as being the minimum required by a Tier 4 student visa applicant intending to study outside of London in 2013/14. This sum increased to £7,380.00 per academic year in 2013/14. However, this is simply the minimum required to obtain the Tier 4 visa and may not represent the true spend of an international student.

Alternatively, the Student Income and Expenditure Survey [SIES] 2011/12 [Department of Business, Innovation & Skills, 2013] conclude that the average annual expenditure, including tuition fees, of a fully domiciled home student in 2011/12 was £13,909. At this time, the average HE undergraduate home fee was £3,375, implying additional expenditure of £10,509 in 2011/12. This measure was used by Oxford Economics in their study of the impact of international student spending on Sheffield, who then applied an adjustment based on the UK Consumer Price Index and forecasts from the Oxford Economics global macroeconomic model to reach a figure of £11,688 in 2012/13. When applying solely the UK consumer Price index changes in order to project student expenditure for 2013/14, the SEIS 2012/13 expenditure figure rises to £10,976.11.

In projecting subsistence spending to 2013/14, this report uses data derived from Universities UK [2014] which estimates the average off-campus spend by 'international students [including those from the UK] in 2013/14 at £11,289.43 after tuition fees had been paid.

3.4 Visits from Friends and Relatives

The final element of spending impact arises from the expenditure of the VFR market to international students during the academic year.

Using data supplied from the Regional Observatory of Marketing Birmingham, international visitor arrival statistics to Birmingham in 2013 and 2014, by nationality, purpose of visit and expenditure can be derived to gain an estimation of this impact. However, data used by the Regional Observatory from the International Passenger Survey (IPS) does not offer data relating to which group VFR tourists are visiting, whilst total expenditure is not broken down specifically by nationality.

Using the same assumptions adopted by Oxford Economics (2013), the foreign national tourist arrivals visiting international students in Birmingham are likely to be from their own country, with the percentage of visits being proportional to the percentage of the population of that nationality in the locality that is made up of students. This relationship is shown below.

Number of Persons of international (non-EU) descent residing in the city, including international students (from the 2011 Census)- (A)	Number of international (non-EU) students studying in Birmingham in 2013/14(B)	Number of international (non-EU) VFR visitors visiting Birmingham in 2013/2014 (C)	% of the VFR market visiting international students as main motivation $\frac{B}{A} \times C$
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In 2014, the International Passenger Survey indicates that a total of 241,000 visits for the purpose of Visiting Friends and Relatives (VFR) were made to Birmingham by overseas residents. The bulk of these visits were from those residing in EU countries, with only 59,000 being taken by visitors originating beyond the EU.

The value of the VFR market to Birmingham was estimated at £450 million in the International Passenger Survey, implying every VFR tourist spent an average of £241.94 per visit. This figure is almost certainly an underestimate for it assumes that the international (non-EU) VFR market spends the same as the EU based VFR market which might be challenged.

In order to estimate the value of the non-EU VFR market, the assumption has to be made that every international VFR visitor spent the same, implying that non-EU based VFR visitors to Birmingham spent 59,000 X £241.94 or £14,274,460.

In respect of who the VFR market are visiting in Birmingham, a further assumption has to be made that it is likely to be those Birmingham residents who have origins overseas. Using the 2011 Census, it can be determined that of the total city population of 1,073, 045 [2011 Census] 457,402 or 42.6% belong to ethnic groups who have origins overseas beyond the EU. As the census includes international students studying in the UK, and if it is assumed that the numbers of Birmingham residents with overseas origins remains constant, then 457,402 people residing in Birmingham in 2013/14 with overseas (including overseas students) origins played host to the 59,000 international (non-EU) VFR market.

Hence, the number of international (non-EU) VFR tourists visiting international (non-EU) students in Birmingham can be estimated as shown below:

<u>No. of International Students Birmingham residents Of international origin</u>	x	No. international VFR visitors	=	No of the international (non-EU) VFR market visiting international students
<u>10,782</u> 457,402	x	59,000	=	1,391

This would suggest that only 1,391 non-EU based VFR tourists came to the city in 2014 to visit international (non-EU) students, with each spending an average of £241.94.

In evaluating a series of questions adapted from SQW's (2006) Visitor Expenditure Model, related to a destination's characteristics, the questions can be weighted according to an assessment of their influence on attributability. Using this evidence, and in adapting a matrix devised by SQW(2006) which distinguishes between the location of the destination and its characteristics, values can be determined for high, medium and low attributability sites in urban areas. These values represent the proportions of visitors, their trips and their expenditure that are entirely because of the site (full attributability) and the proportion for which it is one of several reasons. On the basis of this matrix, high attributability occurs when at

least 10% of the trips made to the attraction are where the site is the main reason for the visit and 20% where the site is one of several reasons for visiting the area.

The assumption can be made in this project that the city of Birmingham stimulates the main purpose of the trip which in this study underpins both the motivation to study and live in Birmingham by international students, as well as the VFR market to visit them. In both cases, a very high degree of attributability may be assumed to exist. Using the SQW (2006) study, this would suggest that 90% of the spending of the Visiting Friends and Relatives market could be attributable to visiting Birmingham, whilst the corresponding figures for international student subsistence and the receipt of their fees by institutions must be 100%.

4. Determining the Net Economic impact of International (non-EU) students in the City of Birmingham, 2013-4

Accordingly, for Birmingham, the Net Economic Impact of the expenditure of international students, the spending of their fees and the spending of the VFR Market which comes to visit them is calculated as shown below:

The Net Economic Impact			
The sum of all international Student's subsistence Expenditure	X	1.55 (the Multiplier)	X 100% (Attributability)
+			
The sum of the fees paid by International students to Birmingham institutions	X	1.98 (the Multiplier)	X 100% (Attributability)
+			
The sum of the expenditure by Visiting Friends & Relatives	X	1.3179978 (the Multiplier)	X 90% (Attributability)

4.1 Limitations in the Study

This study draws upon data supplied purely by government funded colleges and universities in the city and therefore represents an underestimate of the actual number of international students in the city in 2013/14. Furthermore, Universities UK [2014] point to the national trend where universities are more likely to recruit international postgraduate students rather than undergraduates, whose spending is likely to be higher than other student categories. As this survey used data from the City's five universities but only three colleges, it is therefore likely that most of the international students in Birmingham are those reading for postgraduate level qualifications. This in turn would suggest that the average spend is higher in Birmingham than the national average.

Some international students will be classed as domiciled in the UK (but have been so for less than three years – the minimum residency requirement- and in such cases it can be assumed that revenues from visits from the VFR market will be minimal.

The IPS data does not specify exactly where visitor expenditure takes place. For the purposes of this report, this spending is assumed to have taken place in Birmingham.

4.2 Estimating the Net Economic Impact

The Net Economic Impact is calculated by multiplying spending by the appropriate multiplier and attributability value for all international student subsistence expenditure, the spending of international student fees by institutions and the spending of the Visiting Friends and Relatives FR market that comes to visit them.

This is shown below:

The Value to Birmingham of international student subsistence Expenditure, 2013/14

No. of Students x Average expenditure x Multiplier x 100% attributability = Economic Impact
10,782 x £11,289.43 x 1.55 x 100% = £188,670,083.10

The Impact of Institutions Spending the Fees Paid by International Students in Birmingham, 2013/14

No. Students x Average Student Fee x Multiplier Value x Attributability = Economic Impact
10,782 x £ 10,441.84 x 1.98 x 100% = £222,916,159.38

The Economic Impact of that Part of the Visiting Friends & Relatives Market attracted to Birmingham to Visit International Students studying in the City in 2013/14

No. VFR visitors x Average Spend x Multiplier Value x Attributability = Economic Impact
1391 x £241.94 x 1.3179978 x 90% = £443,557.05

Accordingly, this would suggest that the cumulative economic impact of international (non-EU) students on the city of Birmingham in the academic year 2013/14 was in the order of £188,670,083.10 + £222,916,159.38 + £443,557.05 or £412,029,809.53.

The Value of International (non-EU) Students to Birmingham 2013/14

- Student subsistence spending of £188,670,083.10
- Value of fees paid by international students to institutions of 222,916,159.38
- Impact of the VFR spending associated with international students of £443,557.05,

Total Economic Impact of £412,029,809.53.

On account that international students from the Commonwealth are estimated to comprise 23.92% of all international students in the city in the academic year 2013-14, this would imply that their contribution is approximately £98,557,530.44.

This study does not take into account the numbers of students studying at private institutions in the city in 2013/14 nor the higher spending usually associated with postgraduate students who are likely to comprise a significant proportion of non-EU international students studying in the city. Accordingly, it is highly likely that the total impact of £412,029,809.53 is an underestimate, with the real figure being higher.

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