

The costs and benefits of international students by parliamentary constituency

Report for the Higher Education Policy Institute and Kaplan International Pathways



January 2018

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Executive Summary

With **438,000** international students studying for qualifications at higher education institutions across the United Kingdom – equivalent to **19%** of all HE students – international students contribute significantly to our economic and social prosperity, both in the short term during their studies as well as in the medium to longer term after they graduate. Although many of the costs of higher education are borne by these students themselves, there are some costs imposed on the UK public purse associated with hosting international students. These costs relate to general Exchequer expenditure on the provision of public services (whether used or otherwise) for both international students and dependants who accompany them to the UK, as well as the higher education costs associated with the teaching grants provided to universities and student support (for EU students but not for non-EU students).

Given the continuing political debate about the inclusion of international students in UK migration targets, and the limited number of analyses of their net economic impact to date, London Economics were commissioned by the **Higher Education Policy Institute** (HEPI) and **Kaplan International Pathways** to undertake a detailed analysis of both the **benefits** and **costs** to the United Kingdom economy associated with international students.

What did we measure?

We estimated the **economic benefits** of international students in terms of:

- The **tuition fee income** generated by international students studying in the UK;
- The **knock-on** (or ‘**indirect**’¹ and ‘**induced**’²) effects across the UK economy associated with universities’ spending of this tuition fee income on staff, goods and services;
- The income from the **non-tuition fee expenditure** of international students;
- The subsequent **knock-on** effects associated with the non-tuition fee expenditure undertaken by international students; and
- The income associated with the spending of **friends and family visiting** international students in the UK.

There are a number of benefits that were **not** considered as part of this analysis, given the difficulty in providing adequately robust evidence and measuring some of these benefits in monetary terms.

These include:

¹ An **indirect effect** arises from universities’ and students’ purchases of goods and services from other sectors in the economy to support their consumption and investment decisions. These purchases generate income for the supplying industries, which are in turn spent on their own purchases from input suppliers to meet the universities’ and students’ demands. This results in a chain reaction of subsequent rounds of spending across industries, commonly referred to as the ‘ripple effect’.

² The **induced effect** is based on universities’ and suppliers’ statuses as employers. In return for their services, each university and supplier pays salaries to their employees, who will use this income to buy consumer goods and services within the economy. This generates wage income for employees within the industries producing these goods and services, who in turn spend their own income on goods and services. Again, this leads to subsequent rounds of wage income spending, i.e. a further ‘ripple effect’ throughout the economy as a whole.

- The **tax** and **National Insurance** paid by international students (or their dependants) while in employment in the United Kingdom – during and/or after their studies;
- The longer term **investment, business** and **trade links** that are expected to occur as a result of hosting international students in the United Kingdom;
- The **soft diplomatic power** exerted by the United Kingdom on an international stage as a result of the networks built up during their stays; and
- The **wider cultural** and **societal impacts** associated with a more diverse population.

Given these omissions, the analysis will **underestimate** the true contribution of international students to the UK economy.

In relation to the **public costs** associated with hosting international students, we considered:

- The **teaching grant** costs incurred by HEFCE, HEFCW, the Scottish Funding Council and the Department for Employment and Learning Northern Ireland to fund higher education institutions' provision of teaching and learning activities (for EU students only);
- The costs associated with the **tuition fee support** (through loans and/or grants) provided to EU students studying across the home nations; and
- The costs associated with the provision of **other public services** to international students (*net* of any direct contribution) or their dependants, including **healthcare; housing** and **community amenities**, primary and secondary-level **education** received by dependent children; **social security; public order** and **safety; defence; economic affairs; recreation** and **culture; environmental protection**, and other **general public services**.
- We also **included** the costs associated with other '**non-identifiable**' **public expenditure** incurred by the UK Exchequer (e.g. expenditure relating to the **servicing of the national debt**), and **expenditure on overseas activities** (i.e. diplomatic activities etc.).

Which students did we consider?

The analysis focuses on the aggregate economic benefits and costs to the **UK economy** associated with the **231,065** international students *commencing* their studies in the UK in 2015/16, taking account of the total impacts associated with these students **over the entire duration of their study in the UK** (adjusted for completion rates).³

At what level did we consider the economic costs and benefits?

In addition to the total UK-wide impact, to understand the contribution at a **regional level**, we linked international students to the location of the higher education institution they attend. This allows us to understand the contribution to the UK economy originating at a regional level.

³ This approach measures the impact of one cohort over the course of their studies, which is broadly comparable to the estimate of the impact of all international students in one particular year.

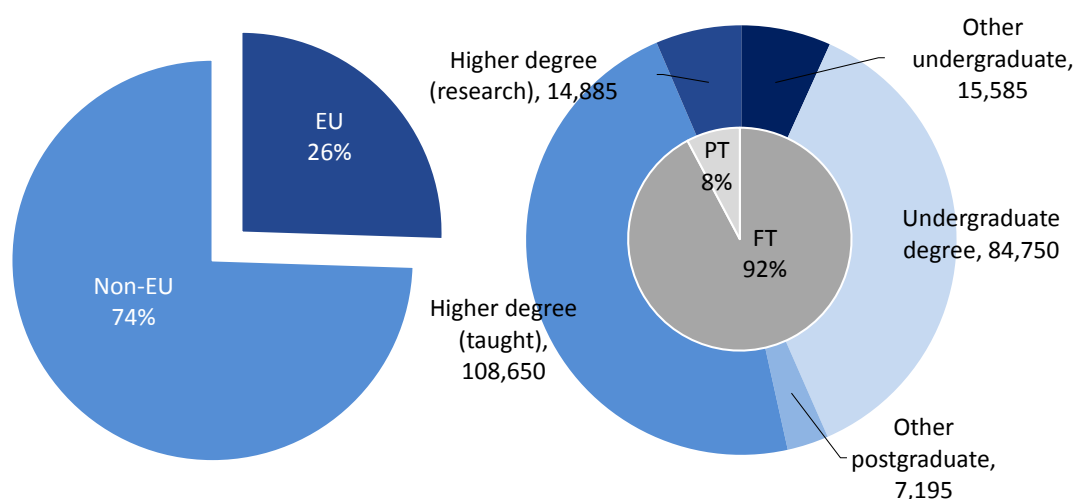
We also undertook an analysis by **parliamentary constituency**, using information from the 2011 Census on the number of UK-domiciled students residing in each parliamentary constituency⁴, and apportioned the estimated costs and benefits identified at regional level generated by international students using this distribution of UK-domiciled students.

What does the profile of international students look like?

Reflecting the attractiveness of UK higher education, the number of international students coming to the United Kingdom has increased from approximately **109,000** students in 2000/01 to approximately **231,065** in 2015/16. **China** is the dominant contributor, with **62,105** first-year Chinese students entering UK higher education in 2015/16. In other words, approximately **one in every four** international students in the 2015/16 cohort originated from China. The **United States** and **India** were the next most prolific, with **10,545** and **9,095** first year students in 2015/16, respectively.

The country providing the greatest number of EU-domiciled first-year students in 2015/16 was **Germany**, with **7,250** students coming to the United Kingdom, closely followed by **France** and **Italy**, with **6,995** and **6,055** new students in the cohort, respectively.

Figure 1 Profile of international first-year students in 2015/16



Note: All student numbers are rounded to the nearest 5. **Source: London Economics' analysis of HESA data**

Of the **231,065** first-year international students in 2015/16, **approximately 47% (108,650)** were undertaking **taught higher degrees** (i.e. Masters degrees), with a further **14,885** students undertaking **higher research degrees (6%)**, and **7,195 (3%)** studying for **other postgraduate qualifications**.

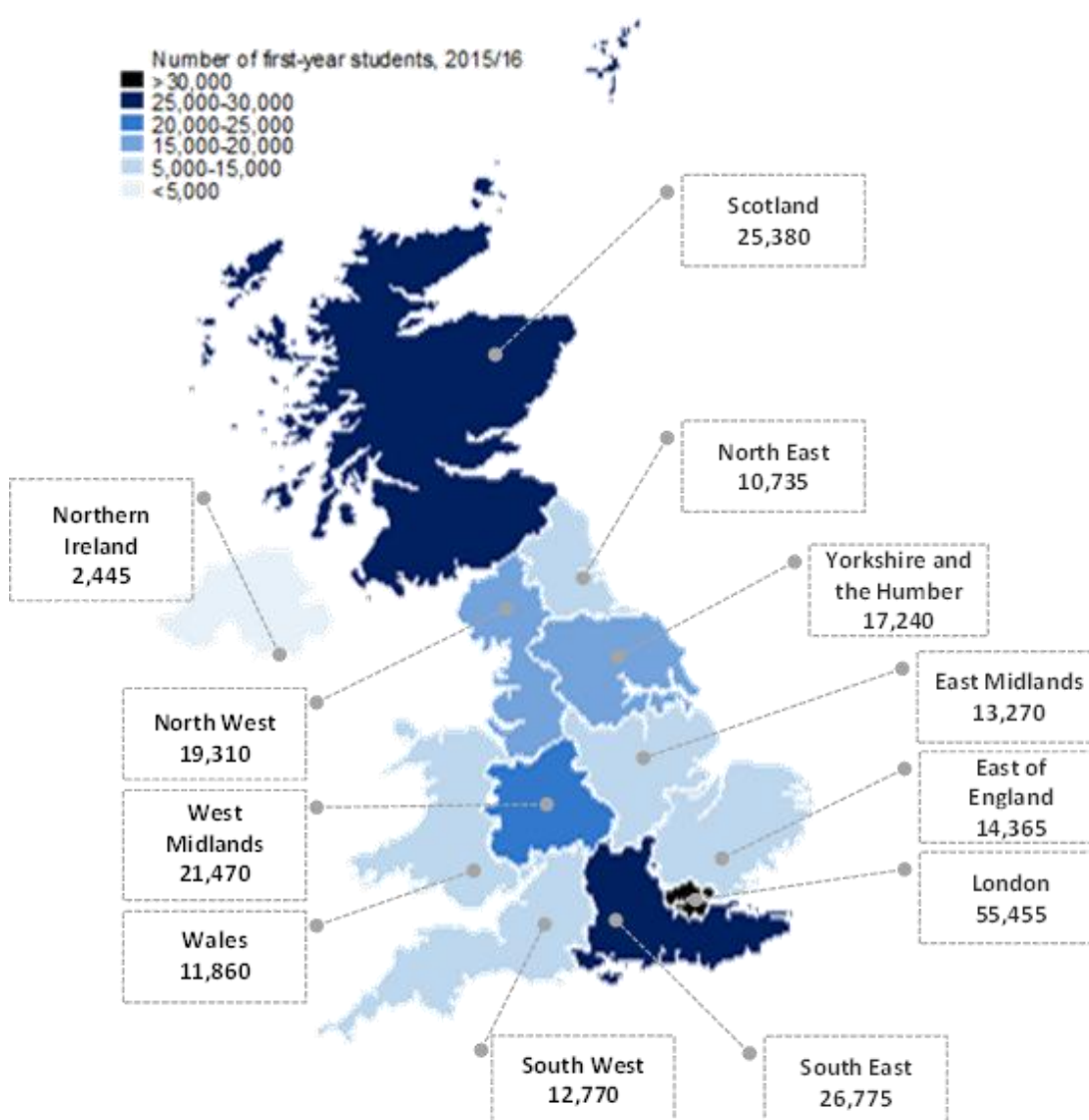
Around **100,335** international students (**43%**) were engaged in undergraduate study (at any level), of which **84,750 (37%)** were studying for an **undergraduate degree** and **15,585 (7%)** were studying for **'other' (non-degree level) undergraduate qualifications**.

⁴ Note that this analysis reflects the residency of UK-domiciled students, and as such the analysis by parliamentary constituency will not reflect the true picture in some constituencies especially where there may be a particularly high concentration of international students.

Where do these students undertake their higher education?

First-year international students in the 2015/16 cohort were spread across the entire United Kingdom. There were approximately **55,455** first-year students enrolled in higher education institutions based in **London**, with a further **26,775** attending institutions located in the **South East**. The next most popular region in England was the **West Midlands**, which hosted approximately **21,470** students. Demonstrating the spread of international students across England, there were **19,310** international students undertaking their studies in the **North West**, **17,240** in **Yorkshire and the Humber**, **13,270** in the **East Midlands**, and **10,735** in the **North East**. In relation to the other UK home nations, there were approximately **25,380** students attending higher education institutions in **Scotland**, with a further **11,860** in **Wales** and **2,445** in **Northern Ireland**.

Figure 2 Number of international first-year students in 2015/16 – by region



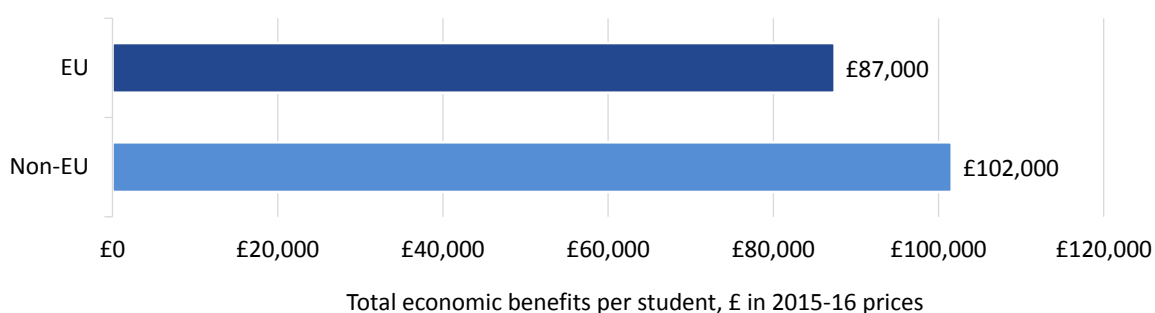
Note: All student numbers are rounded to the nearest 5. *Source: London Economics' analysis of HESA data*

What economic contribution do international students make to the UK economy?

Benefits per student

The total benefit to the UK economy associated with a **typical EU-domiciled student** was approximately **£87,000**, with the comparable estimate for **non-EU-domiciled students** standing at approximately **£102,000**. The difference between the two estimates is primarily driven by the relatively higher tuition fees charged to non-EU-domiciled students compared to students from (other) EU countries studying at UK higher education institutions (HEIs).

Figure 3 Total benefit per student associated with 2015/16 cohort - by domicile, £



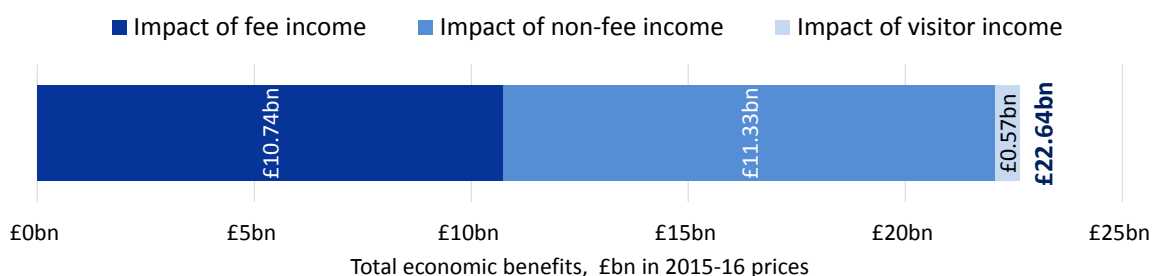
Note: Values per student are rounded to the nearest £1,000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. **Source: London Economics' analysis**

Aggregate benefits across the UK economy

Aggregating across the entire 2015/2016 cohort of first-year students, the total economic benefit of international students to the UK economy was estimated to be **£22.6bn** over the entire duration of their studies, of which **£5.1bn** is generated by EU students, and **£17.5bn** is generated by non-EU students.

Table 1 Total benefits associated with 2015/16 cohort - by domicile, £bn

Type of benefit	EU	Non-EU	Total
Fee income	£1.7bn	£9.0bn	£10.7bn
Non-fee income	£3.2bn	£8.1bn	£11.3bn
Visitor income	£0.2bn	£0.4bn	£0.6bn
Total	£5.1bn	£17.5bn	£22.6bn



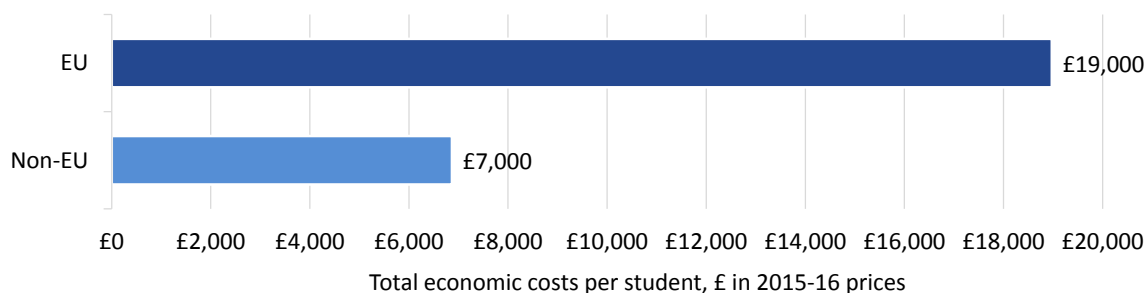
Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. **Source: London Economics' analysis**

What are the costs of hosting international students?

Costs per student

Combining information on the costs associated with the teaching grants paid to UK higher education institutions, student support, as well as the costs of providing ‘other’ public services to students and their dependants, the estimated cost to the Exchequer associated with a typical EU-domiciled student was **£19,000**, while the comparable figure for non-EU students was estimated to be **£7,000**.

Figure 4 Total cost per student associated with 2015/16 cohort - by domicile, £



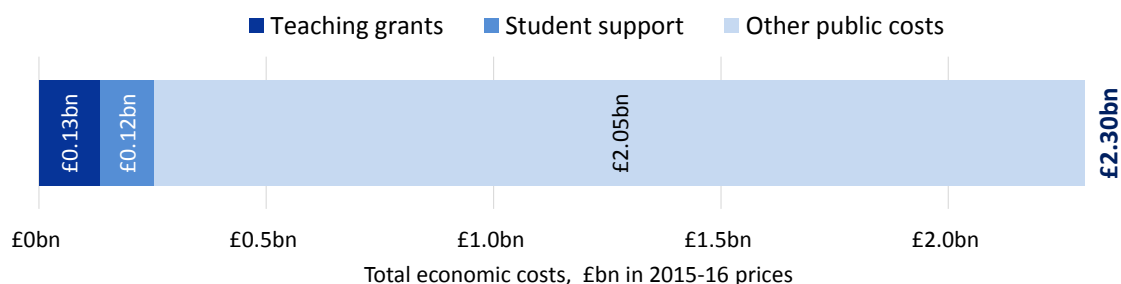
Note: Values per student are rounded to the nearest £1,000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

Aggregate costs across the UK economy

Aggregating across the 2015/2016 cohort of first-year students, the total costs of international students to the UK economy was estimated to be **£2.3bn**, split roughly equally between EU-domiciled students (**£1.1bn**) and non-EU-domiciled students (**£1.2bn**).

Table 2 Total costs associated with 2015/16 cohort - by domicile, £bn

Type of cost	EU	Non-EU	Total
Teaching grants	£0.1bn	£0bn	£0.1bn
Student support	£0.1bn	£0bn	£0.1bn
Other public costs	£0.9bn	£1.2bn	£2.1bn
Total	£1.1bn	£1.2bn	£2.3bn



Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

What is the net economic contribution of international students to the UK?

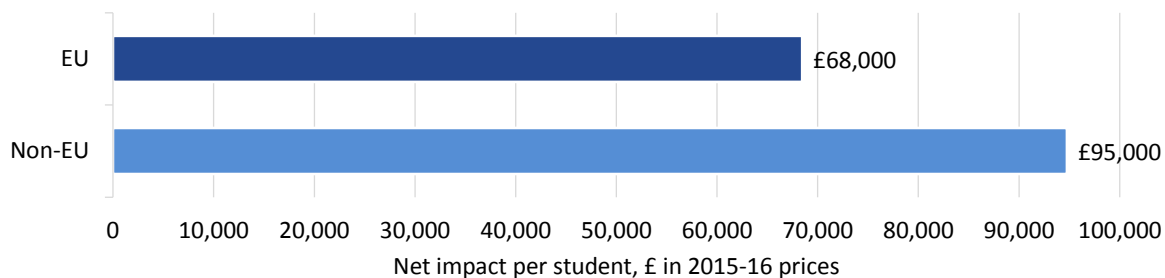
Net economic impact per student

The **net economic impact** was estimated to be **£68,000** for each typical EU-domiciled student in the 2015/16 cohort, and **£95,000** generated by each typical non-EU-domiciled student. In other words, **every 15 EU students** and **every 11 non-EU students** generate **£1m worth of net economic impact for the UK economy** over the duration of their studies.

Expressed in terms of **benefit to cost ratios**, dividing the gross economic benefit associated with EU-domiciled and non EU-domiciled students (estimated to be **£87,000** and **£102,000** respectively) by the corresponding public costs (estimated to be **£19,000** and **£7,000** respectively), the analysis suggests that the benefit to cost ratio of associated with hosting EU and non-EU students at UK higher education institutions stands at **4.6** and **14.8** respectively.

Every 11 non-EU students contribute £1 million to the UK economy

Figure 5 Net impact per student associated with the 2015/16 cohort - by domicile, £



Note: Values per student are rounded to the nearest £1,000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. **Source: London Economics' analysis**

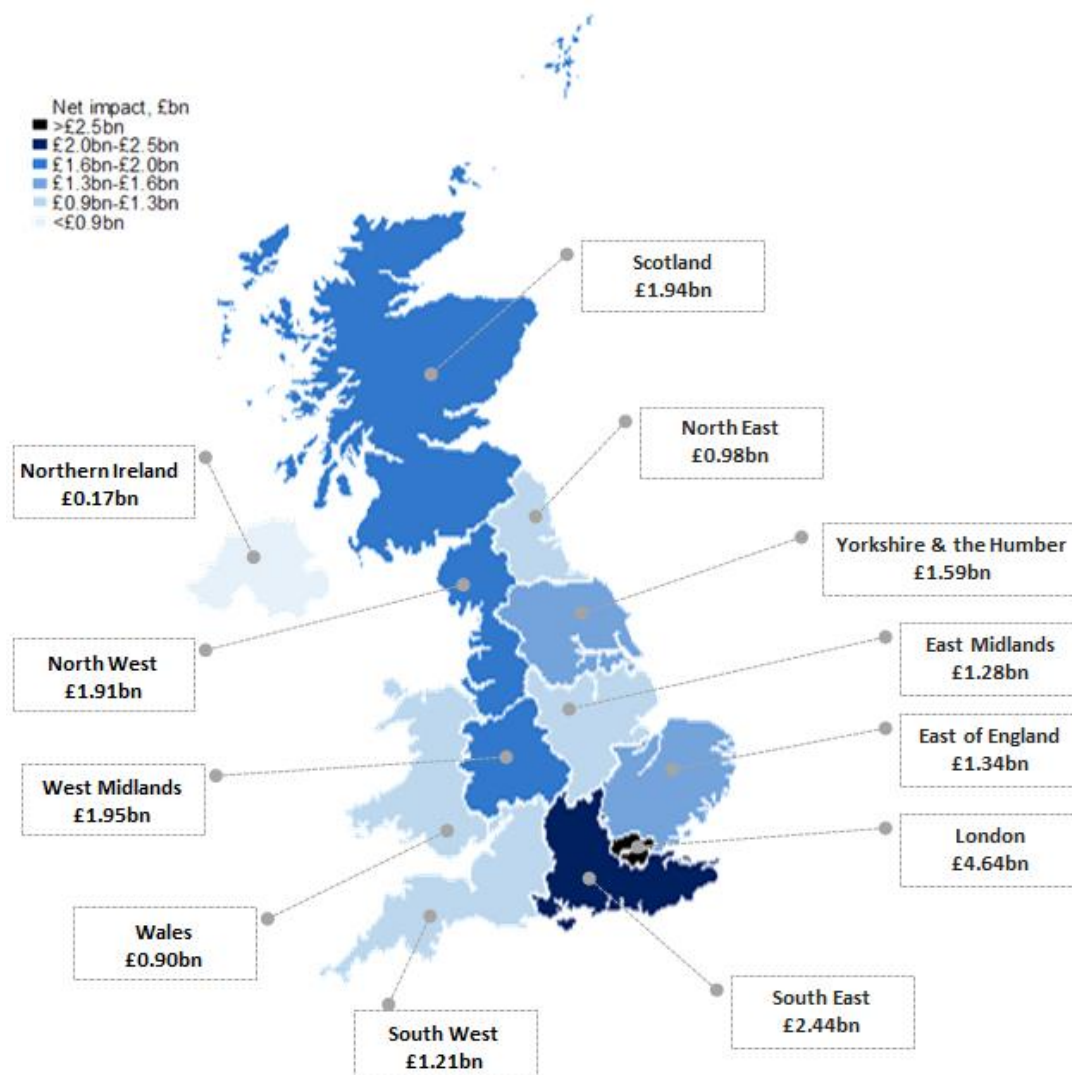
The benefit of hosting non-EU HE students is 14.8 times greater than the total cost

Net economic benefits across the UK economy

Across the total cohort of first-year international students enrolled with UK HEIs in the 2015/16 academic year, **the total net impact of international students on the UK economy was estimated to be £20.3bn**, with **£4.0bn** of this net impact generated by EU-domiciled students, and **£16.3bn** of net impact generated by non-EU-domiciled students in the cohort.

The total net economic contribution of international students starting in 2015/16 was estimated to be £20.3 billion

Figure 6 Net impact associated with the 2015/16 cohort - by region of HEI, £bn

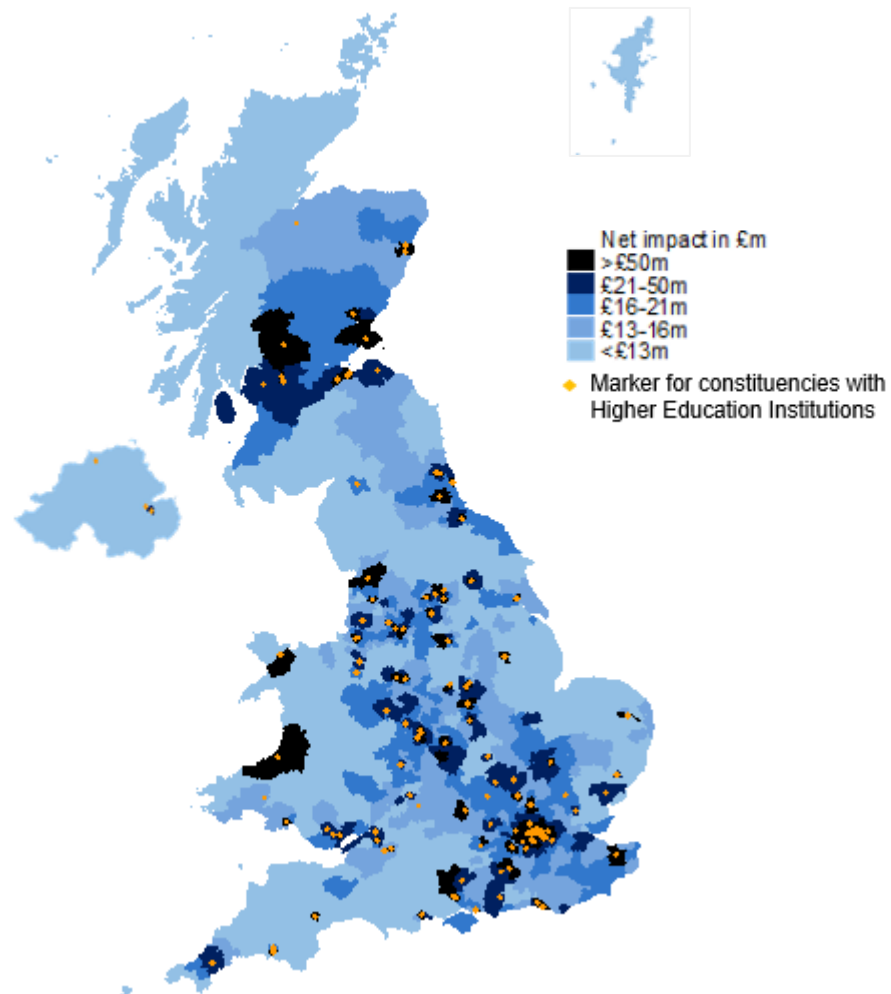


Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

Net economic benefits by region and parliamentary constituency

Using the regional distribution of international students in specific higher education institutions, we split the net economic impacts by **parliamentary constituency** to demonstrate the economic contribution made by international students across the entire United Kingdom.

Figure 7 Net impact associated with 2015/16 cohort - by parliamentary constituency, £m



Note: Values are rounded to the nearest £1 million. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

International students contribute an average of £31.3 million of economic benefit to the UK economy *per parliamentary constituency* – equivalent to £310 per member of the resident population

On average, international students make a **£31.3m** net economic contribution to the UK economy for each of the 650 parliamentary constituencies across the UK, which is equivalent to **£310** per member of the resident population. This varies from **£549** per member of the resident population per constituency in London to **£92** in Northern Ireland.

Table 3 Average number of international student starters and level of impact associated with the 2015/16 cohort per parliamentary constituency - by region, £m

Region	# of starters			Benefits	Costs	Net impact	Net impact per resident
	EU	Non-EU	Total				
East of England	75	173	247	£25.4m	£2.3m	£23.1m	£224
East Midlands	51	237	288	£30.2m	£2.3m	£27.8m	£273
London	225	535	760	£71.6m	£8.0m	£63.6m	£549
North East	64	306	370	£36.9m	£3.0m	£33.9m	£368
North West	49	208	257	£27.8m	£2.3m	£25.5m	£256
South East	86	233	319	£31.9m	£2.8m	£29.0m	£278
South West	54	177	232	£24.1m	£2.0m	£22.0m	£221
West Midlands	76	288	364	£36.1m	£3.1m	£33.0m	£336
Yorkshire & the Humber	55	265	319	£32.0m	£2.6m	£29.4m	£290
Wales	72	224	297	£26.0m	£3.5m	£22.5m	£287
Scotland	148	282	430	£39.0m	£6.1m	£32.9m	£365
Northern Ireland	58	78	136	£11.7m	£2.4m	£9.4m	£92
Average	91	265	355	£34.8m	£3.5m	£31.3m	£310

Note: Values are rounded to the nearest £0.1 million. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Estimates of the total resident population are derived from the 2011 Census (ONS (2016d)).

Source: *London Economics' analysis*

Which parliamentary constituencies benefit the most?

Reflecting the relatively high number of international students undertaking higher education in Sheffield (2,455), as well as their relative concentration in the city, the analysis indicates that the contribution to the UK economy from the 2015/16 cohort of international students in **Sheffield Central** stands at approximately **£226m**, which is equivalent to **£1,960** per member of the resident population. The other constituencies where international students make the greatest contribution to the UK economy (and to the resident population) include **Newcastle upon Tyne East (£192m (£2,010))**, **Nottingham South (£183m (£1,680))**, **Oxford East (£179m (£1,480))** and **Manchester Central (£179m (£1,330))**.

There are constituencies across almost all UK regions that benefit significantly, with international students in **Cambridge** (East of England) contributing **£168m (£1,460)**; **Birmingham Ladywood** (West Midlands) contributing **£154m (£1,220)**; **Cardiff Central** (Wales) contributing **£151m (£1,720)**; **Bristol West** (South West) contributing **£142m (£1,140)**; and **Glasgow Central** (Scotland) contributing **£135m (£1,480)**.

Nineteen of the top 20 constituencies that benefit the most are held by the Labour Party. In contrast, the 20 constituencies that have the least net economic benefit (though still positive) are represented by seven different political parties and one independent.

1 Introduction

1.1 Background and context

With **438,000** international students studying for higher education qualifications at higher education institutions across the country – equivalent to **19%** of all higher education students in the UK⁵, international students contribute significantly to our economic and social prosperity, both in the short term during their studies, as well as in the medium to longer term after they graduate. However, although many of the costs of higher education are borne by these students themselves, there are some costs imposed on the UK public purse associated with hosting these students. These costs relate to general Exchequer expenditure on the provision of public services (whether used or otherwise) - for both international students and the dependants who accompany them to the UK - as well as the costs associated with teaching grants paid to universities and the provision of student support (applicable to EU-domiciled international students only).

Given the continuing political debate about the inclusion of international students in UK migration targets, and the limited number of analyses of their net economic impact to date^{6,7}, London Economics were commissioned by the **Higher Education Policy Institute** (HEPI) and **Kaplan International Pathways** to undertake a detailed analysis of both the benefits and costs to the United Kingdom economy associated with international students.

With organisations like HEPI calling for a comprehensive review of this type for a significant length of time, as well as commissioning this work from London Economics in August 2017, we are pleased to hear of the recent launch (in October 2017) of the Government's Migration Advisory Committee investigation into the impact of international students on the UK's society and economy.⁸ As the Committee's findings are not set to be published until September 2018, we hope that the results of our analysis provide a key contribution to the evidence base and debate, at both a national and local level.

1.2 Scope

As part of this analysis, we estimated the **economic benefits** of international students in terms of:

- The **tuition fee income** generated by EU-domiciled and non-EU-domiciled students studying in the UK;
- The **knock-on** (or '**indirect**' and '**induced**') effects throughout the UK economy associated with UK universities' spending of this international fee income on staff, goods and services from within the economy;
- The income associated with the **non-tuition fee expenditure** of international students including the costs associated with **accommodation costs** (rent, council

⁵ This is based on data for the 2015/16 academic year. See Higher Education Statistics Agency (2017b).

⁶ Oxford Economics (2014). 'The economic costs and benefits of international students'.

⁷ London First and PWC (2014). 'London Calling: International students' contribution to Britain's economic growth'

⁸ See Migration Advisory Committee (2017).

tax, bills, etc.), **subsistence costs** (food, entertainment, personal items, etc.), **direct course costs** (textbooks, journal or library subscriptions, computer equipment, etc.), **facilitation costs** (e.g. course-related travel costs), and **spending on children** (including childcare that is not related to their study);

- The subsequent **knock-on** effects associated with the non-tuition fee expenditure undertaken by international students; and
- The income associated with the spending of **friends and family visiting** international students whilst studying in the UK.

Despite their clear importance, there are a number of benefits that were **not** considered as part of this analysis, given the difficulty in providing adequately robust evidence and/or measuring these benefits in monetary terms. These omissions include:

- The **additional tax** and **National Insurance** paid by international students (or their dependants) while in employment in the UK – either during or after their studies;
- The opportunities offered to UK-domiciled students given that a number of courses are only **viable** in the presence of sufficient numbers of international students;
- The analysis focuses on students undertaking HE qualifications and **does not** include the economic benefits associated with students coming to the United Kingdom either on Erasmus exchange programmes, direct entrants (not captured in HESA data), or students that are engaged in pre-university programmes (e.g. pathway embedded or independent colleges, or pre-sessional English courses);
- The **soft diplomatic power** exerted by the United Kingdom on an international stage as a result of the networks built up through hosting international students;
- The **global status** of UK universities, reflected in research partnerships, international research funding opportunities and international staff recruitment;
- The longer term **investment, business** and **trade links** that are expected to occur as a result of hosting international students in the United Kingdom; and
- The **wider cultural** and **societal impacts** associated with a more diverse population.

Given these omissions, the analysis will **underestimate** the true contribution of international students to the UK economy.

In relation to the **public costs** associated with international students, we considered:

- The level of **teaching grant** costs incurred by the Higher Education Funding Council for England (HEFCE), the Higher Education Funding Council for Wales (HEFCW), the Scottish Funding Council (SFC) and the Department for Employment and Learning Northern Ireland (DELNI) to fund higher education institutions' provision of teaching and learning activities (applicable to EU students only);
- The costs associated with the **tuition fee support** (through loans and/or grants) provided to EU-domiciled students studying across the home nations; and
- The costs associated with the provision of **other public services** (net of any direct contribution) to international students or their dependants (depending on eligibility), incorporating the costs associated with **healthcare** (net of any NHS

Levy⁹); **housing** and **community amenities**, primary and secondary-level **education** received by dependent children; **social security**; **public order** and **safety**; **defence**; **economic affairs**; **recreation, culture** and **religion**; **environmental protection**, and other **general public services**. We also included the costs associated with other ‘**non-identifiable**’ **public expenditure** that is incurred on behalf of the UK as a whole (e.g. expenditure relating to the **servicing of the national debt**), and **expenditure on overseas activities** (i.e. diplomatic activities etc.).

The analysis focuses on the aggregate economic benefits and costs to the **UK economy** associated with the **231,065** international students *commencing* their studies in the UK in 2015/16, taking account of the total impact associated with these students **over the entire duration of their study in the UK** (adjusted for completion rates).

In addition to the total UK-wide impact, to understand the contribution at a **regional level**, we linked international students to the location of the higher education institution they attended. This allows us to understand the contribution to the UK economy originating at a regional level. Public purse costs are also estimated at regional level to reflect differences in costs across the country. In addition, to undertake the analysis by **parliamentary constituency**, we used information from the 2011 Census on the number of UK students residing in each constituency (and assuming that international students have the same geographic distribution as UK-domiciled students). We then apportioned the estimated costs and benefits at regional level according to this distribution of students.

1.3 Structure of the report

The remainder of this report is structured as follows:

- In Section 2, we provide a detailed overview of the **composition of the cohort of international students commencing their studies at UK higher education institutions in 2015/16**.
- In Section 3, we present the **detailed methodology** adopted for assessing the economic benefits and costs associated with these international students.
- In Section 4, we provide estimates of the **benefits** to the UK economy associated with these students in relation to higher education qualification attainment – by qualification level, domicile of student and by type of benefit and cost.
- In Section 5, we focus on both the **higher education costs** and the **wider public purse costs** associated with hosting these students and their dependants.
- In Section 6, we combine the information on costs and benefits and illustrate the **net contribution** of international students to the **UK economy** – in aggregate, **by region** and **by parliamentary constituency**.
- The **conclusions** of the analysis are presented in Section 7.

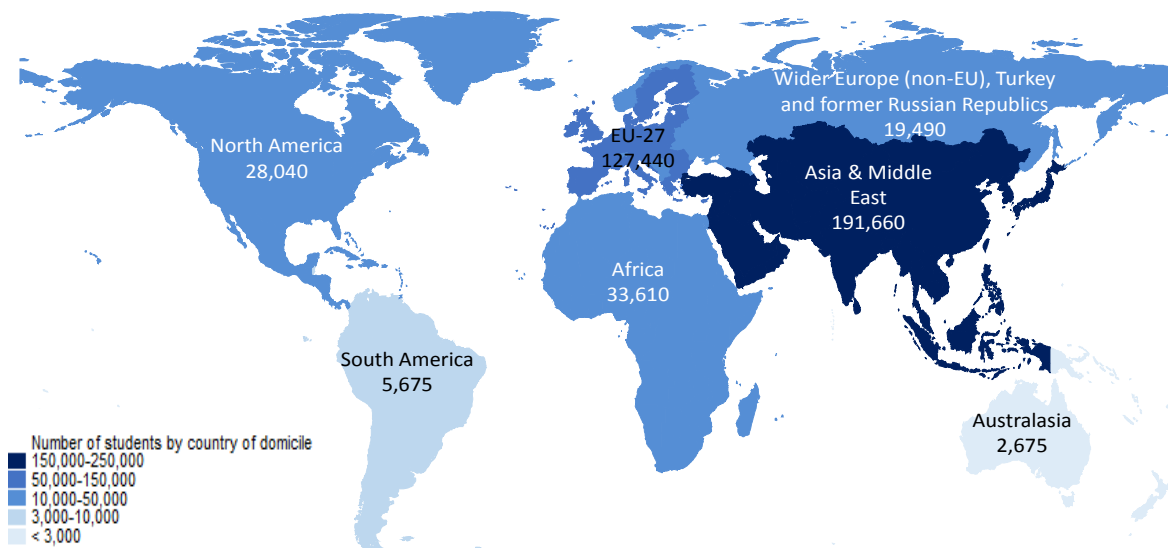
⁹ All **non-EU students** and their dependants are eligible for UK public healthcare, but they must pay a compulsory annual NHS levy of **£150** towards their healthcare costs

2 Overview of the 2015/16 cohort

Offering world-class learning and research opportunities in higher education, the United Kingdom has long been a hugely attractive destination for international students from both EU and non-EU countries. As presented in Figure 8, in 2015/16, there were **438,010** international students from across the world studying at UK higher education institutions.¹⁰

In terms of domicile, almost **191,700** came to the UK from South East Asia and the Middle East. A further **146,900** arrived from Europe, of which approximately **127,400** originated from the other 27 Member States of the European Union. A further **33,600** came to the United Kingdom from Africa, while North America, South America and Australasia contributed approximately **28,000**, **5,700** and **2,700** students respectively.

Figure 8 Domicile of first-year and continuing international students studying at UK HEIs in 2015/16, by continent



Note: All student numbers are rounded to the nearest 5. UK-domiciled students are not included in number of EU-27 students.

Source: *London Economics' analysis of HESA data*

The above numbers include **both first-year and continuing** international students enrolled at UK HEIs in 2015/16. As the analysis presented in this report focuses on the economic costs and benefits associated with the 2015/16 **cohort** of students, the remainder of this section focuses exclusively on **first-year students commencing their studies at UK higher education institutions in 2015/16**.

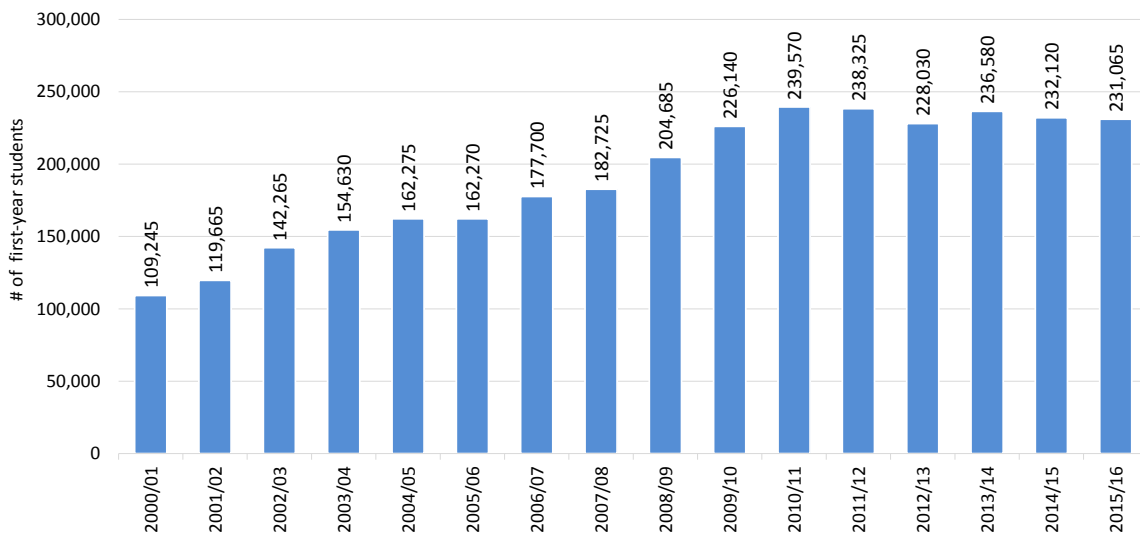
2.1 Number of first-year students over time

Figure 9 presents the number of undergraduate and postgraduate **first-year** international students that have come to the United Kingdom for the purposes of study since 2000/01. Reflecting the attractiveness of UK higher education, the analysis indicates that from

¹⁰ Note that, based on the standard coverage of HESA publications, this includes 165 publicly-funded UK HEIs, as well as one private HE provider (the University of Buckingham).

approximately **109,000** students at the start of the period, enrolment more than doubled to approximately **240,000** in 2010/11, and has remained relatively stable thereafter. In 2015/16, **231,065** international first-year students entered higher education in the United Kingdom.

Figure 9 UK higher education international first-year students between 2000/01 and 2015/16



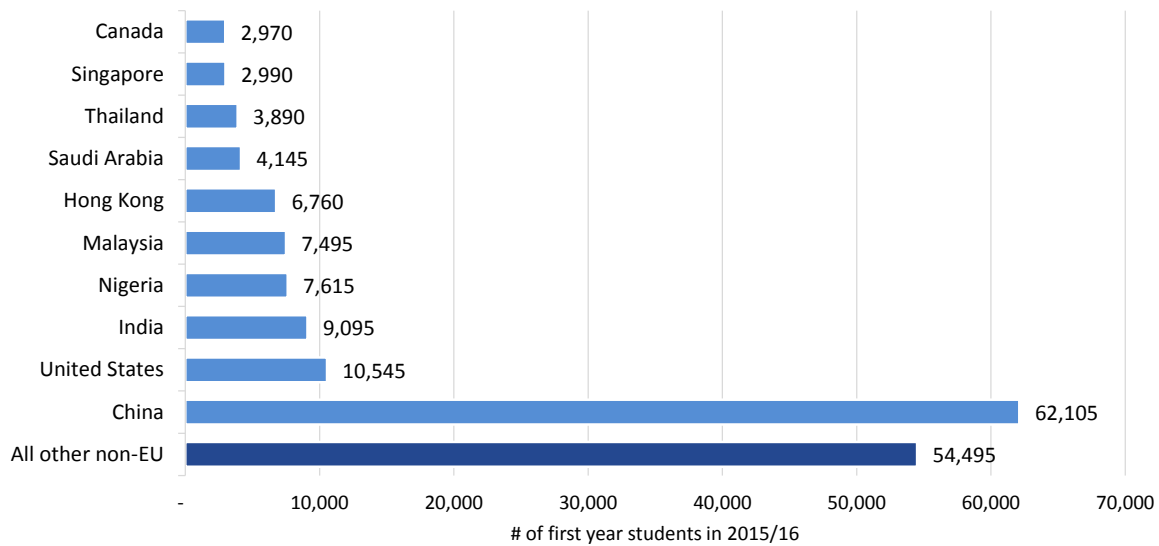
Note: All student numbers are rounded to the nearest 5. *Source: London Economics' analysis of HESA data and London Economics (2017)*

2.2 Top countries of origin

In terms of the specific countries that are associated with the greatest number of students coming to the UK, the analysis presented in Figure 10 and Figure 11 illustrates that **China** is the dominant nation, with **62,105** first-year Chinese students entering UK higher education in 2015/16. In other words, **one in every four** international students in the 2015/16 cohort originated from China. The **United States** and **India** were the next most prolific, with **10,545** and **9,095** first year students in 2015/16, respectively.

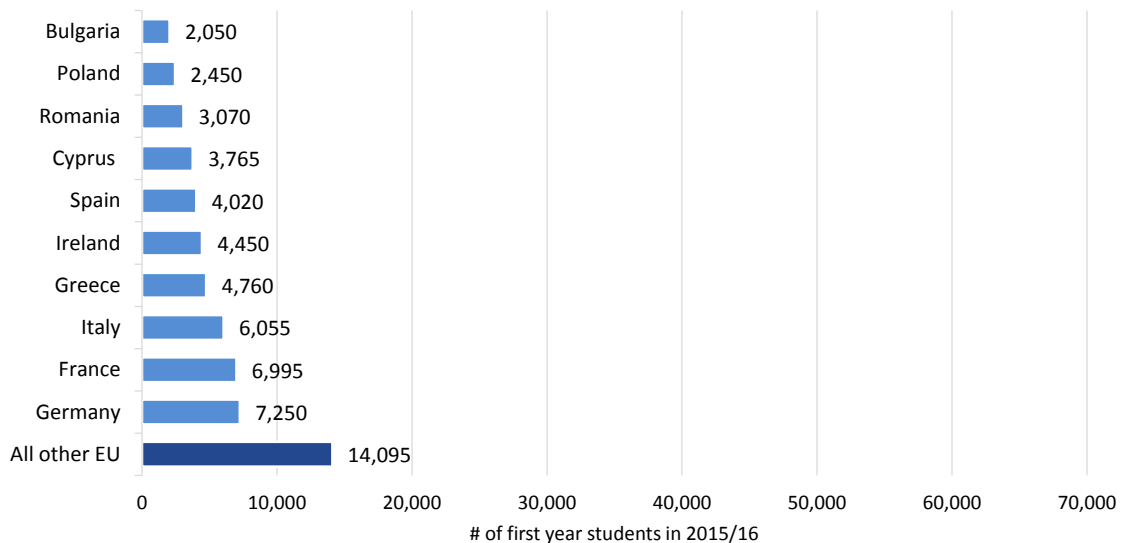
The country providing the greatest number of EU-domiciled first-year students in 2015/16 was **Germany**, with **7,250** students coming to the United Kingdom, closely followed by **France** and **Italy**, with **6,995** and **6,055** new students in the cohort, respectively.

Figure 10 Top 10 non-EU countries of domicile for first-year international students in 2015/16



Note: 'All other non-EU' category was estimated by London Economics. All student numbers are rounded to the nearest 5. **Source: London Economics' analysis of HESA data**

Figure 11 Top 10 EU countries of domicile for first-year international students in 2015/16

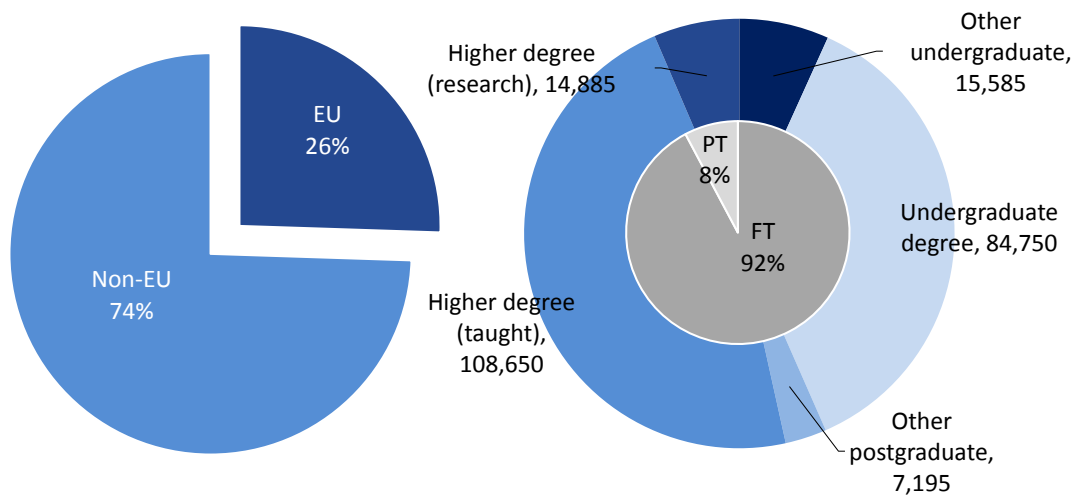


Note: 'All other EU' category was estimated by London Economics. All student numbers are rounded to the nearest 5. **Source: London Economics' analysis of HESA data**

2.3 Domicile, level and mode

Figure 12 presents the profile of the **231,065** international first-year students in 2015/16 in terms of domicile, level and mode of study. Approximately **74%** of international first-year students were domiciled outside the EU, with the remaining **26%** domiciled within the EU (from Member States outside the UK). The vast **majority of these international students (92%)** were studying full-time, with only **8%** of students undertaking qualifications on a part-time basis.

Figure 12 Profile of international first-year students in 2015/16



Note: All student numbers are rounded to the nearest 5. *Source: London Economics' analysis of HESA data*

Considering level of study undertaken, of the **231,065** first-year international students in 2015/16, **approximately 47% (108,650)** were undertaking **taught higher degrees** (i.e. Masters degrees), with a further **14,885** students undertaking **higher research degrees (6%)**, and **7,195 (3%)** studying for **other postgraduate qualifications**. Around **100,335** international students (**43%**) were engaged in undergraduate qualifications, of which **84,750 (37%)** were studying for an **undergraduate degree** and **15,585 (7%)** were studying for **other undergraduate qualifications**.

A detailed breakdown of first-year international students in 2015/16 by domicile, study mode and level of study is provided in Table 4.

Table 4 International first-year students in 2015/16 - by domicile, study mode and level of study

Level and mode of study	Domicile		
	EU	Non-EU	Total
Full-time	52,265	160,860	213,125
Other undergraduate	980	5,670	6,650
Undergraduate degree	28,175	55,970	84,145
Other postgraduate	1,380	2,185	3,565
Higher degree (taught)	17,530	87,270	104,800
Higher degree (research)	4,200	9,765	13,965
Part-time	6,695	11,245	17,940
Other undergraduate	2,540	6,395	8,935
Undergraduate degree	345	260	605
Other postgraduate	1,560	2,070	3,630
Higher degree (taught)	1,795	2,055	3,850
Higher degree (research)	455	465	920
Total	58,960	172,105	231,065
Other undergraduate	3,520	12,065	15,585
Undergraduate degree	28,520	56,230	84,750
Other postgraduate	2,940	4,255	7,195
Higher degree (taught)	19,325	89,325	108,650
Higher degree (research)	4,655	10,230	14,885

Note: All student numbers are rounded to the nearest 5.

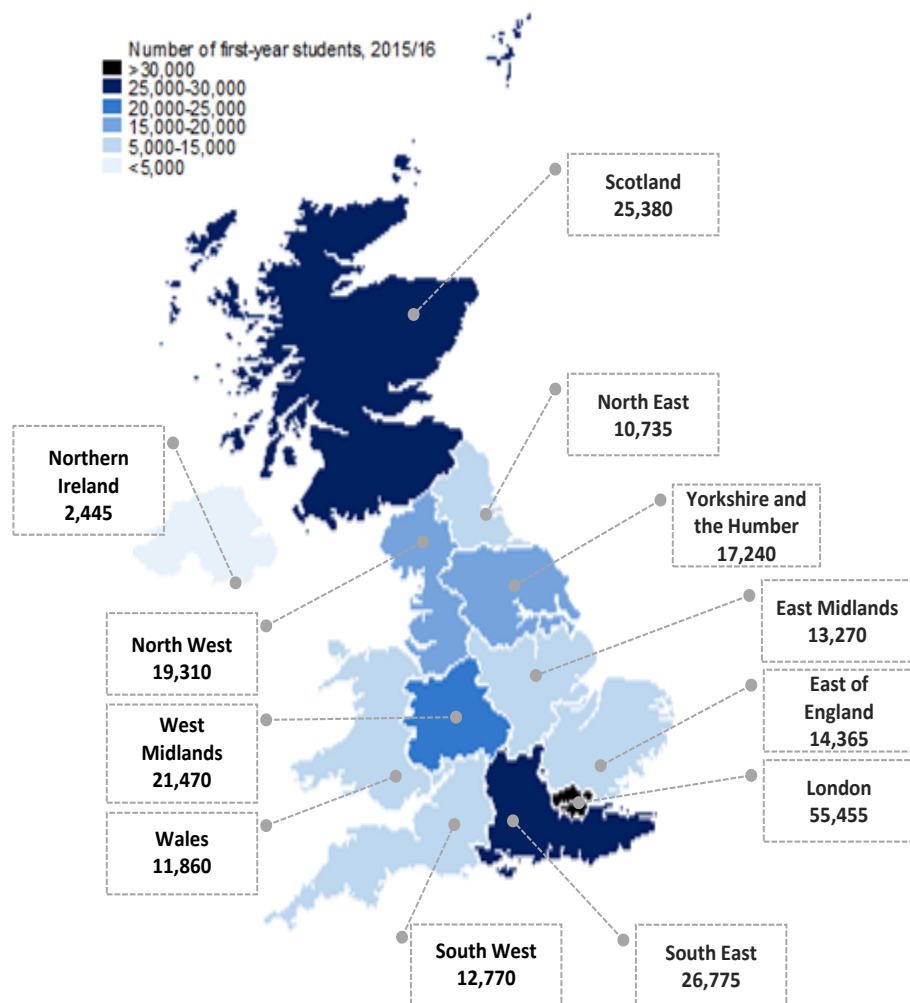
Source: *London Economics' analysis of HESA data*

2.4 Location of study in the UK

Figure 13 and Figure 14 demonstrate the geographical spread of first-year international students in the 2015/16 cohort across the entire United Kingdom. There were approximately **55,455** first-year students enrolled in higher education institutions based in London, with a further **26,775** attending institutions located in the South East. The next most popular region in England was the West Midlands, which hosted approximately **21,470** students. Demonstrating the spread of international students across England, there were **19,310** international students undertaking their studies in the North West, **17,240** in Yorkshire and the Humber, **13,270** in the East Midlands, and **10,735** in the North East. In relation to the other UK home nations, there were approximately **25,380** students attending higher education institutions in Scotland, with a further **11,860** in Wales and **2,445** in Northern Ireland.

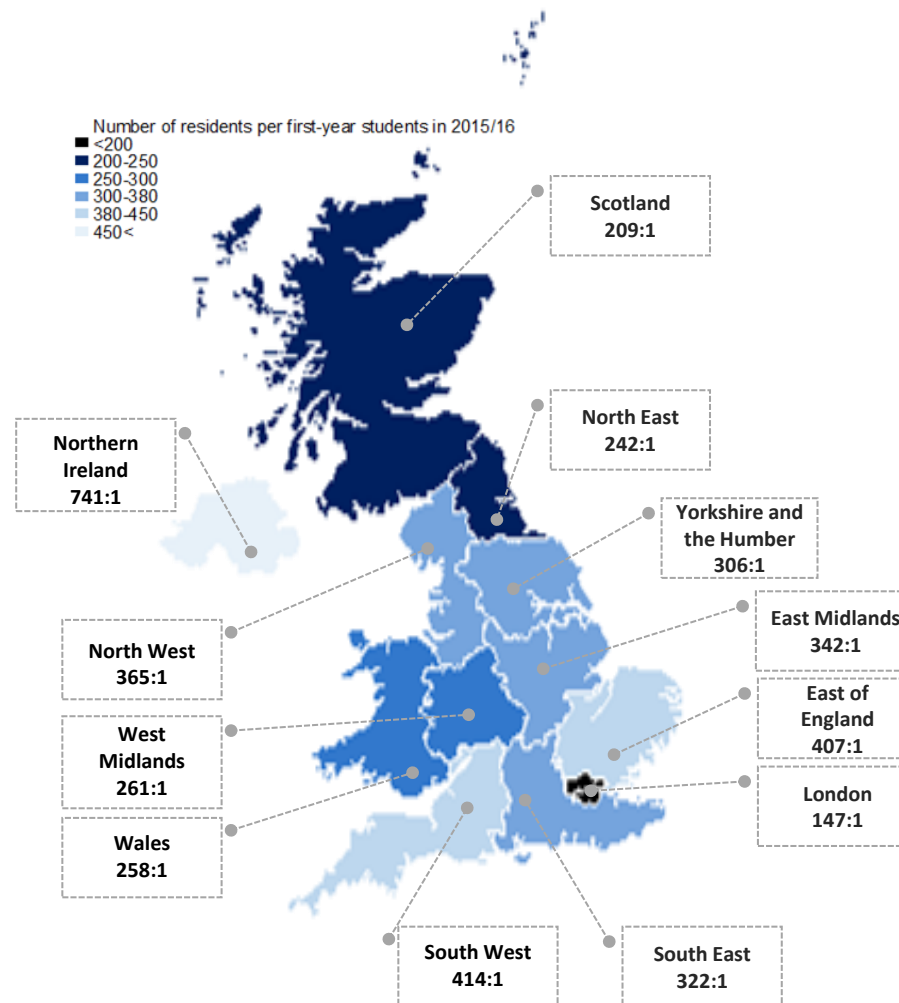
Considering the **concentration** of international students relative to the total resident population (as per the 2011 Census), and in part reflecting the number of international students by region, the analysis illustrates that there was approximately 1 international student per **147** members of the resident population in London, with the corresponding concentration in Scotland and the North East standing at **1:209** and **1:242**, respectively. The ratio of international students to the resident population in the East of England, South West and Northern Ireland was **1:407**, **1:414** and **1:741** respectively.

Figure 13 Number of international first-year students in 2015/16 – by region



Note: All student numbers are rounded to the nearest 5.
 Source: London Economics' analysis of HESA data

Figure 14 Number of residents per international first-year student in 2015/16 – by region



Note: All student numbers are rounded to the nearest 5.
 Source: London Economics' analysis of HESA and the 2011 Census population

3 Methodology

3.1 Estimation of impact over the cohort's total study duration

Section 2 provided an overview of the number of students *starting* formally recognised qualifications or credit-bearing higher education modules at UK higher education institutions in the 2015/16 academic year. However, to aggregate the benefits and costs associated with this cohort, it is necessary to adjust the number of 'starters' to account for **completion/continuation rates**.

For this, we used information published by the Higher Education Statistics Agency (HESA) on non-continuation one year or two years after entry, for UK-domiciled full-time and part-time first undergraduate students, respectively (on average, and broken down by young and mature entrants).^{11,12} Combining this information with assumptions on the average duration by qualification level (discussed below), we then calculated the proportion of students expected to continue their studies per year (for every qualification level).

Another key element of this analysis was to inform assumptions on the average total duration of qualification attainment. As presented in Table 5, for full-time students, we assumed a typical study duration of **3 years** for full-time undergraduate degrees and higher research degrees, and a **1 year** duration for higher taught degrees and 'other' undergraduate and postgraduate qualifications. To achieve comparable assumptions for part-time students, we adjusted these full-time study durations for the average study intensity amongst part-time students (estimated at **40%**).¹³ Hence, we assume an average study duration of **8 years** for part-time undergraduate degrees and higher research degrees, respectively, and a **3 year** duration for part-time higher taught degrees (i.e. Masters degrees) and other undergraduate and postgraduate qualifications.

Table 5 further presents the completion rates assumed throughout the analysis, using the above-described information on continuation rates per year derived from HESA data.¹⁴

¹¹ For more information, please refer to HESA (2017a). The non-continuation rates are based on the proportion of students no longer enrolled in HE one or two years after study, respectively. Hence, they implicitly take account of students who 'switch' between qualifications or transfer to a different institution as 'continuing' students.

¹² Note that, as the HESA data provide no comparable information for non-UK domiciled students, we have assumed that their completion rates are identical to those estimated for UK domiciled students. Further note that the HESA information provides separate non-continuation rates for first degree and other undergraduate students, but excludes students at postgraduate level. To achieve assumptions for postgraduate students, we assume that students undertaking higher research or taught degrees post the same non-continuation rates as *mature* first degree students. Further, we assume that students undertaking other postgraduate qualifications post the same non-continuation rates per year as *mature* students undertaking other undergraduate qualifications.

¹³ Given that HESA does not publish official statistics on part-time study intensity, we instead use previous estimates outlined in Higher Education Policy Institute (2013), including information on the number of undergraduate part-time students in English institutions broken down into different study intensity bands. Based on this information, we estimate that part-time students study at an intensity equivalent to approximately **40%** that of full-time students (assuming the same study intensity across students of all domiciles, studying anywhere in the UK, and at either undergraduate or postgraduate level).

¹⁴ Note that the HESA 'first year marker' identifies those international students for whom it is their first year at a particular university and not necessarily first year on a particular course. A number of 'new' EU and non-EU undergraduates (i.e. according to their first year marker) may be entering into the 2nd or 3rd year of a particular undergraduate course. As such, the results of the gross economic benefit – by qualification level and per student – may overestimate the true gross benefit.

Table 5 Assumed total study duration and continuation rate per year - by level and mode of study

Study mode and level	Full-time students					Part-time students				
	Other undergraduate	Undergraduate degree	Other postgraduate ¹	Higher degree (taught) ²	Higher degree (research) ²	Other undergraduate	Undergraduate degree	Other postgraduate ¹	Higher degree (taught) ²	Higher degree (research) ²
Study duration	1 year	3 years	1 year	1 year	3 years	3 years	8 years	3 years	3 years	8 years
Year 1	86%	93%	86%	88%	88%	82%	82%	83%	83%	83%
Year 2		86%			78%	68%	68%	69%	69%	69%
Year 3		79%			69%	56%	56%	58%	58%	58%
Year 4							46%			48%
Year 5							38%			40%
Year 6							31%			33%
Year 7							25%			28%
Year 8							21%			23%

Note: ¹ Based on mature entrants to other undergraduate qualifications. ² Based on mature entrants to undergraduate degrees.

Shaded areas indicate the proportion of students expected to complete their intended qualification (following the assumed average study duration for each level and mode of study).

Source: London Economics' analysis of HESA data

The information suggests that of those students starting a full-time undergraduate degree at a UK higher education institution in 2015/16, approximately **93%** were expected to progress into the second year of study as intended (with the remaining **7%** discontinuing their studies), **86%** were expected to complete the second year, and **79%** were expected to complete their undergraduate degree as intended (after 3 years of study).

In relation to the other qualifications under consideration, the corresponding annual progression rate for part-time undergraduate degrees stands at **82%** per year, while the corresponding estimates for full-time higher degree (taught and research) qualifications was estimated to be **88%** (**83%** for part-time higher degrees).

To assess the total impact associated with international students in the 2015/16 cohort, we then multiplied the assumed continuation rates per year by the estimated benefits and costs per year, to ensure that all estimates (per student and in aggregate) are adjusted for the proportion of students expected to continue their studies each year.

3.2 Understanding the economic benefits of international students

There are a range of benefits associated with EU-domiciled and non-EU-domiciled students to the UK economy. From the perspective of higher education institutions, these predominantly relate to the **direct** economic benefits associated with **tuition fee expenditure**, as well as the (equally significant) **indirect** and **induced** economic impacts associated with higher education institutions' expenditure resulting from this fee income.

In addition to international students' tuition fees charged by higher education institutions themselves, there is a direct economic impact associated with the **non-tuition fee expenditure** undertaken by international students, as well as the **spending of visitors** (e.g. friends and family) coming to the UK to visit these students during their studies. Again, in addition to the direct impacts of this spending, the analysis presented here also considers the **indirect** and **induced** economic impacts on the UK economy associated with these expenditures. These occur through spending of companies in the supply chain of the goods and services bought, as well as the spending of wage income of staff in these supply chains buying goods and services from within the economy.

There are clearly a range of other benefits associated with international students, in terms of the **cultural diversity** that they bring to the United Kingdom, the **longer term business, investment and trade links**, as well as the **soft-power** that the UK may exert across the globe.¹⁵ In addition, at an operational level, the fee income received by higher education institutions increases the **breadth and depth** of the university education available to both UK-domiciled and international students.¹⁶ Furthermore, we take no account of the positive economic or social contribution of international students' **dependants** while in the UK. For example, the additional Exchequer taxation receipts associated with dependants' potential

¹⁵ See Higher Education Policy Institute (2017).

¹⁶ See Olive, V., (2017)

labour market activity (or the labour market activity of students themselves) during or after their time in the United Kingdom are **not** included in this analysis. The exclusion of these additional benefits implies that our analysis **underestimates** the true benefit of international students coming to the United Kingdom.

3.2.1 Tuition fee income

To assess the level of tuition fee income per international student per year, we made use of data on the fee income received by UK higher education institutions¹⁷ in the 2015/16 academic year (by qualification level, study mode, domicile and location (i.e. home nation) of study¹⁸). Applying the assumptions relating to average study duration and completion, we calculated the value of tuition fee income from the start of a student's learning aim until completion in today's money terms (i.e. the **discounted** stream of future benefits (in net present values))¹⁹, to arrive at the **tuition fee income per student**.

Combining the estimated tuition fee income per student with the number of international students enrolled in higher education courses in the 2015/16 cohort, we then calculated the **aggregate tuition fee income associated with the 2015/16 cohort of international students**.

3.2.2 Non-tuition fee income

In addition to the tuition fee income that international students generate, these students also incur significant expenditure on non-tuition fee related items whilst acquiring their qualifications. Such expenditure includes, but is not limited to, **accommodation costs** (rent, council tax, bills, etc.), **subsistence costs** (food, entertainment, personal items, etc.), **direct course costs** (textbooks, journal or library subscriptions, computer equipment, etc.), **facilitation costs** (e.g. course-related travel costs), and **spending on children** (including childcare that is not related to their study).

Previous analyses have demonstrated that the level of non-tuition fee expenditure by international students is often found to be comparable to direct tuition fee income²⁰, making non-tuition fee expenditure a significant component of the UK's income from international students coming to study in the UK.

¹⁷ Again, this includes all publicly-funded HEIs, as well as the University of Buckingham.

¹⁸ Specifically, we made use of information on aggregate fee income for new and continuing students in 2015/16 (published in HESA, 2017c), separately by institution, domicile (i.e. Home/EU vs non-EU students), study mode, and study level (i.e. undergraduate vs. postgraduate). To derive fee levels per *full-time* student per year – separately by level, domicile and location (home nation) of study, we divided the respective total levels of fee income by the underlying number of (first-year and continuing) students in 2015/16. To derive fee levels per *part-time* student (again by level, domicile and location of study), we then multiplied the respective full-time rates by the average study intensity amongst part-time students (see Section 3.1 for further detail).

Note that the information on fee income generated by non-EU-domiciled students did not allow for a breakdown by qualification level. For simplicity, we thus assumed the same average fee level for all qualification levels (for full-time students), and adjusted these average fee levels by average study intensity levels to arrive at average fees for part-time students.

¹⁹ The real discount rate used adopted for this analysis was the HMT the Green Book rate of 3.5% (see HM Treasury, 2011).

²⁰ Department for Business, Innovation and Skills (2011).

To analyse the level of non-tuition fee expenditure associated with the 2015/16 cohort of international students, we used estimates from the (most recent) **2011/12 English²¹ and 2014/15 Welsh Student Income and Expenditure Surveys (SIES)**.^{22,23} The surveys respectively provide estimates of the average expenditure by *English and Welsh*-domiciled students studying in England and Wales on living costs, housing costs, participation costs (including tuition fees) and spending on children, for both full-time and part-time students.

For the purpose of this analysis, we made the following adjustments to the 2011/12 and 2014/2015 SIES estimates:

- We excluded estimates of *tuition fee income* to avoid double-counting with the analysis presented in Section 3.2.1.
- We adjusted the resulting estimates for inflation to reflect 2015/16 prices.²⁴
- Since SIES does not provide expenditure estimates for non-UK domiciled students or postgraduate students, our analysis assumed that non-tuition fee expenditure levels do not vary significantly between UK and international students (or between undergraduate and postgraduate students). Hence, we based our estimates for international students studying in England on the estimated expenditures of English-domiciled students, and our estimates for international students studying in Wales on the expenditures of Welsh-domiciled students.²⁵ We did however adjust the SIES estimates for the longer average stay durations in the UK of non-EU students (undergraduate and postgraduate) and EU postgraduate students as compared to EU undergraduate students (who are assumed to have the same stay-duration as UK undergraduates).

Following a similar approach as outlined by the Department for Business, Innovation and Skills (2011), we assume that EU-domiciled postgraduate and non-EU undergraduate and postgraduate students spend a greater amount of time in the UK, on average, than prescribed by the duration of the academic year (39 weeks) (see Table 6).²⁶ Hence, we assume that all postgraduate students (both EU and non-EU-domiciled) spend **52 weeks** per year in the UK, as they write their dissertations during the summer. Further, we assume that

²¹ Although a number of attempts were made to use the more recent English Student Income and Expenditure Survey from 2014/15, this report has not been published. A Parliamentary Question was tabled on 4th September 2017 asking when the report would be published, with the Secretary of State's response (12th September 2017) indicating 'shortly'. The report has still to be published despite the fieldwork in the corresponding Welsh study being conducted by June 2015 and published in June 2017. See following link in relation to tabled Parliamentary Question and Answer <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2017-09-04/7793>.

²² At the time of writing, the results of the 2014/15 SIES had not yet been published. Therefore, the results from the 2011/12 survey, adjusted for inflation, had to be used. Expenditure for international students in Scotland and Northern Ireland was assumed to be the same as for Welsh-domiciled students (studying in England or Wales), given the lack of any recent estimates of student expenditures for Scotland and Northern Ireland.

²³ See Department for Business, Innovation and Skills (2013) and Welsh Government (2017).

²⁴ Inflation estimates are based on data provided by the Office for National Statistics (2017).

²⁵ Again, we assume the same level of expenditures for international students in Scotland and Northern Ireland as for international students studying in Wales (given the lack of recent estimates of student expenditures for Scottish and Northern Irish students).

²⁶ There may be significant variation around these assumed average stay durations depending on individual students' circumstances, such as country of origin, parental income etc.

non-EU-domiciled and EU-domiciled undergraduate students spend an average of **42** and **39 weeks** per year in the UK (respectively). The lower stay-duration for EU undergraduate students reflects the fact that these students, given the relative geographical proximity to their home countries, and the resulting relative ease and lower cost of transport, are more likely to return home during holidays.

Table 6 Assumed average stay durations for non-UK domiciled students - by domicile and level of study, in weeks

Level of study	Domicile	
	EU (non-UK)	Non-EU
Undergraduate	39 weeks	42 weeks
Postgraduate	52 weeks	52 weeks

Source: London Economics' analysis of Department for Business, Innovation and Skills (2011)

We calculated the resulting non-tuition fee expenditure over the entire duration of students' higher education courses (discounted to reflect present values and 2015/2016 prices and, as with tuition fee expenditure, adjusted for completion rates). The resulting estimates provide the total average **non-tuition fee expenditure per student** in 2015/16 prices by level of study, study mode, location (i.e. home nation) of study and domicile (EU or non-EU).

Using the number of students enrolled in higher education courses in the 2015/16 cohort of international students, we then calculated the **aggregate non-tuition fee income associated with the 2015/16 cohort of international students**.

3.2.3 Visitor income

Alongside the expenditures of international students themselves, they attract friends and relatives to visit the United Kingdom – whose expenditures result in additional income to the UK economy. However, while there have been a number of previous studies that have attempted to incorporate the impact of income associated with international students' visitors²⁷, there is no reliable source of information on the number of visitors that international students attract.

Therefore, to provide an estimate, our starting point was the **total number of and expenditures made by all visitors to the United Kingdom** in 2016, using information from the International Passenger Survey (IPS).²⁸

To estimate the **number of visitors who are 'student-related visitors'**, we calculated the share of first-year students from each international country in 2016 as a proportion of the total UK resident population in 2016 born in that same country.²⁹ For instance, if the

²⁷ For example, see London First and PwC (2014) and Oxford Economics (2014).

²⁸ Using information from Office for National Statistics (2016b), our approach follows the methodology for estimating the impact of international students in London by London First and PwC (2014).

²⁹ The resident population data are based on Office for National Statistics (2016c).

resident population of a particular country was estimated to be 100,000 and there were 1,000 international students from that same country, then the resulting proportion would stand at 1%. The same process was undertaken separately for each of the 20 top countries of origin of international students³⁰ (as well as in total for all other EU and all other non-EU countries).

The number of visitors visiting international students from each overseas jurisdiction was then estimated by applying the estimated proportion to the total number of visitors from that jurisdiction indicating that their reason for travel was to 'visit friends or relatives' in the United Kingdom.³¹ For example, in 2015-2016, there were **85,000** Bulgarian-born residents in the UK, and **2,050** first-year students from Bulgaria enrolled in UK higher education. Hence, first-year students from Bulgaria made up around **2.4%** of the Bulgarians resident in UK. As such, we assumed that **2.4%** of the **70,000** Bulgarians visiting friends and relatives in the UK in 2015/16 were visiting students, and that these visits would not have occurred in the absence of these international students from Bulgaria.

We then divided the total spending of visitors by the total number of visitors in 2016 to calculate the **average spending per visitor** across the different countries/groups of countries, weighted by the estimated number of visitors by country of origin (to account for the potential variation in the wealth of visitors to the United Kingdom).

We estimated that in 2015/16 alone there were approximately **1.4** international visitors for every first-year student undertaking some form of higher education learning in the United Kingdom, which equates to approximately **330,000** visitors in 2015/16. In addition, we also estimated that the average expenditure associated with each of these visits was in the region of around **£540**. Note that the analysis is undertaken for each of the main countries of domicile within the 2015/16 cohort of international students, which should therefore account for the geographic proximity of different countries. Reflecting this, our analysis demonstrated that EU students typically attract more overseas visitors per year than non-EU students (**3.0** visits per EU student compared to **0.9** visitors per non-EU-domiciled student per year). However, non-EU-domiciled visitors spent more on average during each visit (**£822**) compared to EU student visitors (**£296**).

Similar to the estimates relating to non-tuition fee expenditure, we calculated the visitor expenditure over the entire duration of students' higher education courses (again discounted to reflect net present values, and adjusted for study completion rates). The resulting estimates provide the total average **visitor expenditure per student** in 2015/16 prices by level of study, study mode and domicile (i.e. EU or non-EU).

³⁰ For more information on these top countries of domicile of international students in the 2015/16 cohort, please refer to Section 2.2. Note that it was not possible to replicate the analysis for *each* country of origin, given that there is no published information from HESA on the number of first-year non-UK students by country of domicile. Where either HESA data on first-year students or IPS visits data is not available, we group countries with 'missing' data together by domicile (e.g. China and Hong Kong were combined, as no split is provided between Hong Kong and China in the total UK resident population by country of birth dataset).

³¹ This approach assumes that visitors visiting friends and family in the UK are always visiting people from their country of origin.

Using this approach and the number of students enrolled in higher education qualifications in the 2015/16 cohort of international students, we then calculated the **aggregate visitor expenditure associated with the 2015/16 cohort of international students** across the United Kingdom.

3.2.4 Indirect and induced effects

There is a wide body of literature on the economic impact of higher education institutions, focusing (almost exclusively) on the direct, indirect and induced impact of HEIs (and their students) on their local, regional and national economies.³² An assessment of such effects considers a university as an *economic unit* creating output within the local economy by purchasing products and services from different industries and hiring employees. The direct, indirect and induced impacts of a university on the economy are defined as follows:

- **Direct effect:** This considers the economic output generated by universities themselves, by purchasing goods and services (from the income they receive), including labour, from the economy which they operate in.
- **Indirect effect:** This effect arises from universities' and students' purchases of goods and services from other sectors in the economy to support their consumption and investment decisions. These purchases generate income for the supplying industries, which are in turn spent on their own purchases from input suppliers to meet the universities' and students' demands. This results in a chain reaction of subsequent rounds of spending across industries, commonly referred to as the 'ripple effect'.
- **Induced effect:** The induced effect is based on universities' and suppliers' statuses as employers. In return for their services, each university and supplier pays salaries to their employees, who will use this income to buy consumer goods and services within the economy. This generates wage income for employees within the industries producing these goods and services, who in turn spend their own income on goods and services. Again, this leads to subsequent rounds of wage income spending, i.e. a 'ripple effect' throughout the economy as a whole.

The total of the direct, indirect and induced effects constitutes the gross economic impact of a university and its students on its local economy (commonly measured both in terms of monetary output as well as employment impacts). An analysis of the net impact also needs to include two additional factors potentially reducing the size of any of the above effects:

- **Leakage** into other geographical areas, by taking account how much of the additional economic activity actually occurs in the area of consideration. For example, it might be the case that universities and their students source some of the goods and services from areas outside of their local economy, thus reducing the economic impact which it has on its local surroundings.

³² For example, London Economics (2017b), "The economic impact of the Russell Group universities", November 2017.

- **Displacement** of economic activity within the region of analysis, i.e. taking account of the possibility that the economic activity generated might result in the reduction of activity elsewhere within the region.

As previously noted, although the above definition of effects predominantly focuses on the direct, indirect and induced impacts of the spending of universities themselves, similar economic impacts apply to the non-fee expenditures of students and their visitors on consumer goods and services within the local economy.

Estimates of economic multipliers

We made use of the most recent economic multipliers associated with the expenditures of UK HEIs, their students, and their students' visitors, based on a recent analysis of the combined impact of the UK HE sector by Oxford Economics (2017). Based on their input-output models, Oxford Economics estimate total (Type II) multipliers, capturing the combined direct, indirect and induced effects associated with the expenditures of universities, students and overseas visitors to students³³. Their multipliers – in terms of both economic output and full-time equivalent employees (FTE) - are presented in Table 7.

To interpret these estimates, for example, the output multiplier of **2.1** for student expenditure implies that each **£1 million** of (direct) expenditure by international students on goods and services generates a total of **£2.1 million** of economic impact throughout the economy. Similarly, the corresponding employment multiplier of **15.2 implies** that every £1 million of international student expenditure supports a total of **15.2** full-time equivalent jobs throughout the UK economy.

Table 7 Economic multipliers for UK impact applied to UK universities' and students' expenditure

Type of expenditure	Multipliers	
	Economic output (£ per £)	Employment (# of FTE jobs per £m of output)
University expenditure (applied to tuition fee income)	2.5	21.1
Student expenditure (applied to non-fee income)	2.1	15.2
Overseas visitor expenditure (applied to visitor income)	1.9	15.4

Note: Note that these multipliers were not stated explicitly in Oxford Economics' study, but were instead calculated based on the aggregate impact estimates provided.

Source: *London Economics' analysis of Oxford Economics (2017)*

Given that international students' tuition fees are accrued as income (and subsequently spent) by higher education institutions themselves, we applied the multipliers associated with university expenditure to derive the total direct, indirect and induced impacts associated with international students' **tuition fee income**. In addition, we applied the

³³ In mathematical terms, the multipliers are calculated as $[(\text{Direct output} + \text{Indirect output} + \text{Induced output}) / \text{Direct Output}]$.

multipliers associated with student expenditure and overseas visitor expenditure to our above-described estimates of **non-tuition fee student expenditure** and **overseas visitor expenditure**, respectively.

3.2.5 Level of analysis

Economic multipliers of the above type are typically estimated at different geographical levels, estimating the impact of economic activities at the local authority level, the city level, regional level, or for the UK economy as a whole.

Throughout this analysis, rather than estimating the impact of international students' tuition fee and non-tuition fee income on each of the local economies within which these students reside during their studies, we estimated the **aggregate direct, indirect and induced economic impact of these expenditures on the UK economy as a whole**. This aggregate UK-wide impact is subsequently allocated by **region** according to the location of the institutions they attend.

To provide further information on the contribution at a more **local level**, this regional contribution of international students to UK economic activity was then further allocated **by parliamentary constituency** - according to the overall distribution of the UK student population. Specifically, given the lack of any information on the residence of *international higher education students* in the UK at the parliamentary constituency level (or at higher levels of geographical aggregation)³⁴, to achieve the required breakdown, we instead made use of information from the 2011 Census on the total number of full-time students (aged 18 to 74) that are 'usually resident' in each parliamentary constituency across the UK.³⁵ Usual residents in the Census are defined as anyone who, on Census day, had stayed or intended to stay in the UK for a period of 12 months or more.³⁶ Hence, while this is the only publicly available source of information on students' residency by constituency, it is important to note that the information:

- Is **relatively outdated** (as the last UK Census was undertaken on 27th March 2011³⁷);
- Focuses on **full-time students only** (though only 8% of the 2015/16 cohort of international students were undertaking qualifications on a part-time basis);
- Includes **both UK-domiciled as well as non-UK domiciled students** (based on the above definition of 'usual residents')³⁸;

³⁴ A Parliamentary Question on the issue (tabled in September 2017) confirmed that 'there is currently no source of data available which provides information on international students residing in each parliamentary constituency within the UK' (see UK Parliament, 2017).

³⁵ See Office for National Statistics (2011).

³⁶ For more information this definition, see Office for National Statistics (2016e).

³⁷ In this respect, note that a number of universities would have been outside of term time on the Census date. However, the results from the Census provide information on the *usual* address of individuals (as well as the reason for multiple addresses (i.e. student, armed forces, etc.)), implying that the data will generally reflect the in-term residence arrangements of students.

³⁸ Note that this analysis reflects the residency of UK-domiciled students, and as such the analysis by parliamentary constituency will not reflect the true picture in some constituencies especially where there may be a particularly high concentration of international students.

- Includes students undertaking qualifications **at any level of education** (rather than HE students only); and
- Includes students at **any age between 18 and 74**.

The general effect of these assumptions will be to reduce the concentration of economic contribution in and around higher education institutions, and spread the effect more widely across the country.

3.3 Understanding the public purse costs of international students

In terms of the range of **public costs** associated with international students, these relate to the level of **teaching grant** costs incurred by the Higher Education Funding Council for England, the Higher Education Funding Council for Wales, the Scottish Funding Council and the Department for Employment and Learning Northern Ireland to fund higher education institutions' provision of teaching and learning activities. **These teaching grant cost are only incurred in respect of EU-domiciled students**. Higher education institutions do not receive teaching grant support for non-EU-domiciled students. We further considered the Exchequer cost associated with the **tuition fee loans and grants** provided to EU students studying across the home nations by the Student Loans Company and the Student Awards Agency for Scotland.

Finally, we also estimated the costs associated with the provision of **other public services** (net of any direct contribution) to international students or their dependants (depending on their eligibility), including services such as: **healthcare** (net of any contribution incurred by international students - for instance in respect of the NHS levy); primary and secondary-level **education** received by child dependants; and **social security** – all broken down by region within which each of these services is incurred. We also included estimates of other '**non-identifiable**' **public expenditure** that is incurred on behalf of the UK as a whole (e.g. expenditure relating to many defence activities or the **servicing of the national debt**), as well as **expenditure on overseas activities** (i.e. diplomatic activities etc.).

As with the above discussion on benefits (see Section 3.2), it is important to note that this analysis does not cover the **possible** (but trivial) **social costs of international students**. While our analysis focuses exclusively on the **direct** public purse costs associated with international students, there are a range of **indirect** costs associated with these students on society that cannot be readily monetised. Although likely to be relatively low given the fact that international students starting their studies in UK higher education institutions make up less than $\frac{1}{2}\%$ of the total UK population, the presence of these students in the UK may create **negative externalities** on society as a whole, such as increased congestion, pollution and noise. In addition, the presence of international students may impact prices and provision by changing local demand for goods and services. This is not in itself costly to society, but may lead to redistributive effects (e.g. if property rents were to increase due to demand from international students, then although tenants would be worse off from higher rents, landlords would benefit from the additional revenue).

3.3.1 Teaching grant costs

UK higher education institutions receive public **teaching grant funding** to support the costs of their teaching activities in specific areas (e.g. to widen access amongst socially disadvantaged students, or to support the higher resource required to teach part-time students or students studying high-cost subjects). Teaching grants are paid to universities located in England, Wales, Scotland and Northern Ireland by the **Higher Education Funding Council for England**, the **Higher Education Funding Council for Wales**, the **Scottish Funding Council** and the **Department for Employment and Learning Northern Ireland**, respectively. Note that this funding applies to UK and EU-domiciled students only, and is not available to support the costs of teaching provision for non-EU-domiciled students.

To estimate the level of teaching grant per student (by study mode and location (i.e. home nation) of study), we divided HESA information on the total amount of teaching grant paid by each of the Funding Councils by the total number of UK and EU-domiciled first year and continuing students enrolled with universities located in each of the home nations in 2015/16 (excluding any non-EU-domiciled students and all postgraduate research students, since there is no teaching grant funding associated with these students). Teaching grants per part-time student were adjusted for the average assumed study intensity amongst part-time students.³⁹

Calculating the total teaching grant costs over the total study duration (in 2015/16 prices and in net present value terms), and adjusting for completion rates per year, we arrived at an estimate of the total **teaching grant costs per student**.

Combining this with the number of students in the 2015/16 cohort of international students, we then estimated the **aggregate teaching grant costs associated with the 2015/16 cohort of international students**.

3.3.2 Costs of student support provision

As an additional cost to the UK Exchequer, EU-domiciled students studying at universities in any of the four UK home nations are eligible for **tuition fee support** provided by the **Student Loans Company** (SLC) (for students studying in England, Wales or Northern Ireland) and the **Student Awards Agency for Scotland** (SAAS) (for students studying in Scotland). The support is provided in the form of non-repayable tuition fee grants provided to eligible EU students studying in Wales and Scotland, and repayable tuition fee loans provided to eligible EU students studying in England, Wales and Northern Ireland.⁴⁰ In this respect, the Exchequer cost associated with tuition fee loan support equals the **Resource Accounting**

³⁹ Again, average part-time study intensity was based on estimates outlined by the Higher Education Policy Institute (2013).

⁴⁰ To estimate the average fee grant and fee loan per student, the analysis makes use of *average* levels of support paid per EU-domiciled student, separately by location of study, study mode and level, based on publications by the Student Loans Company on student support paid in 2015/16 for higher education in England, Wales and Northern Ireland (see SLC 2016a, 2016b and 2016c) and publications by the Student Awards Agency for Scotland on student support for HE in Scotland (see SAAS, 2016). Wherever possible, we focus on the average level of support for EU students only (rather than Home and EU students combined), on support provided to students attending public providers only, and for the most recent cohorts possible. Further, and again wherever possible, we adjusted the average levels of fee loans for average loan take-up rates.

and Budgeting Charge (RAB Charge), capturing the proportion of the loan that is not repaid.⁴¹ Given the differing approach to student support funding for EU-domiciled students in each of the UK home nations, the student support costs to the Exchequer were assessed separately for students studying in each of the different home nations (as well as by qualification level and study mode).

Again, we calculated the Exchequer cost of student provision over the total expected study duration of international students in the 2015/16 cohort (in net present value terms in 2015/16 prices); adjusted for the completion rates per year; and applied the real discount rate⁴², to arrive at an estimate of the total **student support costs per (EU-domiciled) student**.

Aggregating across the number of EU students in the 2015/16 cohort, we thus estimated the **total Exchequer cost of student support associated with the 2015/16 cohort of international students**.

3.3.3 Other public costs

As a final additional cost to the public purse, the analysis takes account of the costs associated with the provision of **'other' public services** provided to international students and their dependants joining them in the UK, including:

- **Public healthcare;**
- **Housing and community amenities;**
- Primary and secondary level **education** received by dependent children;
- **Social security;**
- **Other general public services** (including **public order** and **safety; defence; economic affairs; recreation, culture** and **religion; environmental protection**, and other **general public services**) – all broken down by UK region in which each of these services were incurred; and
- While all of the above costs were broken down by each particular UK region, we also include other **'non-identifiable' public expenditure**, capturing public expenditure deemed to be incurred on behalf of the UK as a whole⁴³ (such as expenditure relating to the **servicing of the national debt**). We further include public **expenditure on overseas activities** (i.e. diplomatic activities etc.).

⁴¹ We have assumed a RAB charge of 25% associated with tuition fee loans for EU students studying in England, and 10% for EU students studying in Wales or Northern Ireland (based on the relatively lower level of loans taken out). EU students studying in Scotland are eligible to receive a tuition fee grant covering the entire fee, without any additional fee loan support.

The RAB charge for EU students in England was based on the most recent official estimates of the RAB charge available at the time of writing, provided by the (former) Department for Business, Innovation and Skills (see UK Parliament, 2016); while the estimate for Wales, Scotland and Northern Ireland is based on estimates by the Diamond Review of Higher Education in Wales (Welsh Government, 2016).

⁴² The real discount rate used adopted for this analysis was the HMT the Green Book rate of 3.5% (see HM Treasury, 2011).

⁴³ For more information, see the Public Expenditure Statistical Analyses published by HM Treasury (2016).

Estimating the number of dependants per student

In order to estimate the size of these costs associated with international students and their dependants, it was necessary to first estimate the number of child and adult dependants per EU and non-EU-domiciled student enrolled in UK higher education.

EU-domiciled students are (currently) able to bring in dependants to the UK. We used the information on students' household composition from the **2011/12 English and 2014/15 Welsh Student Income and Expenditure Surveys** (see Section 3.2.2), separately by study mode⁴⁴, combined with the **total fertility rate**⁴⁵, to estimate the number of child and adult dependants per household.

Our analysis implicitly assumes that the composition of households does not vary significantly between UK and EU students or between undergraduate and postgraduate students; that all adult and child dependants have the same domicile as the student; and that all adult and child dependants are *additional* to the UK – i.e. they would not have come to the UK other than to join their relative coming to the UK to undertake higher education.⁴⁶ Table 8 presents the resulting estimated number of adult and child dependants per 100 EU-domiciled students, separately by study mode and location (i.e. home nation) of study.

Contrary to EU-domiciled students, **non-EU students** face restrictions on the extent to which they are allowed to bring their dependants to the UK with them. Bar some exceptions, only postgraduate non-EU students are allowed to bring dependants to the UK.⁴⁷

Table 8 Estimated number of adult and child dependants per 100 EU-domiciled students, by study mode and location of study

Type of dependant	England		Wales		Scotland		Northern Ireland	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Adult dependants	7	59	14	55	14	55	14	55
Child dependants	13	81	18	80	18	80	18	80

Note: We assume the same household composition for EU students studying in Scotland and Northern Ireland as for EU students studying in Wales. We further assume the same values for both undergraduate and postgraduate students.

Source: *London Economics' analysis of Office for National Statistics (2016a)*, *Department for Business, Innovation and Skills (2013)* and *Welsh Government (2017)*

Based on immigration statistics published by the UK Home Office⁴⁸ and the number of first-year non-EU undergraduate and postgraduate students in 2015/16, there are

⁴⁴ As before, we assume the same SIES data for EU-domiciled students studying in Scotland and Northern Ireland as for EU students studying in Wales.

⁴⁵ See Office for National Statistics (2016a).

⁴⁶ Our approach is conservative; for example, dependants may not be additional to the UK economy if they live in households with EU-domiciled individuals who would already be residing in the UK prior to their studies. Further, while we include the *costs* of EU student dependants, we do not include the *benefits* of EU student dependants who may be working in the UK (e.g. in terms of the additional income tax revenue generated).

⁴⁷ Undergraduate non-EU students may bring in dependants if they are studying on a government sponsored program. See Home Office (2017a).

⁴⁸ See Home Office (2017b). More specifically, we divided the number of dependants associated with Tier 4 student visa entrants in 2015 (15,336) by the number of dependants associated with these Tier 4 student visa entrants (excluding child students) in the same year (182,660).

approximately **15** dependants per 100 non-EU *postgraduate* students (and **no** dependants for non-EU *undergraduate* students as these students are ineligible to bring dependants to the UK during study). Averaging across the relative proportions of undergraduate and postgraduate students coming to the UK to undertake their studies, this implies that there are approximately **8** adult or child dependants for each 100 (undergraduate or postgraduate) non-EU students.

To achieve a breakdown of the number of dependants into child and adult dependants, we then assume that *non-EU-domiciled* students have the same relative proportions of child and adult dependants as *EU-domiciled* students (as above – see Table 8). Table 9 presents the resulting estimated number of adult and child dependants coming to the UK per 100 non-EU-domiciled students, by study level, study mode and location of study. Reflecting the different immigration rules for non-EU students, these estimates are considerably lower than the comparable numbers for EU students (presented in Table 8).

Table 9 Estimated number of adult and child dependants per 100 non-EU-domiciled students, by study mode, study level and location of study

Type of dependant	England		Wales		Scotland		Northern Ireland	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Undergraduate students								
Adult dependants	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Child dependants	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Postgraduate students								
Adult dependants	5	6	6	6	6	6	6	6
Child dependants	9	8	8	9	8	9	8	9
All students								
Adult dependants	3	4	4	3	4	3	4	3
Child dependants	5	5	5	5	5	5	5	5

Note: Apart from some exceptions, the visa restrictions for non-EU undergraduate students do not allow them to bring their dependants to the UK with them. Total number of dependants for postgraduate students might not add up to 15 due to rounding.

Source: *London Economics' analysis of Home Office (2017b)*, *Office for National Statistics (2016a)*, *Department for Business, Innovation and Skills (2013)* and *Welsh Government (2017)*

Health

In terms of the costs of public healthcare provision by the National Health Service (NHS), **EU students and their dependants** entering the UK generally either have a European Health Insurance Card granting the right to healthcare in the UK, or private health insurance (making them ineligible for NHS healthcare).⁴⁹ Given the lack of available data on the actual take-up of private health insurance by EU students and their dependants, we assumed that all EU students and dependants take up public UK healthcare through the NHS.

⁴⁹ For more information, see UK Council for International Student Affairs (2017).

All **non-EU students** and their dependants are eligible for UK public healthcare, but they must pay a compulsory annual NHS levy of **£150** towards their healthcare costs.⁵⁰ Non-EU students and their dependants might also subscribe to private health insurance – but again, given the lack of available data on this, we assume that all non-EU students and dependants access NHS healthcare.

To estimate the costs of NHS healthcare provision for international students, we make use of an analysis of visitor and migrant use of the NHS in England, undertaken on behalf of the Department for Health.⁵¹ In this analysis, the annual cost of non-EU (non-EEA) students to the NHS per student was estimated at **£729**.⁵² We assumed the same level of cost per head for non-EU students' dependants, as well as for EU-domiciled students and their dependants.⁵³ In addition, we assumed that these costs – originally estimated for the NHS in England – are the same for international students and dependants residing in Wales, Scotland or Northern Ireland.

Based on the above information, we estimated that the net public healthcare cost associated with international students per year is **£729** per EU student or EU dependant, and **£579** for a non-EU student or dependant (i.e. £729 minus the £150 NHS levy contribution).

Education provision (for child dependants)

The public sector costs of higher education provision for international students are already accounted for in the teaching grant costs and student support costs described above (see Sections 3.3.1 and 3.3.2). However, in addition, child dependants of both EU and non-EU students are eligible to access the UK education system.⁵⁴ To take account of this, based on the above-discussed PESA data, our analysis of the costs associated with international students' child dependants includes the public purse costs of pre-primary, primary and secondary education per member of the eligible population.⁵⁵

Social security

Neither **non-EU students** studying in the UK nor their dependants are eligible for any social security benefits provided by the UK public purse.⁵⁶ In contrast, **EU-domiciled students** are eligible for the same social security benefits as UK-domiciled students, though full-time students (both UK and EU) are not eligible for any income-related support (e.g. in terms of

⁵⁰ See Foreign & Commonwealth Office (2015).

⁵¹ See Prederi (2013)

⁵² The original figure (in 2013 prices) was £713 (see Prederi, 2013), converted into 2015/16 prices using CPI estimates (see Office for National Statistics, 2017).

⁵³ Note that the analysis by Prederi (2013) also included a separate and slightly lower estimate of NHS cost per EU (EEA) student, amounting to £650 (adjusted to 2015/16 prices). However, we take a more conservative approach here, by assuming the same (higher) cost of £729 per student for both EU and non-EU-domiciled students (and their dependants).

⁵⁴ By law, all children of compulsory school age should have access to education. See Home Office (2016).

⁵⁵ The eligible population was the census population of 2-18 year olds.

⁵⁶ Under the tier 4 student visa, non-EU students have no recourse to public funds albeit exceptions do exist. For example, non-EU students may be eligible for some benefits if they are making National Insurance contributions. See Nidirect (2017).

unemployment benefits), so that there are relatively low public costs associated with social security provision for full-time students as compared to part-time students.⁵⁷

To inform assumptions on the average public costs per student of providing social security to EU students, we again used estimates provided by the **2011/12 English** and **2014/15 Welsh Student Income and Expenditure Surveys**⁵⁸, in terms of the average income from social security benefits per full-time and part-time student. Again, since these surveys focus on English- and Welsh-domiciled students specifically, our analysis implicitly assumes that EU students studying in England or Wales receive the same average level of social security benefits as English and Welsh students (studying in England or Wales), respectively.^{59,60}

In terms of EU students' dependants, while we exclude any (likely very small) costs of social security entitlements for child dependants, for the adult dependants of EU students, we assume the same public costs of social protection per head as for students themselves.

Cost of provision of other public services

In addition to the costs of public healthcare, social security, and education (for students' child dependants), we also included the costs associated with a range of other public services, including **housing and community amenities; public order and safety; defence**⁶¹; **economic affairs; recreation, culture and religion**⁶²; **environmental protection**; and **other general public services** not classified above. In addition, we included any '**non-identifiable public sector costs**' in the Public Expenditure Statistical Analysis data (PESA) that could not be attributed to particular regions (but instead apply to the UK as a whole), as well as public expenditure on **overseas (e.g. diplomatic) activities**.

To estimate these additional costs per EU and non-EU-domiciled student, and per associated adult and child dependant, we added the estimates for each of these cost items contained separately within the PESA data.

⁵⁷ See Annex A2.1 for more information.

⁵⁸ The average level of security benefits estimated by the surveys include state benefits such as Child Benefit, Child Tax Credit, Carer's Allowance, Employment and Support Allowance, any disability/invalidity/incapacity or sickness benefit, Working Tax Credit, Job Seekers Allowance and other unemployment benefits, Income Support, Housing Benefit, and Local Housing Allowance. For more information, see Department for Business, Innovation and Skills (2013) and Welsh Government (2016).

⁵⁹ As before, given the lack of recent data for Scotland and Northern Ireland, our assumptions for EU students studying in Scotland and Northern Ireland are based on the estimates for EU students in Wales.

⁶⁰ See footnote 22 for further details on the treatment of students from Scotland and Northern Ireland

⁶¹ Note that the costs presented in the Annex relating to defence expenditure refer to apportioned costs only. The majority of defence expenditure is non-apportioned (to any particular region). In particular, approximately 34% of non-apportioned and overseas costs relate to defence spending.

⁶² Note that of the total spending on recreation (presented overleaf), sports and religion, approximately £32 (of £79 in total) relates to 'recreation and sporting services', while 'cultural services' account for £40 per capital. 'Broadcasting and publishing services' account for £4 per head, with the remaining amount accounted for by 'religious and other community services'.

Total ‘other’ public costs

Combining the estimated costs associated with all of the above public services, we estimated the total ‘other’ public sector costs per student, adult dependant and child dependant per year – **by region (where available), domicile (i.e. EU and non-EU) and study mode**.⁶³

In Table 10, we present the total wider Exchequer costs associated with the provision of the above-discussed public services to international students **per head** and **per year** – broken down into students/adult dependants and child dependants, as well as by student domicile (i.e. EU vs. non-EU). Note that, for the purpose of **illustration** only, the table is based on students studying in the **East of England** only (since the majority of these ‘other’ public costs are broken down by region within which the different services are incurred).⁶⁴

The table illustrates the above-discussed **differences in eligibility** (as well as level of cost) depending on international students’ domicile, study mode, as well as the type of dependant considered:

- As outlined above, while the Exchequer cost associated with NHS **healthcare** provision for EU-domiciled students (and their dependants) stands at **£729** per student per year (without any financial contribution from the students themselves), the cost associated with non-EU-domiciled (and their dependants) is partially offset by the compulsory NHS levy, resulting in a net public cost of **£579** per head year.
- In contrast to EU-domiciled students, who are eligible for **social security** benefits, non-EU-domiciled students are not eligible for such public support. In addition, amongst EU students, note that **part-time students** are entitled to a larger range of social security benefits than full-time students (resulting in differences in the average social security cost by study mode), and that these costs apply to **students and adult dependants only** (but not child dependants).
- While many of these public costs also apply to child dependants, a key difference between students/adult dependants and child dependants is that we have assumed that child dependants are likely to be in either pre-primary, primary or secondary-level **education**, which is associated with an additional **£5,061** per child per annum cost of the Exchequer in the East of England.

Adding the costs across all of these public services, and taking a representative region (East of England), the analysis illustrates that the total ‘other’ public sector cost associated for a full-time (undergraduate or postgraduate) EU-domiciled student or associated adult dependant stands at **£4,165** per year, compared to **£3,640** per non-EU-domiciled student (due to the difference in eligibility for social security benefits). Driven by the additional costs of educational services considered, the corresponding cost per child dependant stands at

⁶³ For a detailed breakdown of these costs *per year and per student/adult dependant/child dependant*, please refer to Table 22 and Table 23 in Annex A2.1.

⁶⁴ For a full breakdown of these costs for each region in the UK, please refer to Table 22 and Table 23 in Annex A2.1.

£8,852 per EU-domiciled child dependant and **£8,702** per non-EU-domiciled child dependant, respectively.

Table 10 Costs of ‘other’ public service provision per student/adult or child dependant per year in the East of England, by type of service, domicile and study mode over duration of study

Student/dependant ->	Per student / adult dependant		Per child dependant	
Domicile ->	EU	Non-EU	EU	Non-EU
Full-time students				
Health ¹	£729	£579	£729	£579
Education ²	£0	£0	£5,061	£5,061
Social security	£375	£0	£0	£0
Housing	£102	£102	£102	£102
General public services	£107	£107	£107	£107
Defence	£1	£1	£1	£1
Public order & safety	£337	£337	£337	£337
Economic affairs	£610	£610	£610	£610
Environment protection	£162	£162	£162	£162
Recreation, culture & religion	£79	£79	£79	£79
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663
Total	£4,165	£3,640	£8,852	£8,702
Part-time students				
Health ¹	£729	£579	£729	£579
Education ²	£0	£0	£5,061	£5,061
Social security	£1,919	£0	£0	£0
Housing	£102	£102	£102	£102
General public services	£107	£107	£107	£107
Defence	£1	£1	£1	£1
Public order & safety	£337	£337	£337	£337
Economic affairs	£610	£610	£610	£610
Environment protection	£162	£162	£162	£162
Recreation, culture & religion	£79	£79	£79	£79
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663
Total	£5,709	£3,640	£8,852	£8,702

Note: All values constitute annual costs per head, presented in 2015/16 prices. Note that totals may not sum due to rounding. ¹Indicates costs which do not differ between regions (due to a lack of breakdown in the underlying data).

²The average costs of pre-primary, primary and secondary education are applicable to child dependants only.

Source: London Economics’ analysis of various sources

We then calculated the above costs over the total study duration, adjusted for completion rates per year and **the estimated number of adult and child dependants per student** (see Table 8 and Table 9), and applied the relevant discount rate to calculate net present values. We thus arrived at an estimate of the ‘other’ public costs per student in the **2015/16 cohort of international students (over their total study duration)**. As before, we then aggregated to estimate the **total level of other public costs associated with the 2015/16 cohort of international students**.

4 Benefits of international students to the UK economy

4.1 Benefits – tuition fee income

Table 11 presents our estimates of the total direct, indirect and induced impact on the UK economy of the **tuition fee income** associated with international students in the 2015/16 cohort, *per student* and in total, over their total expected study duration. This is presented separately by domicile (i.e. EU and non-EU) and level of study.

The average direct, indirect and induced economic impact associated with tuition fee income was estimated to be approximately **£29,000 per EU student**, irrespective of the level of study. However, as expected, there is significant variation around this mean depending on the nature of the qualification (and the associated duration of study). In particular, the total direct, indirect and induced impact associated with the tuition fee income of a typical EU student undertaking an undergraduate degree was estimated to be **£45,000**, while the total economic impact associated with an EU student undertaking a taught postgraduate (Masters) qualification was estimated to be **£12,000**. ‘Other’ undergraduate and ‘other’ postgraduate qualifications were associated with a **£13,000** and **£11,000** benefit respectively.

Table 11 Impact of tuition fee income associated with 2015/16 cohort - by level of study and domicile (per student in £ and total in £bn)

Level of study	Direct, indirect and induced impact of tuition fee income per student, £			Total direct, indirect and induced impact of tuition fee income, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£13,000	£28,000	£25,000	£0.05bn	£0.34bn	£0.39bn
Undergraduate degree	£45,000	£87,000	£73,000	£1.28bn	£4.91bn	£6.19bn
Other postgraduate	£11,000	£30,000	£22,000	£0.03bn	£0.13bn	£0.16bn
Higher degree (taught)	£12,000	£32,000	£28,000	£0.23bn	£2.83bn	£3.06bn
Higher degree (research)	£29,000	£79,000	£64,000	£0.14bn	£0.81bn	£0.95bn
Average	£29,000	£52,000	£46,000			
Total				£1.72bn	£9.02bn	£10.74bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding.

Source: London Economics’ analysis

Reflecting the higher tuition fees charged to **non-EU-domiciled students**, the total direct, indirect and induced impact on the UK economy associated with the tuition fee expenditure of a typical non-EU student was estimated to be **£52,000**. Again reflecting the differences in duration of study, for a typical non-EU student undertaking an undergraduate degree, the total economic impact associated with this tuition fee expenditure was estimated to be **£87,000**, compared to **£28,000**, **£30,000** and **£32,000** associated with ‘other’ undergraduate and postgraduate qualifications, and taught postgraduate degrees, respectively.

Aggregating across the entire 2015/2016 cohort of first-year international students, the total economic impact of tuition fee income was estimated at approximately **£10.7bn**. Of this total amount, approximately **£1.7bn** was generated by EU students, with the remaining **£9.0bn** generated by non-EU students.

4.2 Benefits - non-tuition fee income

As discussed above (see Section 3.2.2), **non-tuition fee expenditures** of international students constitutes a significant component of the total economic impact associated with international students on the UK economy.

Presented in Table 12, the analysis indicates that the total direct, indirect and induced impact of the non-tuition fee expenditures of EU-domiciled students in the 2015/16 cohort over their total study duration (undertaking any level of higher education qualification) was estimated to be **£55,000** per student, while the corresponding estimate for non-EU-domiciled students stands at **£47,000** per student. Unlike the analysis of tuition fee expenditures (see Section 4.1), the reason for the impact of non-tuition fee expenditures generated by EU students exceeding that of non-EU students relates to the composition of the student cohort, and in particular the fact that there is a higher proportion of part-time students contained within the cohort of EU students as compared to non-EU students (which results in non-tuition fee expenditures taking place over a longer period of time).^{65, 66}

Table 12 Impact of non-fee income associated with 2015/16 cohort - by level of study and domicile (per student in £ and total in £bn)

Level of study	Impact of non-fee expenditures per student, £			Total impact of non-fee expenditures, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£60,000	£54,000	£55,000	£0.21bn	£0.65bn	£0.86bn
Undergraduate degree	£61,000	£65,000	£64,000	£1.75bn	£3.68bn	£5.43bn
Other postgraduate	£69,000	£65,000	£67,000	£0.20bn	£0.28bn	£0.48bn
Higher degree (taught)	£35,000	£30,000	£31,000	£0.68bn	£2.67bn	£3.36bn
Higher degree (research)	£84,000	£79,000	£81,000	£0.39bn	£0.80bn	£1.20bn
Average	£55,000	£47,000	£49,000			
Total				£3.24bn	£8.09bn	£11.33bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding.

Source: *London Economics' analysis*

Again, these estimates vary considerably by level of study. Students engaged in postgraduate research degrees generated the largest non-tuition fee expenditure impact

⁶⁵ See Table 4 in Section 2.3 for a detailed breakdown of the number of international students in the 2015/16 cohort by domicile, level and mode of study.

⁶⁶ Comparing students *separately* by mode, EU students did not generally spend more than a comparable non-EU student. For example, the non-fee expenditure for a full-time EU postgraduate taught student was on average **£28,000**, with a similar level of expenditure associated with comparable non-EU-domiciled students (see Table 25 in Annex A2.2).

per student – estimated to be **£84,000** per EU-domiciled student and **£79,000** per non-EU student in the 2015/16 cohort. In comparison, reflecting the differences in duration of study, for a typical EU-domiciled student undertaking an undergraduate degree, the total economic impact associated with non-tuition fee expenditure was estimated at **£61,000**, compared to **£35,000** associated with a taught postgraduate degree. The comparable estimates for non-EU students stood at **£65,000** and **£30,000**, respectively.

The total direct, indirect and induced economic impact associated with the non-tuition fee income generated by international students in the 2015/16 cohort of starters (over their entire study duration) was estimated at **£11.3bn**. The majority (**£8.1bn**) of this impact was generated by non-EU students, with EU-domiciled students contributing the remaining **£3.2bn**.

4.3 Income from visitors

Combining estimates of visitor incidence and expenditure from the International Passenger Survey, the direct, indirect and induced economic impact associated with international student visitor expenditures for the 2015/16 cohort stood at approximately **£3,000** per EU-domiciled student and **£2,000** per non-EU student (Table 13). The relatively higher estimates for EU students are driven by the higher estimated number of visitors per EU student per year (3.0) as compared to non-EU students (0.9) (likely reflecting the shorter distance of travel for visitors from EU countries).

Considering differences by study level, the estimates associated with EU-domiciled and non-EU-domiciled students undertaking undergraduate degrees stood at **£4,000** per student, while the corresponding estimates associated with students undertaking higher degree by research were estimated to be **£4,000** and **£3,000** respectively.

Table 13 Impact of visitor income associated with 2015/16 cohort - by level of study and domicile (per student in £ and total in £bn)

Level of study	Impact of visitor expenditure per student, £			Total impact of visitor expenditure, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£3,000	£2,000	£2,000	£0.01bn	£0.02bn	£0.03bn
Undergraduate degree	£4,000	£4,000	£4,000	£0.12bn	£0.20bn	£0.32bn
Other postgraduate	£3,000	£2,000	£2,000	£0.01bn	£0.01bn	£0.02bn
Higher degree (taught)	£2,000	£1,000	£1,000	£0.03bn	£0.11bn	£0.15bn
Higher degree (research)	£4,000	£3,000	£4,000	£0.02bn	£0.03bn	£0.05bn
Average	£3,000	£2,000	£2,000			
Total				£0.19bn	£0.38bn	£0.57bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding.

Source: *London Economics' analysis*

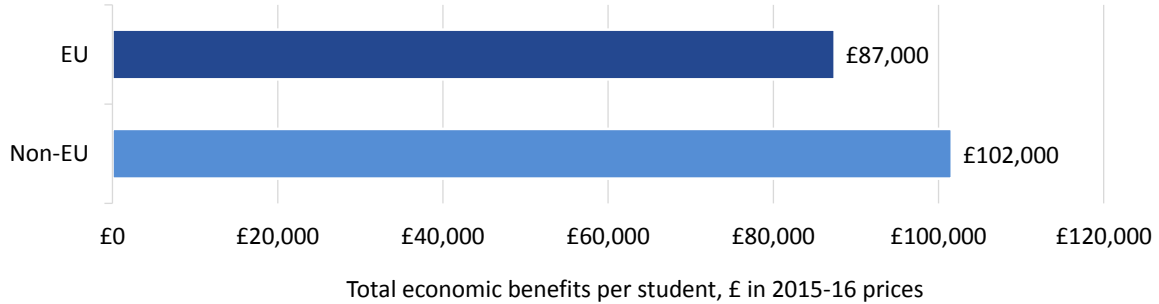
Aggregating across the total 2015/16 cohort of international students, the total direct, indirect and induced impact of the expenditures of friends and family visiting international

students (over the duration of their studies) was estimated to be approximately **£0.6bn**, of which **£0.2bn** was associated with EU-domiciled students and **£0.4bn** was associated with non-EU students.

4.4 Total benefits

Combining the direct, indirect and induced economic benefits associated with tuition fee, non-fee and visitor income, the analysis estimates that the total benefit to the UK economy associated with a **typical EU-domiciled student** was approximately **£87,000**, with the comparable estimate for **non-EU students** standing at approximately **£102,000** (see Figure 15). As discussed above (see Section 4.1), the difference between the two estimates is primarily driven by the relatively higher tuition fees charged to non-EU-domiciled students as compared to students from (other) EU countries studying at UK HEIs.

Figure 15 Total benefit per student associated with 2015/16 cohort - by domicile, £

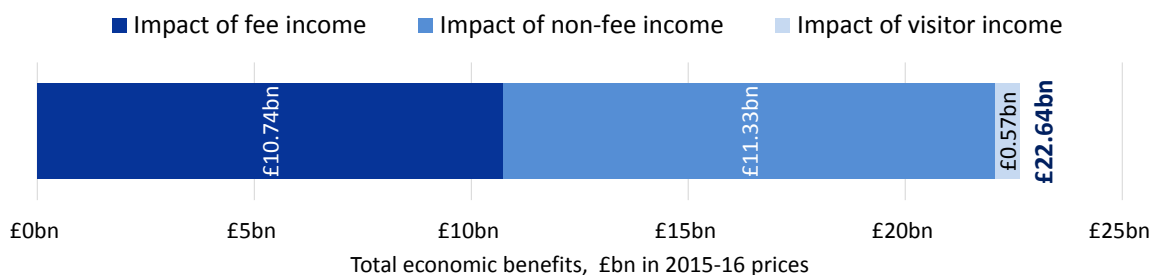


Note: Values per student are rounded to the nearest £1,000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding. **Source: London Economics’ analysis**

Aggregating across the entire 2015/2016 cohort of first-year students, we estimated the total economic benefits of international students to the UK economy to be approximately **£22.6bn** over the entire period of their studies, of which **£5.1bn** is generated by EU students, and the remaining **£17.5bn** is generated by non-EU students (Table 14).

Table 14 Total benefits associated with 2015/16 cohort - by domicile (£bn)

Type of benefit	EU	Non-EU	Total
Fee income	£1.7bn	£9.0bn	£10.7bn
Non-fee income	£3.2bn	£8.1bn	£11.3bn
Visitor income	£0.2bn	£0.4bn	£0.6bn
Total	£5.1bn	£17.5bn	£22.6bn



Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding. **Source: London Economics’ analysis**

5 Costs of hosting international students

5.1 Funding Council teaching grants

As discussed above (see 3.3.1), the public purse provides teaching grants to higher education institutions located in each of the four home nations to compensate institutions for (part of) the costs of teaching provision to UK and EU-domiciled students (note again that no such funding is applicable to non-EU-domiciled students). For instance, higher education institutions in England receive approximately **£2,000** in teaching grant funding for every UK or EU-domiciled student undertaking a full time undergraduate degree (from HEFCE) over the course of their studies (in net present values), while Scottish higher education institutions receive approximately **£10,000** per student from the Scottish Funding Council for similar students (reflecting the different HE funding approaches in these two home nations).

Table 15 presents the teaching grant costs associated with **EU-domiciled students** (over their total study duration), per student and in aggregate.⁶⁷ The cost associated with the provision of teaching grants to EU-domiciled students was estimated to be **£2,000** on average across all students undertaking higher education qualifications (across all home nations). Aggregating across the entire cohort of first-year international students commencing their studies in 2015/16, the cost to the public purse associated with the provision of teaching grants to UK HEIs associated with EU students was estimated to be **£0.1bn**.

Table 15 Teaching grant costs associated with 2015/16 cohort - by level of study and domicile (per student in £ and total in £bn)

Level of study	Teaching grant costs per student, £			Total teaching grant costs, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£1,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£3,000	n.a.	£1,000	£0.10bn	n.a.	£0.10bn
Other postgraduate	£1,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£1,000	n.a.	£0	£0.03bn	n.a.	£0.03bn
Higher degree (research)	£0	n.a.	£0	£0bn	n.a.	£0bn
Average	£2,000	n.a.	£1,000			
Total				£0.13bn	n.a.	£0.13bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding. *Source: London Economics' analysis*

5.2 Costs of student support

As with teaching grants, there are fundamental differences in the availability of public student support depending on students' domicile. While EU undergraduate students are

⁶⁷ Note again that there is no teaching grant funding associated with non-EU-domiciled students or students undertaking higher research degrees (see Section 3.3.1).

eligible to receive tuition fee loans and/or grants for the full fee associated with the higher education qualification that they undertake, non-EU students receive no public financial support in this respect.⁶⁸ In addition, the fee support available to EU-domiciled students depends on the location of study; while EU students attending higher education institutions in England and Northern Ireland are eligible for tuition fee loans, EU students in Scotland can receive a tuition fee grant to cover the full cost of their fees. EU students studying in Wales are supported by a grant to cover the majority of their fee costs, and an additional tuition loan to cover the remainder of their fees.

The economic cost associated with student support (in the form of loan write-offs and interest rate subsidies with respect to tuition fee loans and/or the provision of tuition fee grants) over the total study duration for a typical **EU-domiciled** student was estimated to be **£2,000**. As before, there is some degree of variation depending on the qualification undertaken. While there is no tuition fee support available to postgraduate students in the 2015/16 cohort⁶⁹, the student support costs associated with undergraduate degree level tuition fee support for EU students was estimated to be approximately **£4,000** per student.

In aggregate, the total cost of student support associated with the 2015/16 cohort of international students was estimated at **£0.1bn**.

Table 16 Student support costs associated with 2015/16 cohort- by domicile and level of study (per student in £ and total in £bn)

Level of study	Student support costs per student, £			Total student support costs, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£1,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£4,000	n.a.	£1,000	£0.11bn	n.a.	£0.11bn
Other postgraduate	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (research)	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Average	£2,000	n.a.	£1,000			
Total				£0.12bn	n.a.	£0.12bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding.

Source: *London Economics' analysis*

⁶⁸ Note that, in relation to maintenance loans and grants, although both were available to UK domiciled students in 2015/16 (depending on the home nation domicile), maintenance support was only available to EU nationals provided a three year residency requirement in the UK had been fulfilled; however, in these circumstances, these students were classified as UK domiciled students for the purposes of receipt of student support (which is the practice adopted by the Higher Education Statistics Authority). Hence, there is no cost to the public purse in respect of maintenance support for EU students.

⁶⁹ Note, however, that postgraduate students who started Masters qualifications at English institutions in 2016-17 were eligible to receive newly introduced postgraduate tuition fee loans.

5.3 The other public costs associated with hosting students

As discussed above (Section 3.3.3), our estimates of the public costs associated with ‘other’ public services (not directly related to HE attendance) have been adjusted for the specific eligibility of international students and their dependants for these services. This was undertaken separately by student domicile, type of dependant (i.e. adult or child), level of study and mode of study. The analysis was also undertaken at regional level to reflect the different costs of public service provision in each of the regions and nations of the United Kingdom (where this information is available). After calculating the resulting costs per head (i.e. per student *and* dependant), to estimate an average cost *per student*, we then adjusted the analysis to reflect differences in EU and non-EU students’ probability of bringing their dependants to the UK (and hence drawing on public resources while staying in the United Kingdom).

On average, the total wider public costs incurred by the Exchequer associated with **EU-domiciled students** in the 2015/16 cohort was estimated to be approximately **£15,000** in net present value terms over the course of their studies (see Table 17). The corresponding estimate associated with **non-EU-domiciled students** was estimated at approximately **£7,000**. The higher costs per EU student are primarily driven by their higher likelihood of bringing dependants to the UK with them, and the associated additional public cost of providing these ‘other’ public services to their dependants. In addition, EU students are eligible to benefit from a larger range of such ‘other’ services than non-EU students, again driving a wedge between the costs associated with these two groups of students.

Table 17 Other public costs associated with 2015/16 cohort - by level of study and domicile (per student in £ and total in £bn)

Level of study	Other public costs per student, £			Other public costs, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£27,000	£6,000	£11,000	£0.09bn	£0.07bn	£0.17bn
Undergraduate degree	£16,000	£10,000	£12,000	£0.46bn	£0.55bn	£1.0bn
Other postgraduate	£21,000	£7,000	£13,000	£0.06bn	£0.03bn	£0.09bn
Higher degree (taught)	£9,000	£5,000	£5,000	£0.16bn	£0.41bn	£0.58bn
Higher degree (research)	£18,000	£12,000	£14,000	£0.09bn	£0.12bn	£0.20bn
Average	£15,000	£7,000	£9,000			
Total				£0.86bn	£1.18bn	£2.05bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values.

Source: *London Economics’ analysis*

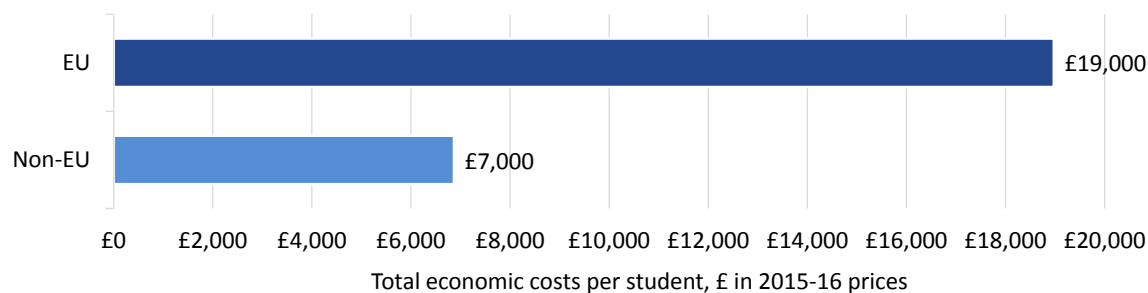
As in the analysis of the benefits associated with international students, these costs are positively related to the duration of study. In this respect, note that there are some qualifications – particularly ‘other’ undergraduate and postgraduate qualifications – that are associated with particularly high Exchequer costs for EU students. This is again driven by the particular composition of the student cohort, where there is a relatively high incidence of these qualifications being undertaken on a part-time basis (hence extending the duration of possible support students and their dependants receive).

Aggregating across the 2015/16 cohort of first-year students, the total ‘other’ public cost associated with international students and their dependants was estimated to be **£2.1bn**. Of this amount, we have estimated that approximately **£0.9bn** is associated with supporting EU-domiciled students and dependants, with the remaining **£1.2bn** associated with supporting non-EU students and their dependants.

5.4 Total public cost associated with international students

Combining information on the costs associated with the teaching grants paid to UK higher education institutions (for EU students), student support in the form of tuition fee and/or tuition fee grants (again for EU students only), as well as the costs of providing ‘other’ public services to international students and their dependants, the cost to the Exchequer associated with a typical EU-domiciled student was estimated at **£19,000** (over the duration of their studies), while the comparable figure for non-EU students was estimated at **£7,000** (Figure 16). Taking the example of a typical student from the EU (incorporating any dependants), of the total cost of **£19,000**, approximately **£2,000** is accounted for by teaching grants, **£2,000** in student support costs and a further **£15,000** in costs associated with wider public service provision. For the typical non-EU student, the total cost of **£7,000** is made up entirely of the costs associated with wider public service provision.

Figure 16 Total cost per student associated with 2015/16 cohort - by domicile, £



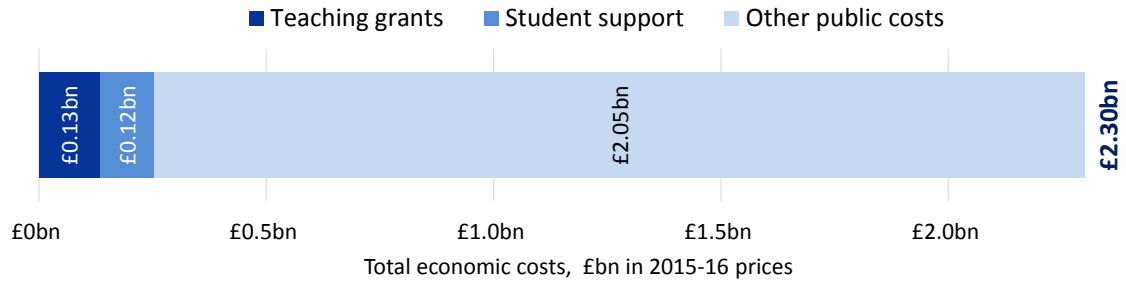
Note: Values per student are rounded to the nearest £1,000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values.

Source: *London Economics' analysis*

Aggregating across the 2015/2016 cohort of first-year students, the total cost of international students to the UK economy was estimated at **£2.3bn**, split roughly equally between EU (**£1.1bn**) and non-EU (**£1.2bn**) domiciled students (Table 18).

Table 18 Total costs associated with 2015/16 cohort - by domicile, £bn

Type of cost	EU	Non-EU	Total
Teaching grants	£0.1bn	£0bn	£0.1bn
Student support	£0.1bn	£0bn	£0.1bn
Other public costs	£0.9bn	£1.2bn	£2.1bn
Total	£1.1bn	£1.2bn	£2.3bn



Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum due to rounding. **Source: London Economics' analysis**

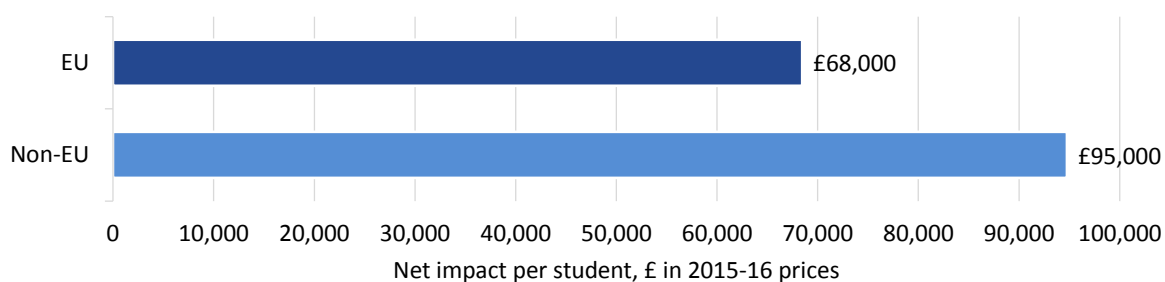
6 Net economic impact of international students

6.1 Net economic impact on the UK economy

Combining the total costs and benefits presented in Section 4 and Section 5.3, the estimated **net economic impact** per student was estimated to be **£68,000** per ‘typical’ EU-domiciled student in the 2015/16 cohort, and **£95,000** per non-EU-domiciled student (see Figure 17). In other words, **every 15 EU students** and **every 11 non-EU students** generate **£1m worth of net economic impact for the UK economy** over the duration of their studies.

Expressed in terms of **benefit to cost ratios**, given dividing the gross economic benefit associated with EU-domiciled and non-EU-domiciled students (estimated to be **£87,000** and **£102,000** respectively) by the corresponding public costs (estimated to be **£19,000** and **£7,000** respectively), the analysis suggests that there is a benefit to cost ratio of approximately **4.6** and **14.8** associated with hosting EU and non-EU students at UK higher education institutions, respectively.

Figure 17 Net impact per student associated with the 2015/16 cohort - by domicile, £



Note: Values per student are rounded to the nearest £000. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. **Source: London Economics' analysis**

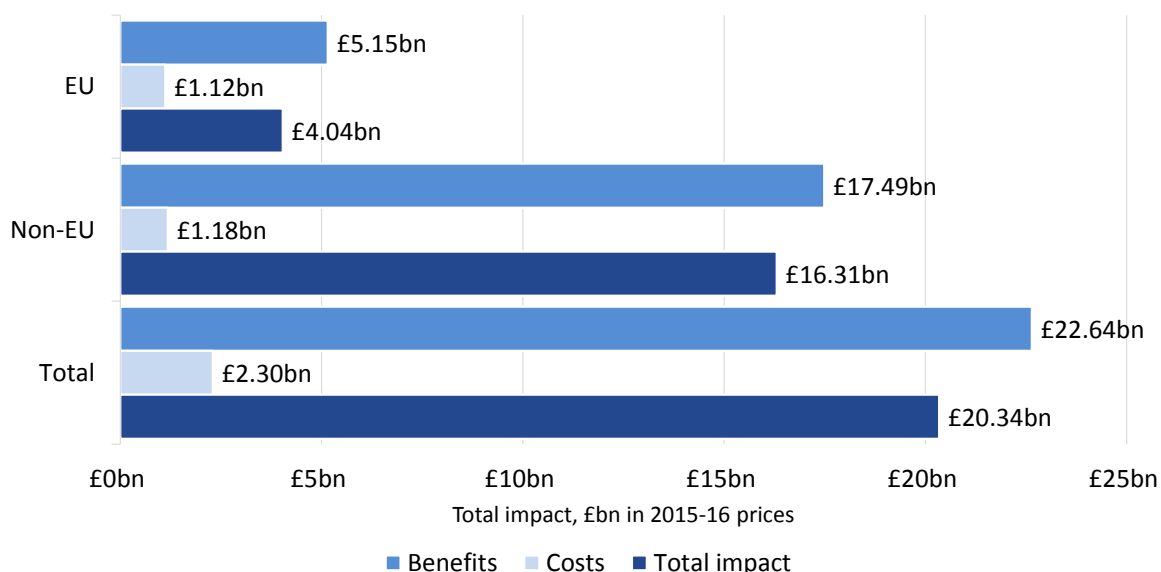
Aggregating across the total cohort of first-year international students enrolled with UK HEIs in the 2015/16 academic year, **the total net impact of international students on the UK economy was estimated to be £20.3bn**, with **£4.0bn** of net impact generated by EU-domiciled students, and **£16.3bn** of net impact generated by non-EU-domiciled students in the cohort (see Figure 18).

In Figure 19, we present the net economic impact of the 2015/16 cohort of international students on the UK economy **by region** of institution that they attend. Clearly, the net economic contribution of international students – by region of institution – is closely linked to choice of higher education institution attended.

Again, it is important to note that, rather than measuring the economic impact of international students *on each region separately* (there will clearly be a significant local and regional impact associated with international students' non-tuition fee expenditure in particular), the analysis instead estimates the impact *on the UK as a whole*, but

subsequently splits this out by the location of the international students (in terms of the location of the HEIs they are enrolled with).⁷⁰

Figure 18 Net impact associated with the 2015/16 cohort - by domicile, £bn



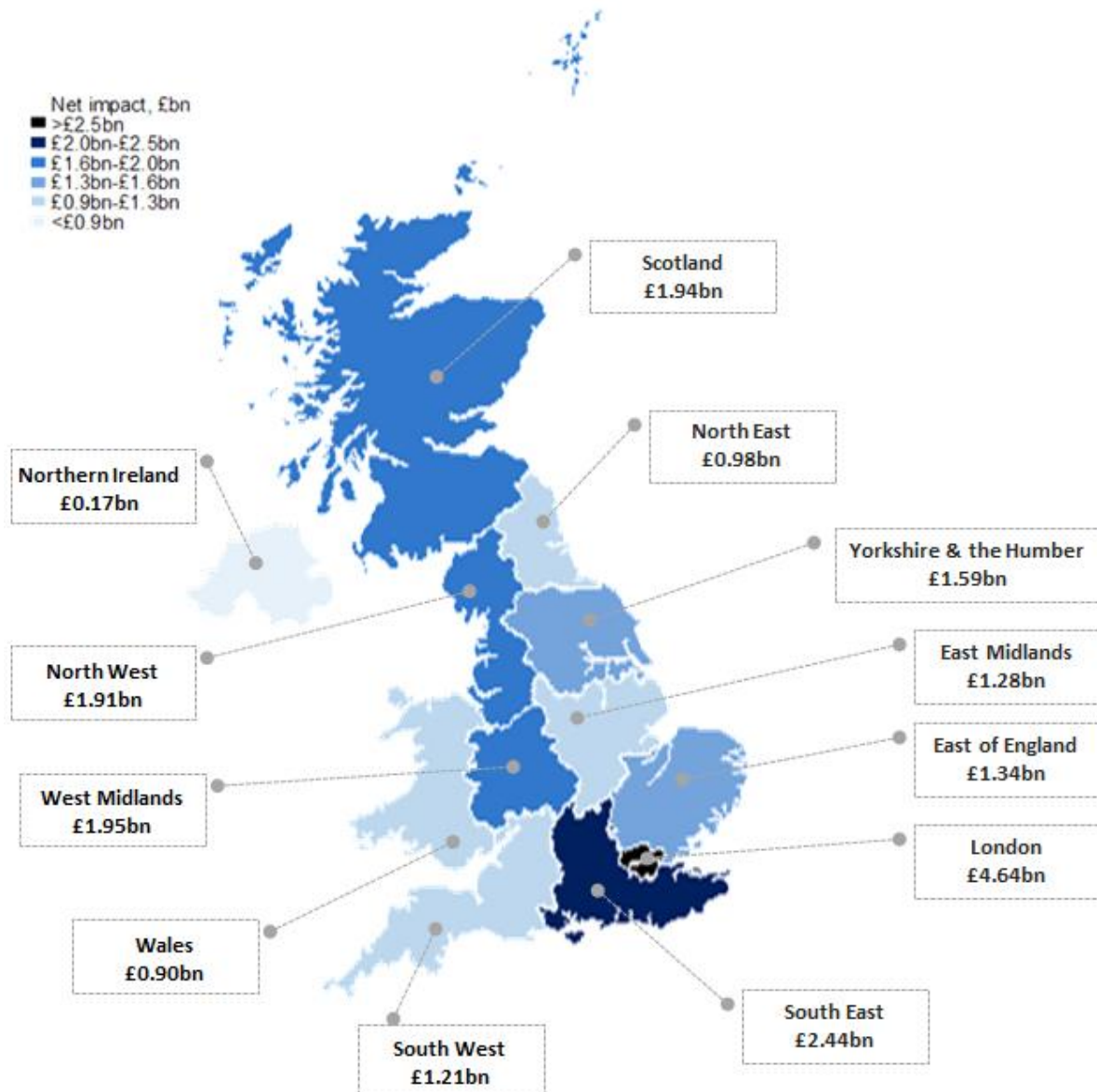
Note: Values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

Considering the resulting distribution of impact by region, the analysis indicates that international students have an impact across the entire United Kingdom, varying from a **£0.2bn net economic contribution** from international students in Northern Ireland to **£4.6bn** generated by international students attending HEIs in London. The net economic contribution generated by international students based in the South East was estimated to be **£2.4bn**, compared to **£1.9bn** in the West Midlands, **£1.9bn** in the North West, **£1.6bn** in Yorkshire and the Humber, **£1.3bn** in the East of England, **£1.3bn** in the East Midlands, **£1.2bn** in the South West, and **£1.0bn** in the North East.

In relation to the other home nations of the United Kingdom, the contribution of international students in Scotland to the UK economy was estimated to be **£1.9bn**, compared to a contribution of **£0.9bn** from international students based in Wales.

⁷⁰ This is based on differences in the size of the economic multipliers (see Section 3.2.4 for more information), which increase as the geographical region of analysis is widened: the larger the geographical area under consideration, the larger the available labour force and number of input suppliers that institutions, students and visitors source their demand from (implying a larger economic impact). As a result, regional economic multipliers are smaller than the corresponding multipliers for the UK as a whole – and the resulting sum of regional impacts across all regions would *not* equate to the total UK impact. To avoid these issues, we instead estimated impacts on the UK as a whole, and subsequently split these out by region (based on the location of universities which international students are enrolled with).

Figure 19 Net impact associated with the 2015/16 cohort - by location (region) of higher education institution, £bn



Note: Values are rounded to the nearest £0.1 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics' analysis*

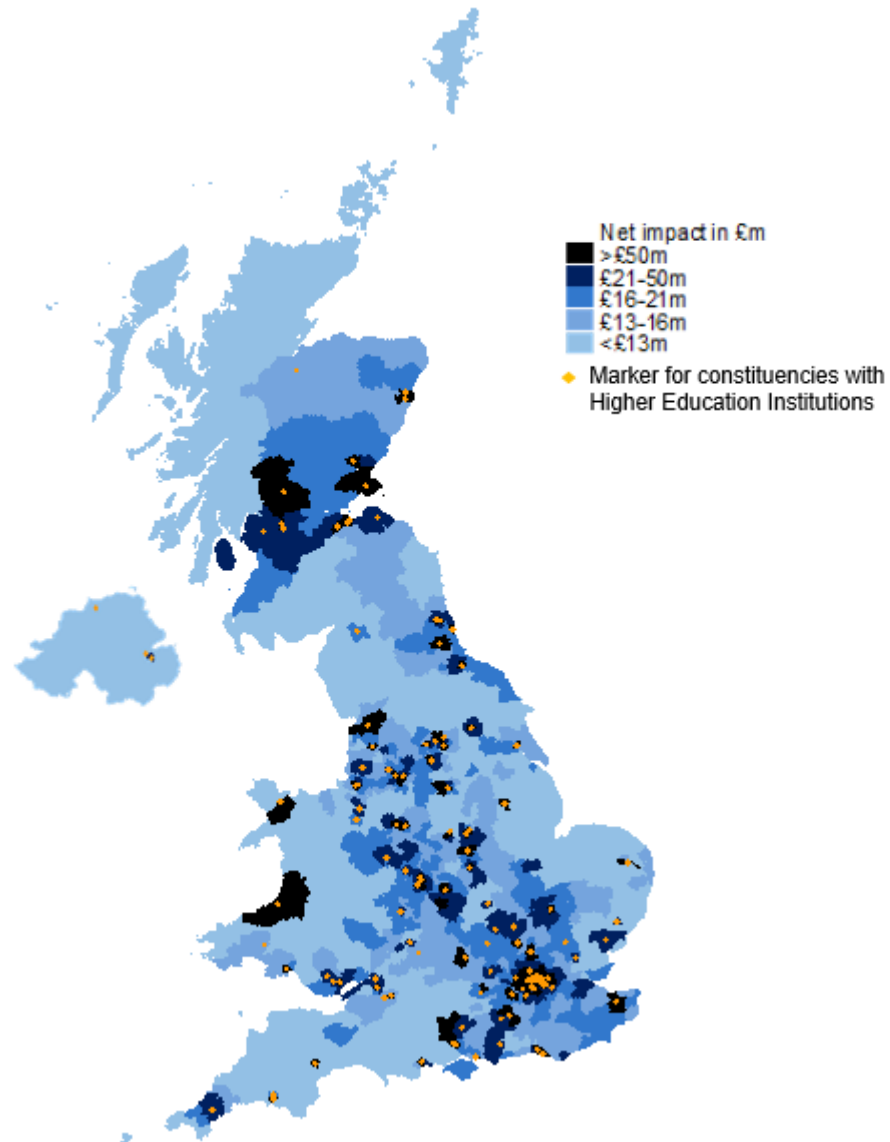
6.2 The impact of international students by parliamentary constituency

In order to analyse the impact of international students on the UK economy at a more granular level, we further split the above net impacts by **parliamentary constituency** (presented in Figure 20 below). Note that, given that there is no official information on the specific residency location of international students while studying, we have assumed that the residency distribution of international students is the same as that for all students 'usually resident' in the UK (i.e. including both UK and non-UK domiciled students⁷¹).

⁷¹ For a more detailed discussion of the limitations associated with the Census data, please refer to Section 3.2.5.

Therefore, we estimated the contribution of international students to the UK economy – by region of higher education institution – and applied the same geographic distribution of students’ residency (from the Census) to international students. The analysis illustrates that the contribution of international students to the UK economy is clustered around the location of higher education institutions (marked by gold diamonds in Figure 20) - but also demonstrates the economic contribution made by international students across the entire United Kingdom.

Figure 20 Net impact associated with 2015/16 cohort - by parliamentary constituency, £m



Note: Values are rounded to the nearest £1 million. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. *Source: London Economics’ analysis*

Table 19 summarises the average economic benefits, public costs, net impact, and net impact per member of the resident population (both adults and children), on average across all parliamentary constituencies in each UK region. On average, international students make a **£31m net economic contribution to the UK economy per parliamentary constituency**, which is equivalent to **£310** per member of the resident population (after all costs have

been accounted for). The average impact was highest for parliamentary constituencies in London (with a net impact of **£64m** per constituency, equivalent to **£549** per member of the resident population).

Table 19 Average # of starters and level of impact associated with the 2015/16 cohort per parliamentary constituency - by region (£m)

Region	# of starters			Benefits	Costs	Net impact	Net impact per resident
	EU	Non-EU	Total				
East of England	75	173	247	£25.4m	£2.3m	£23.1m	£224
East Midlands	51	237	288	£30.2m	£2.3m	£27.8m	£273
London	225	535	760	£71.6m	£8.0m	£63.6m	£549
North East	64	306	370	£36.9m	£3.0m	£33.9m	£368
North West	49	208	257	£27.8m	£2.3m	£25.5m	£256
South East	86	233	319	£31.9m	£2.8m	£29.0m	£278
South West	54	177	232	£24.1m	£2.0m	£22.0m	£221
West Midlands	76	288	364	£36.1m	£3.1m	£33.0m	£336
Yorkshire & the Humber	55	265	319	£32.0m	£2.6m	£29.4m	£290
Wales	72	224	297	£26.0m	£3.5m	£22.5m	£287
Scotland	148	282	430	£39.0m	£6.1m	£32.9m	£365
Northern Ireland	58	78	136	£11.7m	£2.4m	£9.4m	£92
Average	91	265	355	£34.8m	£3.5m	£31.3m	£310

Note: Values are rounded to the nearest £0.1 million. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Estimates of the total resident population are derived from the 2011 Census.⁷²

Source: *London Economics' analysis*

However, the consideration of average impacts per constituency by region does not reflect the particular concentration of international students within regions. Table 20 summarises the results for the 20 parliamentary constituencies with the **highest** net economic impact on the UK economy resulting from international students (in the 2015/16 cohort). Reflecting the number of international students resident in **Sheffield Central (2,455)**, the analysis indicates that the contribution to the UK economy of the 2015/16 cohort of international students resident in Sheffield Central stands at approximately **£226m**, which is equivalent to **£1,960** per member of the resident population. The other constituencies where international students make the greatest contribution to the UK economy are **Newcastle upon Tyne East (£192m (£2,010))**, **Nottingham South (£183m (£1,680))**, **Oxford East (£179m (£1,480))** and **Manchester Central (£179m (£1,330))**.

It is interesting to note that there are constituencies from across almost all UK regions represented on the top-20 list, with international students in **Cambridge** (East of England) contributing **£168m (£1,460)**; **Birmingham Ladywood** (West Midlands) contributing **£154m (£1,220)**; **Cardiff Central** (Wales) contributing **£151m (£1,720)**; **Bristol West** (South West) contributing **£142m (£1,140)**; and **Glasgow Central** (Scotland) contributing **£135m (£1,480)**.

In Table 21, we present the 20 constituencies where international students have the least net economic impact on the UK economy, while in Figure 21, we present a detailed mapping of net economic impact by parliamentary constituency – separately for each of the 12 UK regions. Detailed information on the total contribution of international students in every parliamentary constituency is presented in Annex A2.5.

⁷² See Office for National Statistics (2016d).

Table 20 Total costs, benefits and impact of international students in the top 20 parliamentary constituencies in terms of net impact (£m)

Rank	Parliamentary Constituency	Region	# of starters			Benefits	Costs	Net impact	Net impact per resident
			EU	Non-EU	Total				
1	Sheffield Central (LAB Hold)	Yorkshire and the Humber	420	2,035	2,455	£246.3m	£20.3m	£226.0m	£1,960
2	Newcastle upon Tyne East (LAB Hold)	North East	365	1,730	2,095	£208.9m	£16.9m	£191.9m	£2,010
3	Nottingham South (LAB Hold)	East Midlands	335	1,565	1,900	£198.7m	£15.5m	£183.3m	£1,680
4	Oxford East (LAB Hold)	South East	530	1,435	1,965	£196.5m	£17.5m	£178.9m	£1,480
5	Manchester Central (LAB Hold)	North West	345	1,460	1,805	£195.2m	£16.5m	£178.7m	£1,330
6	Holborn and St Pancras (LAB Hold)	London	620	1,480	2,100	£198.0m	£22.1m	£176.0m	£1,300
7	Liverpool, Riverside (LAB Hold)	North West	335	1,410	1,745	£188.2m	£15.9m	£172.3m	£1,500
8	Cambridge (LAB Hold)	East of England	545	1,255	1,800	£184.4m	£16.7m	£167.6m	£1,460
9	East Ham (LAB Hold)	London	555	1,325	1,880	£177.1m	£19.7m	£157.3m	£1,050
10	Birmingham, Ladywood (LAB Hold)	West Midlands	355	1,345	1,700	£168.4m	£14.3m	£154.0m	£1,220
11	Leeds Central (LAB Hold)	Yorkshire and the Humber	285	1,385	1,670	£167.8m	£13.8m	£153.9m	£1,160
12	West Ham (LAB Hold)	London	545	1,290	1,835	£172.9m	£19.3m	£153.6m	£970
13	Cardiff Central (LAB Gain)	Wales	485	1,510	1,995	£175.0m	£23.7m	£151.4m	£1,720
14	Bristol West (LAB Hold)	South West	350	1,145	1,495	£155.4m	£13.0m	£142.4m	£1,140
15	Coventry South (LAB Hold)	West Midlands	325	1,235	1,560	£154.9m	£13.2m	£141.7m	£1,340
16	Portsmouth South (LAB Gain)	South East	405	1,100	1,505	£150.3m	£13.4m	£136.9m	£1,270
17	Glasgow Central (SNP Hold)	Scotland	610	1,155	1,765	£159.6m	£24.8m	£134.8m	£1,480
18	Bermondsey/Old Southwark (LAB Hold)	London	470	1,120	1,590	£149.9m	£16.7m	£133.2m	£1,050
19	Canterbury (LAB Gain)	South East	380	1,040	1,420	£141.9m	£12.7m	£129.3m	£1,180
20	Bethnal Green and Bow (LAB Hold)	London	450	1,075	1,525	£143.8m	£16.0m	£127.8m	£1,020

Note: Total values are rounded to the nearest £0.1 million, and values per resident are rounded to the nearest £10. All estimates are presented in 2015/16 prices, and discounted to reflect net present values.

Note that darker shading represents a change in MP between the 2015 and 2017 General Elections

Source: London Economics' analysis

Table 21 Total costs, benefits and impact of international students in the bottom 20 parliamentary constituencies in terms of net impact (£m)

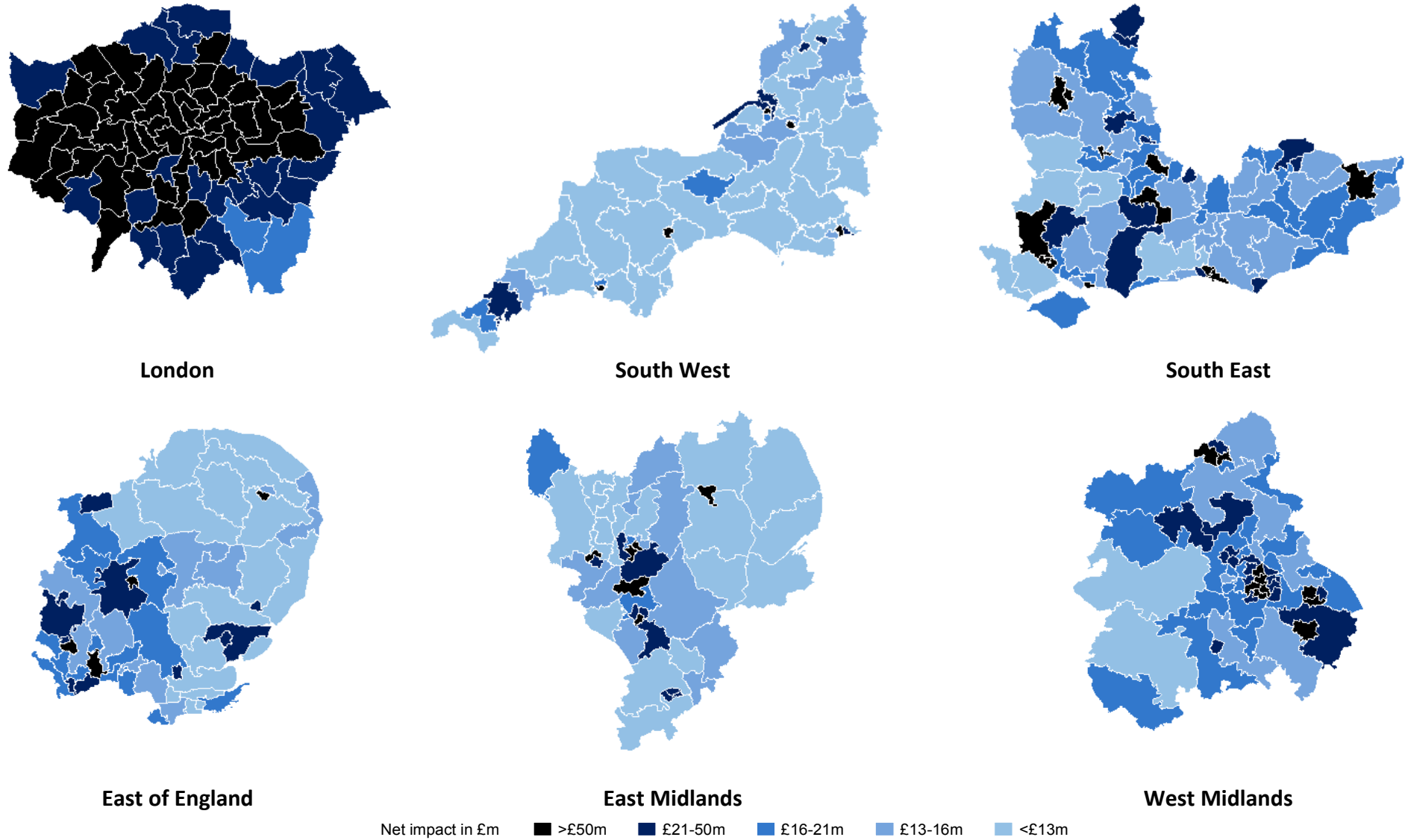
Rank	Parliamentary Constituency	Region	# of starters			Benefits	Costs	Net impact	Net impact per resident
			EU	Non-EU	Total				
631	South Down (SF Gain)	Northern Ireland	55	70	125	£10.8m	£2.2m	£8.6m	£80
632	Brecon and Radnorshire (CON Hold)	Wales	25	80	105	£9.6m	£1.3m	£8.3m	£120
633	North Norfolk (LD Hold)	East of England	25	60	85	£8.9m	£0.8m	£8.1m	£100
634	Dwyfor Meirionnydd (PC Hold)	Wales	25	80	105	£9.3m	£1.3m	£8.1m	£130
635	Belfast North (DUP Hold)	Northern Ireland	50	65	115	£10.0m	£2.0m	£8.0m	£80
636	Workington (LAB Hold)	North West	15	60	75	£8.2m	£0.7m	£7.5m	£100
637	Fermanagh & South Tyrone (SF Gain)	Northern Ireland	45	60	105	£9.3m	£1.9m	£7.4m	£70
638	North Antrim (DUP Hold)	Northern Ireland	45	60	105	£9.2m	£1.8m	£7.3m	£70
639	Montgomeryshire (CON Hold)	Wales	25	75	100	£8.4m	£1.1m	£7.3m	£110
640	West Tyrone (SF Hold)	Northern Ireland	45	60	105	£8.9m	£1.8m	£7.1m	£80
641	Lagan Valley (DUP Hold)	Northern Ireland	45	60	105	£8.9m	£1.8m	£7.1m	£70
642	Copeland (CON Hold)	North West	15	60	75	£7.7m	£0.7m	£7.1m	£90
643	South Antrim (DUP Gain)	Northern Ireland	45	60	105	£8.8m	£1.8m	£7.0m	£70
644	Ross, Skye and Lochaber (SNP Hold)	Scotland	30	60	90	£8.2m	£1.3m	£6.9m	£100
645	Caithness/Sutherland/Easter Ross (LD Gain)	Scotland	30	60	90	£8.1m	£1.3m	£6.9m	£110
646	Belfast East (DUP Hold)	Northern Ireland	40	55	95	£8.1m	£1.6m	£6.5m	£70
647	Strangford (DUP Hold)	Northern Ireland	35	50	85	£7.6m	£1.5m	£6.1m	£70
648	North Down (IND Hold)	Northern Ireland	35	50	85	£7.5m	£1.5m	£6.0m	£70
649	Orkney and Shetland (LD Hold)	Scotland	20	35	55	£4.8m	£0.7m	£4.0m	£90
650	Na h-Eileanan an Iar (SNP Hold)	Scotland	15	30	45	£4.2m	£0.7m	£3.6m	£130

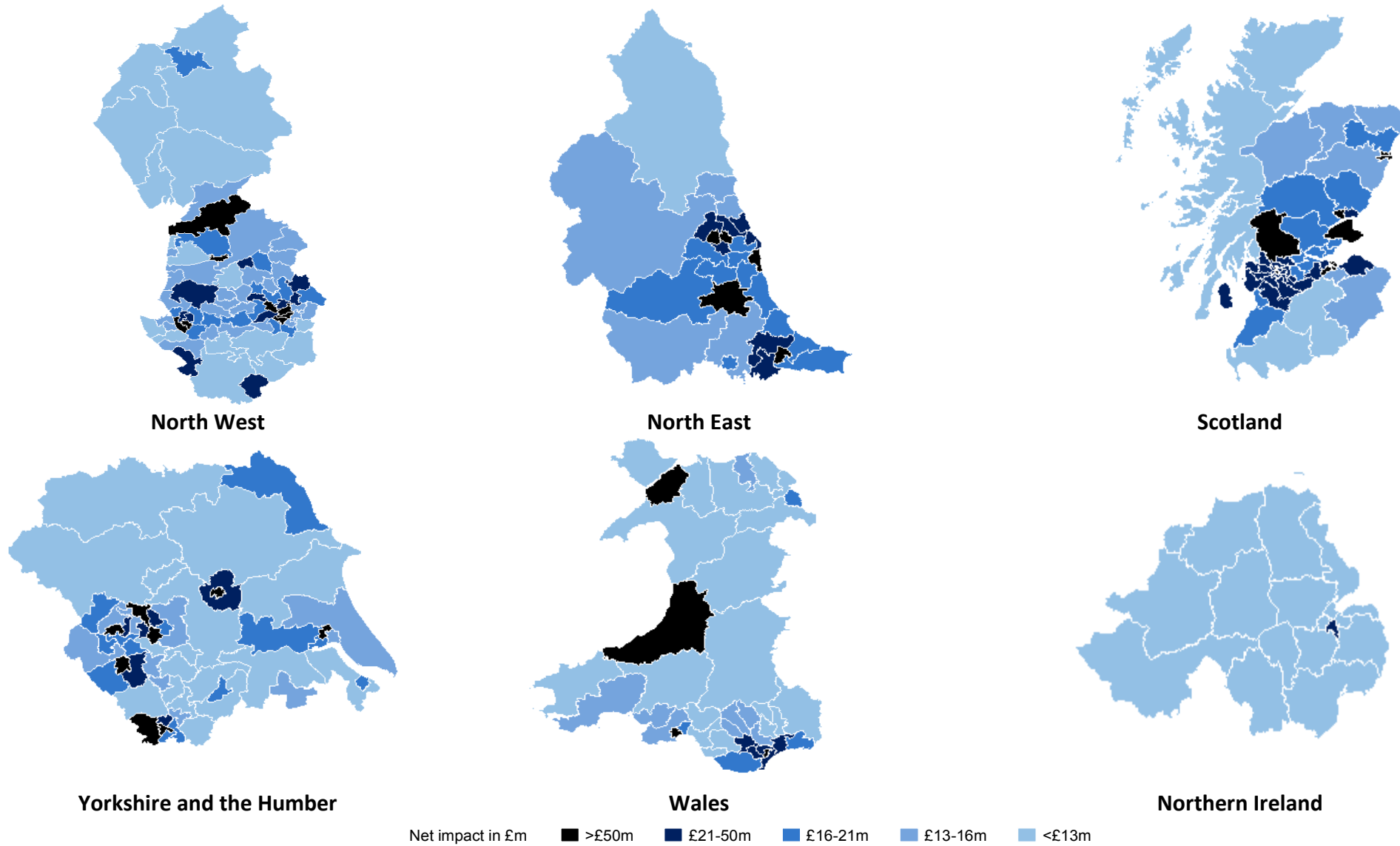
Note: Total values are rounded to the nearest £0.1 million, and values per resident are rounded to the nearest £10. All estimates are presented in 2015/16 prices, and discounted to reflect net present values.

Note that darker shading represents a change in MP between the 2015 and 2017 General Elections

Source: London Economics' analysis

Figure 21 Total net impact in each UK region - by parliamentary constituency, £m





Note: The Orkney Islands and Shetland Islands are not presented for ease of visibility. Both constituencies can be identified in the map of all constituencies given in Figure 20.

Source: London Economics' analysis

7 Conclusions

This report proves what many people have long suspected: alongside the social, educational and soft power benefits, international students bring enormous financial benefits to every corner of the United Kingdom.

Figures have been produced before on the economic benefits of international students. But they have not always been accepted in Whitehall – particularly within the Home Office – because they have ignored the costs associated with educating and hosting people from other countries. This report rectifies that, and proves beyond doubt that the costs are modest and hugely outweighed by the benefits.

It also provides the first detailed breakdown of the net benefits of international students at the level of parliamentary constituencies. The methodology used in deriving constituency averages delivers a guide to the impact in each area, but in a few cases, fails to provide a completely accurate picture. Nevertheless, it presents an important new picture of how individual constituents across the country benefit from international students studying here. We hope this will help MPs and others make the positive case for the UK to go on educating a growing proportion of international students.

Compared to other countries, the UK is relatively outward looking – and will need to become even more so if it is to make a success of Brexit – and it has an incredibly strong higher education sector. Educating more people from other countries is one way to ensure both of these national characteristics continue to flourish in the future as in the past.

This work was commissioned before the Migration Advisory Committee began looking seriously at international students. We hope that it will be of use to them and to everyone interested in pursuing evidence-based policies, strengthening our higher education institutions and ensuring a more connected world.

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Department for Business, Innovation and Skills (2011). 'Estimating the value to the United Kingdom of Education Exports', BIS Research Report 46, June 2011.

<http://www.bis.gov.uk/assets/biscore/higher-education/docs/e/11-980-estimating-value-of-education-exports.pdf>

Department for Business, Innovation and Skills (2013). 'Student Income and Expenditure Survey 2011/12'.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301467/bis-14-723-student-income-expenditure-survey-2011-12.pdf

Foreign & Commonwealth Office (2015). 'UK announces health surcharge'.

<https://www.gov.uk/government/news/uk-announces-health-surcharge>

Higher Education Statistics Agency (2017a). 'UK Performance Indicators 2015/16: Non-continuation rates'.

<https://www.hesa.ac.uk/data-and-analysis/performance-indicators/non-continuation>

Higher Education Statistics Agency (2017b). 'Students in higher education 2015/16'.

<https://www.hesa.ac.uk/data-and-analysis/publications/students-2015/16>

Higher Education Statistics Agency (2017c). 'Finances of Higher Education Providers 2015/16'.

<https://www.hesa.ac.uk/data-and-analysis/publications/finances-2015/16>

Higher Education Policy Institute (2013). 'Flexible Learning: Wrapping Higher Education Around the Needs Of Part-Time Students'.

<http://www.hepi.ac.uk/2013/03/21/flexible-learning-wrapping-higher-education-around-the-needs-of-part-time-students/>

Higher Education Policy Institute (2017). 'UK is (just) number 1 for educating the world's leaders'.

<http://www.hepi.ac.uk/2017/08/05/uk-just-number-1-educating-worlds-leaders/>

HM Treasury (2011). 'The Green Book. Appraisal and Evaluation in Central Government'.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

HM Treasury (2016). 'Public Expenditure Statistical Analyses 2016'.

<https://www.gov.uk/government/statistics/public-expenditure-statistical-analyses-2016>

Home Office (2016). 'Guidance public funds - v13.0'.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/518624/Public_funds_v13.0.pdf

Home Office (2017a). 'Points Based System (Dependant) - Policy Guidance'.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/603815/PBS_dependent_guidance_Jan_2017.pdf

Home Office (2017b). 'Immigration statistics, April to June 2015: data tables'

<https://www.gov.uk/government/statistics/immigration-statistics-january-to-march-2017>

London Economics (2017a). 'The determinants of international demand for UK higher education'.

<http://www.hepi.ac.uk/wp-content/uploads/2017/01/The-determinants-of-international-demand-for-UK-HE-FULL-REPORT.pdf>

London Economics (2017b). 'The economic impact of Russell Group universities'.

<https://drive.google.com/file/d/0BwTqm7qeqGZNdTc0WHN3V1p0RIk/view>

London First and PWC (2014). 'London Calling: International students' contribution to Britain's economic growth'.

<http://londonfirst.co.uk/wp-content/uploads/2015/05/London-Calling-report.pdf>

Migration Advisory Committee (2017). 'Migration Advisory Committee response to commission on international students'.

<https://www.gov.uk/government/publications/migration-advisory-committee-response-to-commission-on-international-students>

Nidirect (2017, 1st September). 'Benefits for non-UK nationals - do I qualify?'

<https://www.nidirect.gov.uk/articles/benefits-for-non-uk-nationals-do-i-qualify>

Office for Budget Responsibility (2017). 'Fiscal sustainability report'.

http://cdn.budgetresponsibility.org.uk/FSR_Jan17.pdf

Office for National Statistics (2011). 'Census 2011. Qualifications and students, KS501UK'.

<https://www.nomisweb.co.uk/census/2011/ks501uk>

Office for National Statistics (2016a). 'Birth Summary Tables, England and Wales 2016'.

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthsummarytables>

Office for National Statistics (2016b). 'Overseas Residents Visits to the UK'.

<https://www.ons.gov.uk/peoplepopulationandcommunity/leisureandtourism/datasets/overseasresidentsvisitsstotheuk>

Office for National Statistics (2016c). 'Population by country of birth and nationality underlying datasets'.

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/populationoftheunitedkingdombycountryofbirthandnationalityunderlyingdatasheets>

Office for National Statistics (2016d). 'Population Estimates for UK, England and Wales, Scotland and Northern Ireland'.

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland>

Office for National Statistics (2016e). 'UK Population by Postcode'.

<https://www.ons.gov.uk/aboutus/transparencyandgovernance/freedomofinformationfoi/ukpopulationbypostcode>

Office for National Statistics (2017). 'CPI All Items Index: Estimated pre-97 2015 = 100'.

<https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt/mm23>

Olive, V., (2017), "How much is too much? Cross-subsidies from teaching to research in British universities", HEPI Report 100, November 2017. Available at <http://www.hepi.ac.uk/wp-content/uploads/2017/11/HEPI-How-much-is-too-much-Report-100-FINAL.pdf>

Oxford Economics (2014). 'The economic costs and benefits of international students'.

https://www.sheffield.ac.uk/polopoly_fs/1.259052!/file/sheffield-international-students-report.pdf

Oxford Economics (2017). 'The economic impact of UK universities, 2014-15'.

<http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/the-economic-impact-of-universities.pdf>

UK Parliament (2017). 'Overseas students: Written question - 7821'.

<http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2017-09-04/7821/>

Prederi (2013). 'Quantitative Assessment of Visitor and Migrant use of the NHS In England: Exploring the data.'

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/251909/Quantitative_Assessment_of_Visitor_and_Migrant_Use_of_the_NHS_in_England_-_Exploring_the_Data_-_FULL_REPORT.pdf#page=63

Student Awards Agency for Scotland (2016). 'Higher Education Student Support in Scotland 2015/16'.

http://www.saas.gov.uk/forms/statistics_1516.pdf

Student Loans Company (2016a). 'Student Support for Higher Education in England 2016: 2015/16 payments, 2016/17 awards'.

<https://www.slc.co.uk/media/8444/slcsfr052016.pdf>

Student Loans Company (2016b). 'Student Support for Higher Education in Wales 2016: 2015/16 payments, 2016/17 awards'.

<https://www.slc.co.uk/media/8448/slcsfr062016.pdf>

Student Loans Company (2016c). 'Student Support for Higher Education in Northern Ireland, Academic Year 2015/16 (FINAL)'.

<https://www.slc.co.uk/media/8442/slcsfr072016.pdf>

UK Council for International Student Affairs (2017). 'Medical treatment'. Retrieved from:

<https://www.ukcisa.org.uk/Information--Advice/EEA--Swiss-Students/Medical-treatment>

UK Parliament (2016). 'Students: Per Capita Costs: Written question – 24589'.

<http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2016-01-27/24589/>

Welsh Government (2016). 'The Review of Higher Education Funding and Student Finance Arrangements in Wales'.

<http://gov.wales/docs/dcells/publications/160927-he-review-final-rreport-en.pdf>

Welsh Government (2017). 'Student Income and Expenditure Survey 2014/15'.

<http://gov.wales/docs/caecd/research/2017/170615-student-income-expenditure-survey-2014-15-welsh-domiciled-students-en.pdf>

Annex 2 Supplementary findings

A2.1 Other public costs for students and dependants

Table 22 and Table 23 provide a detailed overview of the total 'other' public sector costs per student or adult dependant (Table 22) and child dependant (Table 23) per year - **by type of service, region (where available), domicile (i.e. EU and non-EU) and study mode.**

Table 22 Costs of 'other' public service provision per student or adult dependant per year, by type of service, region, domicile and study mode

Region ->	EAST	EAST	EMID	EMID	LOND	LOND	NEAS	NEAS	NWES	NWES	SEAS	SEAS	SWES	SWES	WMID	WMID	YORH	YORH	WALE	WALE	SCOT	SCOT
Domicile ->	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU
Full-time students																						
Health ¹	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579
Education ²	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Social security	£375	£0	£375	£0	£375	£0	£375	£0	£375	£0	£375	£0	£375	£0	£375	£0	£375	£0	£418	£0	£418	£0
Housing	£102	£102	£131	£131	£218	£218	£190	£190	£91	£91	£95	£95	£78	£78	£84	£84	£129	£129	£224	£224	£376	£376
General public services	£107	£107	£90	£90	£84	£84	£93	£93	£77	£77	£99	£99	£103	£103	£75	£75	£73	£73	£159	£159	£196	£196
Defence	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1
Public order & safety	£337	£337	£374	£374	£602	£602	£457	£457	£424	£424	£322	£322	£326	£326	£380	£380	£407	£407	£388	£388	£494	£494
Economic affairs	£610	£610	£478	£478	£1,196	£1,196	£558	£558	£603	£603	£591	£591	£508	£508	£505	£505	£615	£615	£798	£798	£996	£996
Environment protection	£162	£162	£113	£113	£131	£131	£122	£122	£317	£317	£154	£154	£188	£188	£117	£117	£137	£137	£206	£206	£258	£258
Recreation, culture & religion	£79	£79	£91	£91	£146	£146	£114	£114	£106	£106	£89	£89	£83	£83	£90	£90	£110	£110	£162	£162	£199	£199
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663
Total	£4,165	£3,640	£4,045	£3,520	£5,145	£4,620	£4,302	£3,777	£4,386	£3,861	£4,118	£3,593	£4,054	£3,529	£4,019	£3,494	£4,239	£3,714	£4,749	£4,180	£5,331	£4,762
Part-time students																						
Health ¹	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579
Education ²	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Social security	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,919	£0	£1,989	£0	£1,989	£0
Housing	£102	£102	£131	£131	£218	£218	£190	£190	£91	£91	£95	£95	£78	£78	£84	£84	£129	£129	£224	£224	£376	£376
General public services	£107	£107	£90	£90	£84	£84	£93	£93	£77	£77	£99	£99	£103	£103	£75	£75	£73	£73	£159	£159	£196	£196
Defence	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1
Public order & safety	£337	£337	£374	£374	£602	£602	£457	£457	£424	£424	£322	£322	£326	£326	£380	£380	£407	£407	£388	£388	£494	£494
Economic affairs	£610	£610	£478	£478	£1,196	£1,196	£558	£558	£603	£603	£591	£591	£508	£508	£505	£505	£615	£615	£798	£798	£996	£996
Environment protection	£162	£162	£113	£113	£131	£131	£122	£122	£317	£317	£154	£154	£188	£188	£117	£117	£137	£137	£206	£206	£258	£258
Recreation, culture & religion	£79	£79	£91	£91	£146	£146	£114	£114	£106	£106	£89	£89	£83	£83	£90	£90	£110	£110	£162	£162	£199	£199
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663
Total	£5,709	£3,640	£5,589	£3,520	£6,689	£4,620	£5,846	£3,777	£5,930	£3,861	£5,662	£3,593	£5,598	£3,529	£5,563	£3,494	£5,783	£3,714	£6,319	£4,180	£6,901	£4,762

Note: All values constitute annual costs per head, presented in 2015/16 prices.

¹Indicates costs which do not differ between regions (due to a lack of breakdown in the underlying data). ²The costs of pre-primary, primary and secondary education are applicable to child dependants only.

Source: London Economics' analysis of various sources (see Section 3.3.3 for more detail)

Table 23 Costs of 'other' public service provision per child dependant per year, by type of service, region, domicile and study mode

Region ->	EAST	EAST	EMID	EMID	LOND	LOND	NEAS	NEAS	NWES	NWES	SEAS	SEAS	SWES	SWES	WMID	WMID	YORH	YORH	WALE	WALE	SCOT	SCOT
Domicile ->	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU	EU	Non-EU
Full-time students																						
Health ¹	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579
Education	£5,061	£5,061	£4,936	£4,936	£5,764	£5,764	£5,527	£5,527	£5,405	£5,405	£4,726	£4,726	£5,004	£5,004	£5,237	£5,237	£5,241	£5,241	£5,779	£5,779	£5,986	£5,986
Social security ²	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Housing	£102	£102	£131	£131	£218	£218	£190	£190	£91	£91	£95	£95	£78	£78	£84	£84	£129	£129	£224	£224	£376	£376
General public services	£107	£107	£90	£90	£84	£84	£93	£93	£77	£77	£99	£99	£103	£103	£75	£75	£73	£73	£159	£159	£196	£196
Defence	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1
Public order & safety	£337	£337	£374	£374	£602	£602	£457	£457	£424	£424	£322	£322	£326	£326	£380	£380	£407	£407	£388	£388	£494	£494
Economic affairs	£610	£610	£478	£478	£1,196	£1,196	£558	£558	£603	£603	£591	£591	£508	£508	£505	£505	£615	£615	£798	£798	£996	£996
Environment protection	£162	£162	£113	£113	£131	£131	£122	£122	£317	£317	£154	£154	£188	£188	£117	£117	£137	£137	£206	£206	£258	£258
Recreation, culture & religion	£79	£79	£91	£91	£146	£146	£114	£114	£106	£106	£89	£89	£83	£83	£90	£90	£110	£110	£162	£162	£199	£199
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663
Total	£8,852	£8,702	£8,607	£8,457	£10,535	£10,385	£9,455	£9,305	£9,416	£9,266	£8,469	£8,319	£8,683	£8,533	£8,882	£8,732	£9,105	£8,955	£10,110	£9,960	£10,898	£10,748
Part-time students																						
Health ¹	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579	£729	£579
Education	£5,061	£5,061	£4,936	£4,936	£5,764	£5,764	£5,527	£5,527	£5,405	£5,405	£4,726	£4,726	£5,004	£5,004	£5,237	£5,237	£5,241	£5,241	£5,779	£5,779	£5,986	£5,986
Social security ²	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Housing	£102	£102	£131	£131	£218	£218	£190	£190	£91	£91	£95	£95	£78	£78	£84	£84	£129	£129	£224	£224	£376	£376
General public services	£107	£107	£90	£90	£84	£84	£93	£93	£77	£77	£99	£99	£103	£103	£75	£75	£73	£73	£159	£159	£196	£196
Defence	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1	£1
Public order & safety	£337	£337	£374	£374	£602	£602	£457	£457	£424	£424	£322	£322	£326	£326	£380	£380	£407	£407	£388	£388	£494	£494
Economic affairs	£610	£610	£478	£478	£1,196	£1,196	£558	£558	£603	£603	£591	£591	£508	£508	£505	£505	£615	£615	£798	£798	£996	£996
Environment protection	£162	£162	£113	£113	£131	£131	£122	£122	£317	£317	£154	£154	£188	£188	£117	£117	£137	£137	£206	£206	£258	£258
Recreation, culture & religion	£79	£79	£91	£91	£146	£146	£114	£114	£106	£106	£89	£89	£83	£83	£90	£90	£110	£110	£162	£162	£199	£199
Non-apportioned & overseas ¹	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663	£1,663
Total	£8,852	£8,702	£8,607	£8,457	£10,535	£10,385	£9,455	£9,305	£9,416	£9,266	£8,469	£8,319	£8,683	£8,533	£8,882	£8,732	£9,105	£8,955	£10,110	£9,960	£10,898	£10,748

Note: All values constitute annual costs per head, presented in 2015/16 prices.

¹Indicates costs which do not differ between regions (due to a lack of breakdown in the underlying data). ²The costs associated with social security provision are applicable to students and adult dependants only.

Source: London Economics' analysis of various sources (see Section 3.3.3 for more detail).

A2.2 Benefits by mode

The following tables present the impact of the fee, non-fee and visitor income on the UK economy associated with international students in the 2015/16 (throughout their total study duration), per student and in aggregate, separately by domicile (EU versus non-EU), mode and level of study.

Table 24 Impact of tuition fee income associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£15,000	£30,000	£28,000	£0.01bn	£0.17bn	£0.19bn
Undergraduate degree	£45,000	£87,000	£73,000	£1.27bn	£4.90bn	£6.17bn
Other postgraduate	£11,000	£31,000	£23,000	£0.02bn	£0.07bn	£0.08bn
Higher degree (taught)	£12,000	£32,000	£28,000	£0.21bn	£2.77bn	£2.98bn
Higher degree (research)	£31,000	£81,000	£66,000	£0.13bn	£0.79bn	£0.92bn
Average	£31,000	£54,000	£49,000			
Total				£1.64bn	£8.70bn	£10.34bn
Part-time students						
Other undergraduate	£13,000	£27,000	£23,000	£0.03bn	£0.17bn	£0.20bn
Undergraduate degree	£21,000	£47,000	£32,000	£0.01bn	£0.01bn	£0.02bn
Other postgraduate	£10,000	£28,000	£20,000	£0.02bn	£0.06bn	£0.07bn
Higher degree (taught)	£11,000	£28,000	£20,000	£0.02bn	£0.06bn	£0.08bn
Higher degree (research)	£18,000	£48,000	£33,000	£0.01bn	£0.02bn	£0.03bn
Average	£12,000	£29,000	£22,000			
Total				£0.08bn	£0.32bn	£0.40bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: London Economics' analysis

Table 25 Impact of non-tuition fee income associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£21,000	£22,000	£22,000	£0.02bn	£0.13bn	£0.15bn
Undergraduate degree	£61,000	£65,000	£64,000	£1.71bn	£3.64bn	£5.35bn
Other postgraduate	£28,000	£28,000	£28,000	£0.04bn	£0.06bn	£0.10bn
Higher degree (taught)	£28,000	£28,000	£28,000	£0.49bn	£2.46bn	£2.95bn
Higher degree (research)	£74,000	£74,000	£74,000	£0.31bn	£0.72bn	£1.03bn
Average	£49,000	£44,000	£45,000			
Total				£2.57bn	£7.0bn	£9.57bn
Part-time students						
Other undergraduate	£75,000	£82,000	£80,000	£0.19bn	£0.53bn	£0.72bn
Undergraduate degree	£132,000	£143,000	£136,000	£0.05bn	£0.04bn	£0.08bn
Other postgraduate	£105,000	£105,000	£105,000	£0.16bn	£0.22bn	£0.38bn
Higher degree (taught)	£105,000	£105,000	£105,000	£0.19bn	£0.22bn	£0.40bn
Higher degree (research)	£185,000	£185,000	£185,000	£0.08bn	£0.09bn	£0.17bn
Average	£101,000	£96,000	£98,000			
Total				£0.67bn	£1.08bn	£1.76bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: *London Economics' analysis*

Table 26 Impact of visitor income associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£1,000	£1,000	£1,000	£0.0bn	£0.01bn	£0.01bn
Undergraduate degree	£4,000	£4,000	£4,000	£0.12bn	£0.20bn	£0.32bn
Other postgraduate	£1,000	£1,000	£1,000	£0.0bn	£0.0bn	£0.0bn
Higher degree (taught)	£1,000	£1,000	£1,000	£0.03bn	£0.11bn	£0.13bn
Higher degree (research)	£4,000	£3,000	£3,000	£0.02bn	£0.03bn	£0.05bn
Average	£3,000	£2,000	£2,000			
Total				£0.17bn	£0.35bn	£0.51bn
Part-time students						
Other undergraduate	£3,000	£3,000	£3,000	£0.01bn	£0.02bn	£0.03bn
Undergraduate degree	£6,000	£5,000	£5,000	£0.0bn	£0.0bn	£0.0bn
Other postgraduate	£3,000	£3,000	£3,000	£0.01bn	£0.01bn	£0.01bn
Higher degree (taught)	£3,000	£3,000	£3,000	£0.01bn	£0.01bn	£0.01bn
Higher degree (research)	£6,000	£5,000	£6,000	£0.0bn	£0.0bn	£0.01bn
Average	£4,000	£3,000	£3,000			
Total				£0.03bn	£0.03bn	£0.06bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: *London Economics' analysis*

A2.3 Costs by mode

The following tables present the costs of teaching grants, student support and other public service provision associated with international students in the 2015/16 (throughout their total study duration), per student and in aggregate, separately by domicile (EU versus non-EU), mode and level of study.

Table 27 Teaching grant costs associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£1,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£4,000	n.a.	£1,000	£0.10bn	n.a.	£0.10bn
Other postgraduate	£1,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£1,000	n.a.	£0	£0.02bn	n.a.	£0.02bn
Higher degree (research)	£0	n.a.	£0	£0bn	n.a.	£0bn
Average	£2,000	n.a.	£1,000			
Total				£0.13bn	n.a.	£0.13bn
Part-time students						
Other undergraduate	£1,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£2,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Other postgraduate	£1,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£1,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Higher degree (research)	£0	n.a.	£0	£0bn	n.a.	£0bn
Average	£1,000	n.a.	£0			
Total				£0.01bn	n.a.	£0.01bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: London Economics' analysis

Table 28 Student support costs associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£2,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£4,000	n.a.	£1,000	£0.11bn	n.a.	£0.11bn
Other postgraduate	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (research)	£0	n.a.	£0	£0bn	n.a.	£0bn
Average	£2,000	n.a.	£1,000			
Total				£0.12bn	n.a.	£0.12bn
Part-time students						
Other undergraduate	£1,000	n.a.	£0	£0.0bn	n.a.	£0.0bn
Undergraduate degree	£2,000	n.a.	£1,000	£0.0bn	n.a.	£0.0bn
Other postgraduate	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (taught)	£0	n.a.	£0	£0.0bn	n.a.	£0.0bn
Higher degree (research)	£0	n.a.	£0	£0bn	n.a.	£0bn
Average	£1,000	n.a.	£0			
Total				£0.0bn	n.a.	£0.0bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: *London Economics' analysis*

Table 29 Other public costs associated with 2015/16 cohort - by level of study, domicile and mode (per student in £ and total in £bn)

	Per student, £			Total, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Full-time students						
Other undergraduate	£6,000	£4,000	£4,000	£0.01bn	£0.02bn	£0.03bn
Undergraduate degree	£16,000	£10,000	£12,000	£0.44bn	£0.54bn	£0.98bn
Other postgraduate	£6,000	£4,000	£5,000	£0.01bn	£0.01bn	£0.02bn
Higher degree (taught)	£6,000	£5,000	£5,000	£0.10bn	£0.39bn	£0.49bn
Higher degree (research)	£14,000	£11,000	£12,000	£0.06bn	£0.11bn	£0.17bn
Average	£12,000	£7,000	£8,000			
Total				£0.61bn	£1.08bn	£1.69bn
Part-time students						
Other undergraduate	£35,000	£8,000	£16,000	£0.09bn	£0.05bn	£0.14bn
Undergraduate degree	£57,000	£13,000	£38,000	£0.02bn	£0.0bn	£0.02bn
Other postgraduate	£35,000	£10,000	£21,000	£0.05bn	£0.02bn	£0.08bn
Higher degree (taught)	£36,000	£10,000	£22,000	£0.06bn	£0.02bn	£0.08bn
Higher degree (research)	£59,000	£17,000	£38,000	£0.03bn	£0.01bn	£0.03bn
Average	£38,000	£9,000	£20,000			
Total				£0.25bn	£0.11bn	£0.36bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest £1,000 and total values are rounded to the nearest £0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: *London Economics' analysis*

A2.4 Total impact by level of study

Table 30 presents the total impact of international students throughout their total study duration, and in aggregate on the UK economy. This is presented separately by domicile (EU versus non-EU) and level of study. The total impact per EU-domiciled undergraduate student was estimated at **£87,000**, compared to **£39,000** for a taught higher degree. The comparative figures for non-EU students were **£147,000** for an undergraduate degree and **£58,000** for a taught higher degree.

Table 30 Total impact - by level of study and domicile (per student in £ and total in £bn)

	Total impact per student, £			Total impact, £bn.		
	EU	Non-EU	Average	EU	Non-EU	Total
Other undergraduate	£47,000	£78,000	£71,000	£0.16bn	£0.95bn	£1.11bn
Undergraduate degree	£87,000	£147,000	£126,000	£2.48bn	£8.24bn	£10.72bn
Other postgraduate	£59,000	£90,000	£77,000	£0.17bn	£0.38bn	£0.56bn
Higher degree (taught)	£39,000	£58,000	£55,000	£0.75bn	£5.21bn	£5.96bn
Higher degree (research)	£100,000	£150,000	£134,000	£0.46bn	£1.53bn	£2.0bn
Average	£68,000	£95,000	£88,000			
Total				£4.04bn	£16.31bn	£20.34bn

Note: Values per student (weighted by the relevant student populations) are rounded to the nearest thousand and total values are rounded to the nearest 0.01 billion. All estimates are presented in 2015/16 prices, and discounted to reflect net present values. Totals may not sum because of rounding.

Source: *London Economics' analysis*

A2.5 Total impact by parliamentary constituency

Table 31 presents the total impact of international students on the UK economy by parliamentary constituency.

Table 31 Total impact - by domicile and parliamentary constituency, £m

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Berwick-upon-Tweed	North East	110	£10.2m	Blackpool North and Cleveleys	North West	130	£12.8m
Bishop Auckland	North East	170	£15.3m	Blackpool South	North West	140	£14.2m
Blaydon	North East	195	£17.5m	Bolton North East	North West	210	£20.7m
Blyth Valley	North East	170	£15.2m	Bolton South East	North West	245	£24.4m
City of Durham	North East	1,230	£112.6m	Bolton West	North West	150	£14.8m
Darlington	North East	180	£16.5m	Bootle	North West	205	£20.2m
Easington	North East	200	£18.3m	Burnley	North West	150	£14.7m
Gateshead	North East	345	£31.8m	Bury North	North West	150	£14.4m
Hartlepool	North East	215	£19.7m	Bury South	North West	175	£17.3m
Hexham	North East	145	£13.4m	Carlisle	North West	185	£18.0m
Houghton and Sunderland South	North East	210	£19.4m	Cheadle	North West	165	£16.7m
Jarrow	North East	200	£18.6m	Chorley	North West	130	£12.6m
Middlesbrough	North East	640	£58.9m	City of Chester	North West	375	£37.0m
Middlesbrough South and East Cleveland	North East	210	£19.5m	Congleton	North West	130	£12.5m
Newcastle upon Tyne Central	North East	1,030	£94.0m	Copeland	North West	75	£7.1m
Newcastle upon Tyne East	North East	2,095	£191.9m	Crewe and Nantwich	North West	265	£26.2m
Newcastle upon Tyne North	North East	315	£28.8m	Denton and Reddish	North West	135	£13.2m
North Durham	North East	195	£18.0m	Eddisbury	North West	125	£12.2m
North Tyneside	North East	235	£21.9m	Ellesmere Port and Neston	North West	150	£14.4m
North West Durham	North East	180	£16.8m	Fylde	North West	110	£11.2m
Redcar	North East	205	£19.1m	Garston and Halewood	North West	205	£20.0m
Sedgefield	North East	150	£14.0m	Halton	North West	155	£15.5m
South Shields	North East	250	£22.5m	Hazel Grove	North West	110	£10.9m
Stockton North	North East	265	£24.1m	Heywood and Middleton	North West	175	£17.3m
Stockton South	North East	350	£32.1m	Hyndburn	North West	165	£16.2m
Sunderland Central	North East	635	£58.2m	Knowsley	North West	210	£20.6m
Tynemouth	North East	235	£21.4m	Lancaster and Fleetwood	North West	775	£76.5m
Wansbeck	North East	150	£13.9m	Leigh	North West	150	£14.8m
Washington and Sunderland West	North East	210	£19.6m	Liverpool, Riverside	North West	1,745	£172.3m
Altrincham and Sale West	North West	150	£14.7m	Liverpool, Walton	North West	215	£21.7m
Ashton-under-Lyne	North West	160	£15.8m	Liverpool, Wavertree	North West	530	£52.5m
Barrow and Furness	North West	95	£9.2m	Liverpool, West Derby	North West	215	£21.3m
Birkenhead	North West	150	£14.7m	Macclesfield	North West	130	£12.8m
Blackburn	North West	260	£25.7m	Makerfield	North West	135	£13.5m
Blackley and Broughton	North West	390	£38.3m	Manchester Central	North West	1,805	£178.7m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Manchester, Gorton	North West	1,230	£121.4m	Barnsley East	Yorkshire and the Humber	125	£11.4m
Manchester, Withington	North West	870	£86.4m	Batley and Spen	Yorkshire and the Humber	205	£18.8m
Morecambe and Lunesdale	North West	130	£13.1m	Beverley and Holderness	Yorkshire and the Humber	155	£14.6m
Oldham East and Saddleworth	North West	185	£18.3m	Bradford East	Yorkshire and the Humber	320	£29.5m
Oldham West and Royton	North West	215	£21.7m	Bradford South	Yorkshire and the Humber	210	£19.5m
Pendle	North West	155	£15.2m	Bradford West	Yorkshire and the Humber	705	£64.7m
Penrith and The Border	North West	100	£9.7m	Brigg and Goole	Yorkshire and the Humber	110	£10.2m
Preston	North West	660	£65.5m	Calder Valley	Yorkshire and the Humber	165	£15.1m
Ribble Valley	North West	135	£13.5m	Cleethorpes	Yorkshire and the Humber	140	£12.8m
Rochdale	North West	235	£23.1m	Colne Valley	Yorkshire and the Humber	225	£20.4m
Rossendale and Darwen	North West	150	£15.0m	Dewsbury	Yorkshire and the Humber	300	£28.0m
Salford and Eccles	North West	555	£54.9m	Don Valley	Yorkshire and the Humber	140	£12.8m
Sefton Central	North West	155	£15.5m	Doncaster Central	Yorkshire and the Humber	180	£16.6m
South Ribble	North West	140	£14.0m	Doncaster North	Yorkshire and the Humber	135	£12.2m
Southport	North West	155	£15.0m	East Yorkshire	Yorkshire and the Humber	140	£12.9m
St Helens North	North West	150	£14.9m	Elmet and Rothwell	Yorkshire and the Humber	145	£13.2m
St Helens South and Whiston	North West	165	£16.4m	Great Grimsby	Yorkshire and the Humber	180	£16.9m
Stalybridge and Hyde	North West	135	£13.7m	Halifax	Yorkshire and the Humber	205	£18.8m
Stockport	North West	150	£14.6m	Haltemprice and Howden	Yorkshire and the Humber	215	£19.9m
Stretford and Urmston	North West	210	£21.0m	Harrogate and Knaresborough	Yorkshire and the Humber	140	£12.9m
Tatton	North West	115	£11.5m	Hemsworth	Yorkshire and the Humber	125	£11.5m
Wallasey	North West	155	£15.1m	Huddersfield	Yorkshire and the Humber	560	£51.5m
Warrington North	North West	175	£16.9m	Keighley	Yorkshire and the Humber	175	£16.1m
Warrington South	North West	150	£14.9m	Kingston upon Hull East	Yorkshire and the Humber	160	£14.8m
Weaver Vale	North West	125	£12.1m	Kingston upon Hull North	Yorkshire and the Humber	705	£64.8m
West Lancashire	North West	320	£31.9m	Kingston upon Hull West and Hessle	Yorkshire and the Humber	185	£17.0m
Westmorland and Lonsdale	North West	95	£9.2m	Leeds Central	Yorkshire and the Humber	1,670	£153.9m
Wigan	North West	155	£15.4m	Leeds East	Yorkshire and the Humber	215	£20.0m
Wirral South	North West	110	£11.0m	Leeds North East	Yorkshire and the Humber	260	£23.6m
Wirral West	North West	105	£10.6m	Leeds North West	Yorkshire and the Humber	1,250	£114.9m
Workington	North West	75	£7.5m	Leeds West	Yorkshire and the Humber	400	£36.7m
Worsley and Eccles South	North West	160	£16.2m	Morley and Outwood	Yorkshire and the Humber	140	£12.5m
Wyre and Preston North	North West	160	£16.0m	Normanton, Pontefract and Castleford	Yorkshire and the Humber	130	£12.0m
Wythenshawe and Sale East	North West	205	£20.4m	Penistone and Stocksbridge	Yorkshire and the Humber	125	£11.7m
Barnsley Central	Yorkshire and the Humber	145	£13.3m	Pudsey	Yorkshire and the Humber	170	£15.5m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Richmond (Yorks)	Yorkshire and the Humber	115	£10.5m	Grantham and Stamford	East Midlands	130	£12.4m
Rother Valley	Yorkshire and the Humber	130	£12.1m	Harborough	East Midlands	310	£29.8m
Rotherham	Yorkshire and the Humber	165	£15.0m	High Peak	East Midlands	170	£16.6m
Scarborough and Whitby	Yorkshire and the Humber	215	£19.7m	Kettering	East Midlands	120	£11.8m
Scunthorpe	Yorkshire and the Humber	150	£13.8m	Leicester East	East Midlands	365	£35.1m
Selby and Ainsty	Yorkshire and the Humber	125	£11.7m	Leicester South	East Midlands	1,325	£127.6m
Sheffield Central	Yorkshire and the Humber	2,455	£226.0m	Leicester West	East Midlands	500	£48.1m
Sheffield South East	Yorkshire and the Humber	175	£16.3m	Lincoln	East Midlands	655	£63.1m
Sheffield, Brightside and Hillsborough	Yorkshire and the Humber	260	£23.8m	Loughborough	East Midlands	940	£90.5m
Sheffield, Hallam	Yorkshire and the Humber	675	£62.1m	Louth and Horncastle	East Midlands	110	£10.6m
Sheffield, Heeley	Yorkshire and the Humber	225	£20.5m	Mansfield	East Midlands	145	£13.8m
Shipley	Yorkshire and the Humber	155	£14.5m	Mid Derbyshire	East Midlands	120	£11.4m
Skipton and Ripon	Yorkshire and the Humber	120	£10.9m	Newark	East Midlands	150	£14.8m
Thirsk and Malton	Yorkshire and the Humber	110	£9.9m	North East Derbyshire	East Midlands	120	£11.5m
Wakefield	Yorkshire and the Humber	145	£13.4m	North West Leicestershire	East Midlands	145	£14.0m
Wentworth and Dearne	Yorkshire and the Humber	135	£12.1m	Northampton North	East Midlands	335	£32.5m
York Central	Yorkshire and the Humber	905	£83.4m	Northampton South	East Midlands	260	£25.1m
York Outer	Yorkshire and the Humber	430	£39.6m	Nottingham East	East Midlands	990	£95.7m
Amber Valley	East Midlands	110	£10.7m	Nottingham North	East Midlands	215	£20.8m
Ashfield	East Midlands	135	£12.8m	Nottingham South	East Midlands	1,900	£183.3m
Bassetlaw	East Midlands	140	£13.2m	Rushcliffe	East Midlands	285	£27.8m
Bolsover	East Midlands	120	£11.9m	Rutland and Melton	East Midlands	145	£13.9m
Boston and Skegness	East Midlands	110	£10.8m	Sherwood	East Midlands	120	£11.6m
Bosworth	East Midlands	130	£12.4m	Sleaford and North Hykeham	East Midlands	135	£12.8m
Broxtowe	East Midlands	280	£26.9m	South Derbyshire	East Midlands	135	£13.1m
Charnwood	East Midlands	175	£16.8m	South Holland and The Deepings	East Midlands	95	£9.2m
Chesterfield	East Midlands	135	£12.8m	South Leicestershire	East Midlands	150	£14.6m
Corby	East Midlands	150	£14.8m	South Northamptonshire	East Midlands	135	£13.0m
Daventry	East Midlands	125	£12.2m	Wellingborough	East Midlands	140	£13.8m
Derby North	East Midlands	535	£51.7m	Aldridge-Brownhills	West Midlands	160	£14.2m
Derby South	East Midlands	280	£26.7m	Birmingham, Edgbaston	West Midlands	1,015	£92.0m
Derbyshire Dales	East Midlands	90	£8.9m	Birmingham, Erdington	West Midlands	335	£30.3m
Erewash	East Midlands	135	£12.9m	Birmingham, Hall Green	West Midlands	605	£55.2m
Gainsborough	East Midlands	115	£11.3m	Birmingham, Hodge Hill	West Midlands	535	£48.5m
Gedling	East Midlands	150	£14.5m	Birmingham, Ladywood	West Midlands	1,700	£154.0m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Birmingham, Northfield	West Midlands	295	£27.0m	Stourbridge	West Midlands	195	£17.7m
Birmingham, Perry Barr	West Midlands	665	£60.3m	Stratford-on-Avon	West Midlands	160	£14.6m
Birmingham, Selly Oak	West Midlands	1,375	£124.6m	Sutton Coldfield	West Midlands	220	£19.8m
Birmingham, Yardley	West Midlands	335	£30.5m	Tamworth	West Midlands	195	£17.6m
Bromsgrove	West Midlands	195	£17.9m	Telford	West Midlands	195	£17.5m
Burton	West Midlands	210	£19.1m	The Wrekin	West Midlands	320	£29.1m
Cannock Chase	West Midlands	190	£17.4m	Walsall North	West Midlands	210	£18.8m
Coventry North East	West Midlands	525	£47.3m	Walsall South	West Midlands	365	£33.1m
Coventry North West	West Midlands	570	£51.3m	Warley	West Midlands	360	£32.6m
Coventry South	West Midlands	1,560	£141.7m	Warwick and Leamington	West Midlands	665	£60.3m
Dudley North	West Midlands	195	£17.8m	West Bromwich East	West Midlands	255	£22.9m
Dudley South	West Midlands	160	£14.4m	West Bromwich West	West Midlands	235	£20.9m
Halesowen and Rowley Regis	West Midlands	200	£18.4m	West Worcestershire	West Midlands	185	£16.5m
Hereford and South Herefordshire	West Midlands	210	£18.8m	Wolverhampton North East	West Midlands	310	£28.1m
Kenilworth and Southam	West Midlands	315	£28.4m	Wolverhampton South East	West Midlands	275	£25.0m
Lichfield	West Midlands	170	£15.4m	Wolverhampton South West	West Midlands	450	£40.8m
Ludlow	West Midlands	125	£11.5m	Worcester	West Midlands	475	£43.0m
Meriden	West Midlands	230	£20.7m	Wyre Forest	West Midlands	175	£16.3m
Mid Worcestershire	West Midlands	170	£15.7m	Basildon and Billericay	East of England	130	£11.9m
Newcastle-under-Lyme	West Midlands	640	£57.7m	Bedford	East of England	395	£36.6m
North Herefordshire	West Midlands	140	£12.6m	Braintree	East of England	130	£12.2m
North Shropshire	West Midlands	220	£19.9m	Brentwood and Ongar	East of England	150	£14.0m
North Warwickshire	West Midlands	165	£14.7m	Broadland	East of England	120	£11.1m
Nuneaton	West Midlands	190	£17.2m	Broxbourne	East of England	200	£18.8m
Redditch	West Midlands	210	£18.9m	Bury St Edmunds	East of England	150	£14.3m
Rugby	West Midlands	190	£17.0m	Cambridge	East of England	1,800	£167.6m
Shrewsbury and Atcham	West Midlands	215	£19.4m	Castle Point	East of England	110	£10.2m
Solihull	West Midlands	240	£21.9m	Central Suffolk and North Ipswich	East of England	135	£12.8m
South Staffordshire	West Midlands	205	£18.5m	Chelmsford	East of England	235	£21.8m
Stafford	West Midlands	400	£36.0m	Clacton	East of England	105	£9.7m
Staffordshire Moorlands	West Midlands	150	£13.5m	Colchester	East of England	530	£49.3m
Stoke-on-Trent Central	West Midlands	600	£54.7m	Epping Forest	East of England	200	£19.0m
Stoke-on-Trent North	West Midlands	240	£21.8m	Great Yarmouth	East of England	155	£14.5m
Stoke-on-Trent South	West Midlands	210	£19.1m	Harlow	East of England	165	£15.1m
Stone	West Midlands	175	£15.9m	Harwich and North Essex	East of England	340	£31.6m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Hemel Hempstead	East of England	185	£17.4m	Thurrock	East of England	200	£18.9m
Hertford and Stortford	East of England	180	£17.0m	Watford	East of England	295	£27.4m
Hertsmere	East of England	285	£26.5m	Waveney	East of England	140	£13.0m
Hitchin and Harpenden	East of England	170	£15.7m	Welwyn Hatfield	East of England	905	£84.2m
Huntingdon	East of England	175	£16.2m	West Suffolk	East of England	165	£15.0m
Ipswich	East of England	245	£22.4m	Witham	East of England	120	£11.4m
Luton North	East of England	320	£29.8m	Barking	London	740	£61.9m
Luton South	East of England	725	£67.6m	Battersea	London	510	£42.6m
Maldon	East of England	115	£10.5m	Beckenham	London	230	£19.3m
Mid Bedfordshire	East of England	265	£24.6m	Bermondsey and Old Southwark	London	1,590	£133.2m
Mid Norfolk	East of England	130	£11.7m	Bethnal Green and Bow	London	1,525	£127.8m
North East Bedfordshire	East of England	160	£14.8m	Bexleyheath and Crayford	London	285	£23.7m
North East Cambridgeshire	East of England	135	£12.6m	Brent Central	London	1,015	£84.8m
North East Hertfordshire	East of England	150	£14.3m	Brent North	London	1,065	£89.4m
North Norfolk	East of England	85	£8.1m	Brentford and Isleworth	London	815	£68.5m
North West Cambridgeshire	East of England	185	£17.2m	Bromley and Chislehurst	London	260	£21.9m
North West Norfolk	East of England	130	£12.3m	Camberwell and Peckham	London	1,090	£91.2m
Norwich North	East of England	150	£14.2m	Carshalton and Wallington	London	305	£25.5m
Norwich South	East of England	910	£84.6m	Chelsea and Fulham	London	665	£55.8m
Peterborough	East of England	230	£21.5m	Chingford and Woodford Green	London	335	£28.2m
Rayleigh and Wickford	East of England	115	£11.0m	Chipping Barnet	London	500	£41.7m
Rochford and Southend East	East of England	205	£19.1m	Cities of London and Westminster	London	1,175	£98.4m
Saffron Walden	East of England	180	£16.5m	Croydon Central	London	490	£41.0m
South Basildon and East Thurrock	East of England	150	£14.2m	Croydon North	London	875	£73.3m
South Cambridgeshire	East of England	295	£27.4m	Croydon South	London	390	£32.6m
South East Cambridgeshire	East of England	170	£16.0m	Dagenham and Rainham	London	405	£34.1m
South Norfolk	East of England	130	£12.1m	Dulwich and West Norwood	London	595	£49.8m
South Suffolk	East of England	115	£10.6m	Ealing Central and Acton	London	745	£62.2m
South West Bedfordshire	East of England	185	£17.6m	Ealing North	London	655	£54.5m
South West Hertfordshire	East of England	185	£17.5m	Ealing, Southall	London	745	£62.3m
South West Norfolk	East of England	135	£12.5m	East Ham	London	1,880	£157.3m
Southend West	East of England	135	£12.7m	Edmonton	London	710	£59.7m
St Albans	East of England	215	£20.3m	Eltham	London	505	£42.5m
Stevenage	East of England	195	£18.1m	Enfield North	London	470	£39.2m
Suffolk Coastal	East of England	120	£11.4m	Enfield, Southgate	London	590	£49.2m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Erith and Thamesmead	London	650	£54.4m	Tooting	London	675	£56.3m
Feltham and Heston	London	755	£63.1m	Tottenham	London	1,085	£90.9m
Finchley and Golders Green	London	725	£60.6m	Twickenham	London	510	£42.8m
Greenwich and Woolwich	London	950	£79.9m	Uxbridge and South Ruislip	London	1,120	£93.8m
Hackney North and Stoke Newington	London	860	£71.7m	Vauxhall	London	910	£76.2m
Hackney South and Shoreditch	London	990	£82.8m	Walthamstow	London	745	£62.4m
Hammersmith	London	1,010	£84.2m	West Ham	London	1,835	£153.6m
Hampstead and Kilburn	London	810	£67.7m	Westminster North	London	830	£69.5m
Harrow East	London	605	£50.6m	Wimbledon	London	385	£32.0m
Harrow West	London	645	£53.8m	Aldershot	South East	220	£20.2m
Hayes and Harlington	London	710	£59.2m	Arundel and South Downs	South East	135	£12.6m
Hendon	London	930	£78.1m	Ashford	South East	200	£18.1m
Holborn and St Pancras	London	2,100	£176.0m	Aylesbury	South East	185	£17.1m
Hornchurch and Upminster	London	290	£24.4m	Banbury	South East	200	£17.8m
Hornsey and Wood Green	London	725	£60.7m	Basingstoke	South East	175	£16.0m
Ilford North	London	510	£42.6m	Beaconsfield	South East	185	£16.8m
Ilford South	London	1,070	£89.6m	Bexhill and Battle	South East	150	£13.4m
Islington North	London	745	£62.5m	Bognor Regis and Littlehampton	South East	200	£18.0m
Islington South and Finsbury	London	1,200	£100.3m	Bracknell	South East	170	£15.6m
Kensington	London	930	£77.9m	Brighton, Kemptown	South East	690	£62.9m
Kingston and Surbiton	London	1,035	£86.5m	Brighton, Pavilion	South East	1,250	£113.7m
Lewisham East	London	520	£43.5m	Buckingham	South East	200	£17.8m
Lewisham West and Penge	London	490	£41.3m	Canterbury	South East	1,420	£129.3m
Lewisham, Deptford	London	1,110	£92.9m	Chatham and Aylesford	South East	210	£19.0m
Leyton and Wanstead	London	840	£70.3m	Chesham and Amersham	South East	150	£13.8m
Mitcham and Morden	London	630	£52.7m	Chichester	South East	325	£29.6m
Old Bexley and Sidcup	London	315	£26.4m	Crawley	South East	205	£18.5m
Orpington	London	210	£17.6m	Dartford	South East	185	£17.1m
Poplar and Limehouse	London	1,065	£88.9m	Dover	South East	170	£15.7m
Putney	London	645	£54.2m	East Hampshire	South East	155	£14.4m
Richmond Park	London	610	£50.9m	East Surrey	South East	180	£16.2m
Romford	London	280	£23.5m	East Worthing and Shoreham	South East	170	£15.3m
Ruislip, Northwood and Pinner	London	310	£26.1m	Eastbourne	South East	335	£30.3m
Streatham	London	645	£54.0m	Eastleigh	South East	180	£16.3m
Sutton and Cheam	London	285	£23.9m	Epsom and Ewell	South East	275	£24.8m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Esher and Walton	South East	205	£18.6m	Rochester and Strood	South East	285	£26.0m
Fareham	South East	190	£17.1m	Romsey and Southampton North	South East	690	£63.1m
Faversham and Mid Kent	South East	145	£13.0m	Runnymede and Weybridge	South East	590	£53.6m
Folkestone and Hythe	South East	215	£19.6m	Sevenoaks	South East	150	£13.6m
Gillingham and Rainham	South East	355	£32.3m	Sittingbourne and Sheppey	South East	170	£15.6m
Gosport	South East	170	£15.6m	Slough	South East	485	£43.9m
Gravesham	South East	200	£18.2m	South Thanet	South East	225	£20.3m
Guildford	South East	830	£75.5m	South West Surrey	South East	240	£21.9m
Hastings and Rye	South East	220	£19.9m	Southampton, Itchen	South East	705	£64.0m
Havant	South East	155	£14.1m	Southampton, Test	South East	985	£89.4m
Henley	South East	150	£13.8m	Spelthorne	South East	155	£14.2m
Horsham	South East	165	£14.7m	Surrey Heath	South East	180	£16.2m
Hove	South East	310	£28.2m	Tonbridge and Malling	South East	160	£14.6m
Isle of Wight	South East	210	£19.1m	Tunbridge Wells	South East	190	£17.7m
Lewes	South East	155	£14.0m	Wantage	South East	155	£14.2m
Maidenhead	South East	165	£14.7m	Wealden	South East	165	£14.6m
Maidstone and The Weald	South East	190	£17.6m	Winchester	South East	505	£45.8m
Meon Valley	South East	150	£14.0m	Windsor	South East	200	£18.3m
Mid Sussex	South East	170	£15.4m	Witney	South East	150	£13.4m
Milton Keynes North	South East	295	£26.9m	Woking	South East	220	£20.1m
Milton Keynes South	South East	260	£23.6m	Wokingham	South East	200	£18.0m
Mole Valley	South East	145	£13.3m	Worthing West	South East	160	£14.6m
New Forest East	South East	130	£11.9m	Wycombe	South East	425	£38.7m
New Forest West	South East	115	£10.3m	Bath	South West	895	£85.3m
Newbury	South East	145	£12.9m	Bournemouth East	South West	365	£35.0m
North East Hampshire	South East	135	£12.3m	Bournemouth West	South West	685	£65.1m
North Thanet	South East	170	£15.8m	Bridgwater and West Somerset	South West	130	£12.2m
North West Hampshire	South East	135	£12.3m	Bristol East	South West	275	£25.9m
Oxford East	South East	1,965	£178.9m	Bristol North West	South West	380	£36.1m
Oxford West and Abingdon	South East	635	£58.2m	Bristol South	South West	195	£18.6m
Portsmouth North	South East	230	£20.9m	Bristol West	South West	1,495	£142.4m
Portsmouth South	South East	1,505	£136.9m	Camborne and Redruth	South West	210	£20.1m
Reading East	South East	905	£82.2m	Central Devon	South West	90	£8.8m
Reading West	South East	200	£18.2m	Cheltenham	South West	425	£40.2m
Reigate	South East	170	£15.3m	Chippenham	South West	125	£11.6m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Christchurch	South West	100	£9.1m	Torbay	South West	125	£12.0m
Devizes	South West	105	£9.8m	Torrige and West Devon	South West	105	£9.9m
East Devon	South West	105	£9.8m	Totnes	South West	105	£9.7m
Exeter	South West	920	£87.7m	Truro and Falmouth	South West	340	£32.6m
Filton and Bradley Stoke	South West	315	£29.9m	Wells	South West	135	£13.0m
Forest of Dean	South West	135	£13.0m	West Dorset	South West	100	£9.4m
Gloucester	South West	225	£21.3m	Weston-Super-Mare	South West	165	£15.5m
Kingswood	South West	125	£11.5m	Yeovil	South West	110	£10.7m
Mid Dorset and North Poole	South West	100	£9.6m	Ynys Mon	Wales	165	£12.8m
Newton Abbot	South West	105	£9.8m	Delyn	Wales	140	£10.7m
North Cornwall	South West	105	£10.2m	Alyn and Deeside	Wales	170	£12.9m
North Devon	South West	110	£10.4m	Wrexham	Wales	260	£19.8m
North Dorset	South West	100	£9.4m	Llanelli	Wales	170	£13.1m
North East Somerset	South West	150	£14.4m	Gower	Wales	185	£13.9m
North Somerset	South West	115	£11.0m	Swansea West	Wales	1,215	£92.1m
North Swindon	South West	130	£12.6m	Swansea East	Wales	210	£16.2m
North Wiltshire	South West	100	£9.4m	Aberavon	Wales	130	£10.1m
Plymouth, Moor View	South West	170	£16.3m	Cardiff Central	Wales	1,995	£151.4m
Plymouth, Sutton and Devonport	South West	1,020	£97.1m	Cardiff North	Wales	555	£42.0m
Poole	South West	150	£14.0m	Rhondda	Wales	200	£15.0m
Salisbury	South West	110	£10.5m	Torfaen	Wales	165	£12.4m
Somerton and Frome	South West	115	£11.0m	Monmouth	Wales	150	£11.3m
South Dorset	South West	105	£10.2m	Newport East	Wales	260	£19.6m
South East Cornwall	South West	125	£11.8m	Newport West	Wales	285	£21.8m
South Swindon	South West	165	£15.8m	Arfon	Wales	675	£51.0m
South West Devon	South West	130	£12.3m	Aberconwy	Wales	130	£9.9m
South West Wiltshire	South West	110	£10.4m	Clwyd West	Wales	160	£12.1m
St Austell and Newquay	South West	140	£13.3m	Vale of Clwyd	Wales	180	£13.6m
St Ives	South West	115	£11.1m	Dwyfor Meirionnydd	Wales	105	£8.1m
Stroud	South West	125	£12.0m	Clwyd South	Wales	160	£12.1m
Taunton Deane	South West	170	£16.1m	Montgomeryshire	Wales	100	£7.3m
Tewkesbury	South West	130	£12.6m	Ceredigion	Wales	860	£65.2m
The Cotswolds	South West	165	£15.5m	Preseli Pembrokeshire	Wales	130	£9.9m
Thornbury and Yate	South West	110	£10.3m	Carmarthen West and South Pembrokeshire	Wales	205	£15.5m
Tiverton and Honiton	South West	90	£8.7m	Carmarthen East and Dinefwr	Wales	140	£10.4m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact	Parliamentary Constituency	Region	# of starters	Net impact
Brecon and Radnorshire	Wales	105	£8.3m	Edinburgh North and Leith	Scotland	820	£62.8m
Neath	Wales	160	£12.2m	Edinburgh South	Scotland	1,105	£84.6m
Cynon Valley	Wales	180	£13.7m	Edinburgh South West	Scotland	1,030	£78.7m
Merthyr Tydfil and Rhymney	Wales	185	£13.8m	Edinburgh West	Scotland	305	£23.6m
Blaenau Gwent	Wales	140	£10.7m	Falkirk	Scotland	270	£20.7m
Bridgend	Wales	170	£12.9m	Glasgow Central	Scotland	1,765	£134.8m
Ogmore	Wales	145	£11.2m	Glasgow East	Scotland	345	£26.4m
Pontypridd	Wales	445	£33.8m	Glasgow North	Scotland	1,360	£104.1m
Caerphilly	Wales	185	£14.2m	Glasgow North East	Scotland	510	£39.1m
Islwyn	Wales	160	£11.9m	Glasgow North West	Scotland	505	£38.5m
Vale of Glamorgan	Wales	220	£16.5m	Glasgow South	Scotland	390	£29.8m
Cardiff West	Wales	300	£22.7m	Glasgow South West	Scotland	360	£27.6m
Cardiff South and Penarth	Wales	375	£28.6m	Glenrothes	Scotland	235	£18.0m
Aberdeen North	Scotland	1,455	£111.3m	Gordon	Scotland	235	£18.2m
Aberdeen South	Scotland	670	£51.2m	Inverclyde	Scotland	310	£23.8m
Airdrie and Shotts	Scotland	245	£18.4m	Inverness, Nairn, Badenoch and Strathspey	Scotland	185	£14.0m
Angus	Scotland	220	£17.0m	Kilmarnock and Loudoun	Scotland	300	£22.8m
Argyll and Bute	Scotland	155	£11.6m	Kirkcaldy and Cowdenbeath	Scotland	260	£19.6m
Ayr, Carrick and Cumnock	Scotland	260	£20.0m	Lanark and Hamilton East	Scotland	275	£21.2m
Banff and Buchan	Scotland	190	£14.6m	Linlithgow and East Falkirk	Scotland	250	£19.0m
Berwickshire, Roxburgh and Selkirk	Scotland	205	£16.0m	Livingston	Scotland	290	£22.3m
Caithness, Sutherland and Easter Ross	Scotland	90	£6.9m	Midlothian	Scotland	200	£15.3m
Central Ayrshire	Scotland	270	£20.6m	Moray	Scotland	175	£13.2m
Coatbridge, Chryston and Bellshill	Scotland	290	£22.3m	Motherwell and Wishaw	Scotland	275	£21.0m
Cumbernauld, Kilsyth and Kirkintilloch East	Scotland	305	£23.5m	Na h-Eileanan An Iar	Scotland	45	£3.6m
Dumfries and Galloway	Scotland	160	£12.3m	North Ayrshire and Arran	Scotland	290	£22.2m
Dumfriesshire, Clydesdale and Tweeddale	Scotland	145	£10.8m	North East Fife	Scotland	930	£71.0m
Dundee East	Scotland	405	£30.7m	Ochil and South Perthshire	Scotland	230	£17.5m
Dundee West	Scotland	1,255	£96.0m	Orkney and Shetland	Scotland	55	£4.0m
Dunfermline and West Fife	Scotland	235	£18.1m	Paisley and Renfrewshire North	Scotland	325	£24.9m
East Dunbartonshire	Scotland	345	£26.1m	Paisley and Renfrewshire South	Scotland	385	£29.3m
East Kilbride, Strathaven and Lesmahagow	Scotland	335	£25.5m	Perth and North Perthshire	Scotland	245	£18.8m
East Lothian	Scotland	305	£23.2m	Ross, Skye and Lochaber	Scotland	90	£6.9m
East Renfrewshire	Scotland	380	£29.3m	Rutherglen and Hamilton West	Scotland	315	£24.0m
Edinburgh East	Scotland	1,610	£123.4m	Stirling	Scotland	680	£52.2m

Table 31 Continued

Parliamentary Constituency	Region	# of starters	Net impact
West Aberdeenshire and Kincardine	Scotland	205	£16.0m
West Dunbartonshire	Scotland	295	£22.6m
Belfast East	Northern Ireland	95	£6.5m
Belfast North	Northern Ireland	115	£8.0m
Belfast South	Northern Ireland	425	£29.1m
Belfast West	Northern Ireland	130	£9.2m
East Antrim	Northern Ireland	135	£9.3m
East Londonderry	Northern Ireland	165	£11.3m
Fermanagh & South Tyrone	Northern Ireland	105	£7.4m
Foyle	Northern Ireland	165	£11.7m
Lagan Valley	Northern Ireland	105	£7.1m
Mid Ulster	Northern Ireland	130	£9.0m
Newry & Armagh	Northern Ireland	130	£9.0m
North Antrim	Northern Ireland	105	£7.3m
North Down	Northern Ireland	85	£6.0m
South Antrim	Northern Ireland	105	£7.0m
South Down	Northern Ireland	125	£8.6m
Strangford	Northern Ireland	85	£6.1m
Upper Bann	Northern Ireland	130	£9.0m
West Tyrone	Northern Ireland	105	£7.1m

Note: Number of students are rounded to the nearest five and total values are rounded to the nearest million. All estimates are presented in 2015/16 prices, and discounted to reflect net present values.

Source: London Economics' analysis



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