PUBLIC FIRST

Counting the cost

Modelling the economic impact of a potential levy on international student fees

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Contents

Executive summary

In May 2025, HM Government released a white paper called “Restoring Control over the Immigration System”. One policy proposed in this paper was a levy on international student fees, to be “reinvested into the higher education and skills system.” Although no details were given, the technical annex proposes a 6% flat levy on all international fee income.

The technical annex went on to project the impact that this price rise would have on international student numbers. To estimate this, the Home Office uses a London Economics estimate of price elasticity of demand of EU students from 2021. However, as the technical annex makes clear, this assumes that non-EU students in 2025 have the same price sensitivity as EU students in 2021. In order to give an accurate assessment of the impact this proposed levy could have on international student numbers, we need updated and extended data.

This work extends and updates previous modelling on elasticity of demand from international students attending UK universities (London Economics, 2021). It provides updated assessments as of 2025, and in particular focuses on non-EU student demand, representing 90% of all current international students in the UK.

We find that:

- Price elasticity of demand among non-EU students is **greater** than that found for EU students, at **-0.57 in the short run**
- When we break this down into undergraduate and postgraduate demand elasticity, this is almost **three times the size** of the estimates of elasticity that are currently being used to predict the impact of price rises on demand. **That means, if government models on the basis that 2021 EU student price elasticity is the same for non-EU students in 2025, they are drastically underestimating the impact of price increases on demand; almost three times the number of non-EU students would be put off coming to the UK than predicted by the 2021 estimate, in first year of any price rise.**
- In the long-run, we do not find a statistically significant effect of demand elasticity from non-EU students at an aggregate level. Even so, it would take 5 years, all else being constant, for the sector to recover half of those lost student numbers. However, when decomposing elasticity into that of undergraduates and postgraduates, we do find

statistically significant results in both the short term and long term, for undergraduates (-0.54 and -0.25) and postgraduates (-0.81 and -0.46) respectively.

- We do not find statistically significant results in replicating London Economics methodology for EU students in the run up to 2021; we hypothesise this because of relatively lack of data and volatility in recent years. We utilise London Economics data for EU demand elasticity when making wider calculations of impact on the sector.
- We project that if any new levy means fees increase by 6.38% in real terms, around 4.68% fewer non-EU students will enrol, the first year that any levy is introduced. This equates to a decrease of 5.17% of non-EU postgraduate students and a decrease of 3.38% of non-EU undergraduates. We also forecast that both undergraduate and postgraduate non-EU enrolment numbers will permanently shrink in the long run, by 1.53% and 2.94%, respectively.
- **Combining the non-EU and EU estimates of decreases in demand, we project that, with a 6.38% rise in international student fees, the sector will lose over 16,100 international students in the first year the levy is introduced.**
- **In financial terms, such a decline in student numbers would see an approximately £240 million loss in fee income in the first year the levy was introduced. Over 5 years, the total number of international student enrollments could decrease by over 77,000 students, and could cost the sector around £2.2bn.**
- Were the reduction in international student revenue paid for entirely by reducing subsidised domestic students, **there would be 33,000 fewer domestic places in Year 1 of any levy. Over 5 years, this could be around 135,000 fewer domestic places available.**
- Alternatively, if the reduction in revenue were paid for from the research budget, the amount of money available for research and innovation could shrink by 1.53%. To give a sense of scale, over five years this is **roughly equivalent to 2.9x the budget for the new Edinburgh supercomputer, or the entire increase to the defence budget announced in the 2025 Spring Statement.**
- Regional impact of such an economic contraction is unsurprisingly focussed around university heavy constituencies. The ten most affected constituencies would lose almost £40m each annually in GVA contraction; these constituencies are spread across the country, and cover London, Coventry, Manchester, Glasgow and other cities where student populations are high.

This work has been commissioned by a consortium of funders: Durham University, King's College London, University College London, University of Leeds, University of Nottingham, University of Sheffield, and University of York. But it is a wholly independent report and all analysis and conclusions are wholly that of Public First and Public First alone.

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Introduction

The Home Office White Paper

In May 2025, HM Government released a white paper called "Restoring Control over the Immigration System". One policy proposed in this paper was a levy on international student fees, to be "reinvested into the higher education and skills system."[1] Although no details were given on the amount, the technical annex proposes a 6% flat levy on all international fee income.[2]

It is no secret that universities are, at present, experiencing financial constraints. According to the latest Transparent Approach to Costing (TRAC) data, in the 2023/24 academic year, the higher education sector was more than £2 billion in deficit.[3]

If the proposed levy on international students is introduced, it is therefore unlikely that universities will simply be able to absorb the cost. It is therefore reasonable to assume - and indeed government rhetoric makes clear that this is also the government assumption - that they will need to pass at least some of the cost of the levy on to their incoming students.

In 2021, London Economics calculated the price elasticity of demand of EU students, using data from 2000-01 academic year, up to and including data from 2016-17. Now, in 2025, this research updates and expands this analysis, to provide an authoritative forecast for what the implications of a 6% levy on international student fees might be on student numbers, university finances, and the national and local economies of the places where students live, shop and work.

Our research question

When HM Government released "Restoring Control over the Immigration System" and proposed the levy, the technical annex suggested a 6% flat levy on all international fee income.

The technical annex to the White Paper models likely impact on student flows based on London Economics 2021 modelling of elasticity of demand from international students.[4] These figures (-0.268 price elasticity of demand for UG, and -0.261 for PG) led to a government suggestion of "a 1.8% fall in international undergraduate demand, and 1.6% fall in international postgraduate demand in the short-run, and 2.4% fall in international undergraduate demand in the long run."

[1] https://assets.publishing.service.gov.uk/media/6821aec3f16c0654b19060ac/restoring-control-over-the-immigration-system-white-paper.pdf

[2] https://www.gov.uk/government/publications/restoring-control-over-the-immigration-system-white-paper/restoring-control-over-the-immigration-system-technical-annex

[3] https://www.officeforstudents.org.uk/media/zntnyj2n/annual-trac-2023-24.pdf

[4] https://londoneconomics.co.uk/wp-content/uploads/2021/02/DfE-Impact-of-potential-policy-changes-on-demand-for-UK-HE-Full-report-FINAL-SENT2CLIENT-Published-February-2021.pdf

But the technical annex also acknowledges that a) this elasticity estimate is based on EU students only, not all international students, and b) based on behaviour in the run up to 2017 (the latest data that the 2021 study used). Continuing to project the consequences of the levy solely on this basis risks not painting the full picture, for four major reasons:

1) **EU students only make up 10% of the international student population.** According to HESA data, just 10% of international students studying in the UK in the 2023/24 academic year came from EU countries.[5]
2) **EU students are not demographically representative of all international students.** Additionally to the obvious geographic differences between EU vs non-EU students, EU students are, demographically speaking, very different to non-EU students. For example, while 35% of all EU students were in postgraduate study in 2023/24, 62% of non-EU students were at the same level. Unsurprisingly then, but still importantly, EU students tend to be younger than non-EU students (with a median age of 20 to 21 years, compared to 22 to 23 years old for non-EU students).[6] The EU student population also contains a greater proportion of women than the non-EU student population; 61% of EU students were female at the 2021 census, compared to 51% of non-EU students.[7] Each of these differences has the potential to make the demand elasticity of the two cohorts very different. However, the extent to which this is true can only be known when demand elasticity is calculated for EU and non-EU populations separately.
3) **Some EU students, both historically and contemporaneously, have access to different levels of government student finance than non-EU students, so will respond to price changes very differently.** Until the UK left the European Union in 2019, EU students were, for the most part, entitled to a very similar level of student loans and grants as UK domestic students. Even now post-Brexit, EU nationals with settled status in the UK can apply for a student loan. This is not the case for non-EU students, who do not tend to be eligible for most loans and grants. As a result, we might expect EU students to respond very differently to price changes than non-EU students, because some of them have greater levels of financial support to study in the UK.
4) **The macro-economic factors impacting demand and global movement of people to the UK are very different in EU and non-EU countries, and have changed a lot since 2017.** There have been various global economic events since 2017, the consequences of Brexit, a number of wars, the Covid-19 pandemic and seismic shifts in international student policy from countries around the world to name just a few. Every country and every region has responded to these economic events differently. Indeed, countries who supply large proportions of the UK international student population have also had their own internal economic events to contend with.[8] Because of these shifts, it is very difficult to directly project the economic patterns of non-EU countries and students using historic patterns of EU countries and students.

All this is to say, EU students are not a representative sample of all international students in the UK. But as the government White Paper shows, in the absence of any other data, London Economics' 2021

[5] https://www.hesa.ac.uk/data-and-analysis/students/where-from
[6] https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/theinternationalstudentpopulationinenglandandwalescensus2021/2023-04-17
[7] ibid.
[8] These countries supplying a high proportion of international students to the UK include Nigeria (https://www.wfp.org/news/economic-hardship-climate-crisis-and-violence-northeast-projected-push-331-million-nigerians#:~:text=Nigeria%20grapples%20with%20economic%20hardship,amid%20record%20high%20transportation%20costs.) and China (https://www.eiu.com/n/in-charts-the-changing-picture-of-chinas-outbound-study/) to name two examples.

modelling has been used to estimate the impacts that a levy, and subsequent tuition fee rises, might have on student demand across the globe.

We were therefore commissioned to answer three questions:

1) What is the latest estimate of the elasticity of demand from non-EU students, and EU students?
2) Based on assumed responses in terms of pricing, what might the economic impact be on the university sector were such a levy introduced?
3) Based on Public First's previous modelling of the economic contributions that international students make to individual constituencies, what might the impact of the levy be on different areas of the UK?

In this analysis, we use historical data starting from the 2017-18 academic year, up to and including data from the academic year 2023-24. These are the entirety of the publicly available datasets on the Higher Education Statistics Agency (HESA)'s website.

Section 1: Elasticity of student demand

1a: Estimating overall non-EU student elasticity

Using the latest data on student numbers and course prices, we estimate that the price elasticity of demand among non-EU students is **greater** than that found for EU students, at **-0.57 in the short run**. This number means that for every 1% increase in fees (in real terms), demand would drop by 0.57% the first year of this fee increase. This figure is statistically significant (indicated by the darker orange shading in Table 1).

	Short-run Price Elasticity	Short-run p-value	Long-run Price Elasticity	Long-run p-value	Speed of convergence (% per year)	Half life (years)
PF non-EU, all students (2025)	-0.57	0.00	0.02	*0.67*	13	5.0

Table 1: Estimating price elasticity of all non-EU students

In the long-run, we do not find a statistically significant effect (indicated by the pale orange shading in Table 1) at the aggregate level. It is therefore not possible to say what a long run equilibrium might be. However, as shown in Table 1, even if we assume that the model's inability to detect a long run effect is because there is no long run effect, then the recovery rate is only 13% each year. Practically, this means that, after 5 years of the higher prices, and if all else remains constant, the sector could recover only half of their lost non-EU student numbers in 5 years.

What is the difference between short- and long-run elasticity? What is the timeframe of these two estimates?

Short-run elasticity is how demand would change in the year immediately following the price change. In other words, the impact of the levy the first year it is introduced.

Long-run elasticity is technically a measure of the eventual relationship between prices and enrolment a long time into the future after the levy has been introduced (infinitely far, in fact). However, in practical terms, this should be considered in reference to the speed of convergence and the half life.

The speed of convergence is how quickly the short-run elasticity number transitions into the long-run elasticity number.

As we don't find a statistically significant effect for the aggregate non-EU student population in the long-run, it is possible (but not inevitable) that demand equalises roughly back to pre-levy levels. If this were the case, the speed of convergence is the % of the number of students lost in the first year of the levy that we can expect to recover each year after that. At this rate (of 13% of loss recovery each year) we anticipate that half of the loss can be recovered in 5 years. This is known as the **half life** of the elasticity.

To emphasise, a lack of statistical significance **does <u>not</u> mean we predict a return to pre-price-increase levels of demand in the long-run**. It merely indicates that we cannot confidently detect any shift away from the level of demand before the proposed levy was introduced.[9] But this does not mean that an effect does not exist. Once we start to break 'non-EU students' down into its component sub-groups, the data starts to become less noisy, and we start to be able to detect some significant effects. This is known as Simpson's Paradox.

[9] A lack of statistical significance might be because many non-EU student markets are relatively immature, so a stable relationship between price and demand is less likely to exist in historical data (which, after all, is what this modelling is based on). It is also true that 'non-EU nations' encompasses a very diverse range of countries, all of which have been affected to different extents by a whole range of macro-economic factors, so discerning a meaningful relationship in one direction from that is hard. A third possible explanation for the lack of statistical significance is because different groups of students within the non-EU population are affected by a price increase in different ways. This model aggregates all of these different students together, treating them all as one uniform population, and tries to detect an effect. However, there may be features of the data that make detecting a significant effect in one direction difficult. For example, while course price may be impacting demand from students (as this model tries to show) the levels of demand may also be affecting how universities price their courses. This two-way relationship, known as simultaneity, might be muddying the water when we are using a model that assumes the relationship is only one-way. When we are working with limited amounts of data, these complicating factors can be difficult to control for, unpredictable, and likely to differ across HE institutions, countries and education level.

1b: The difference between elasticity of non-EU undergraduates and non-EU postgraduates

Simpson's Paradox is exactly what we see when we carry out our regression on undergraduate and postgraduate non-EU students separately, rather than as one population. When we conduct these two separate analyses, we get significant results both in the short-run and long-run. This is likely due to a combination of the issues described in the last section being at least partially resolved. Table 2 presents the results.

	Short-run Price Elasticity	*Short-run p-value*	Long-run Price Elasticity	*Long-run p-value*	Speed of convergence (% per year)	Half life (years)
PF non-EU, all students (2025)	-0.57	0.00	0.02	*0.67*	13	5.0
PF non-EU Undergraduate (2025)	-0.54	0.00	-0.25	0.00	6.56	10.2
PF non-EU Postgraduate (2025)	-0.81	0.00	-0.46	0.00	4.73	14.3

Table 2: Estimating price elasticity of all non-EU students, and splits by all non-EU undergraduates and all non-EU postgraduates

Among non-EU undergraduates (of which there were 250,000 studying in the UK in 2023/24)[10] elasticity is -0.54% in the short-run. So, for every 1% fee increase, we estimate a 0.54% drop in non-EU undergraduate enrolments that same year. As we find in the population at aggregate level, this number has statistical significance.

In the long-run, this number does recover slightly, but never fully. We estimate a **permanent loss of at least 0.25% of non-EU undergraduate students for every 1% fee increase**. This figure is statistically significant.

When we come to non-EU postgraduates (who numbered 400,000 in 2023/24)[11], we find that they are the most price sensitive of any of the sub-groups we have analysed in this paper. For every 1% increase in fees, numbers of post-graduate students would drop by **0.81%** in the first year.

In the long-run, as with undergraduates, we anticipate some recovery of student numbers, but they never reach the same level as they would without the price increase. In the long-run, we predict at least a **0.46%** permanent loss of non-EU postgraduate numbers for every 1% fee increase.

In other words, while we do not find a statistical significance for long run drop off of international students in the aggregate, we do find such a long term 'scarring' effect when looking at the two component parts of the international student cohort - both at undergraduate and at postgraduate level.

[10] https://www.hesa.ac.uk/data-and-analysis/students/where-from
[11] https://www.hesa.ac.uk/data-and-analysis/students/where-from

This short-run elasticity estimate for non-EU undergraduates is almost **twice the size** of the 2021 short-run estimate for EU undergraduates; our non-EU postgraduate elasticity estimate is **more than three times the size** of the postgraduate estimate that government has been using until now. **That means, if government is modelling its assumptions on the basis that the 2021 EU student demand elasticity figure is the same for non-EU students in 2025, they are drastically underestimating the impact of price increases on demand; approximately triple the number of non-EU students would be put off coming to the UK than predicted by the 2021 estimate, in first year of the price rise.**

1c: The difference between price elasticity of demand of non-EU students by university tariff

We review whether it is possible to model elasticity of demand from non-EU students by university tariff of university, repeating London Economics work from 2021. The hypothesis is that different universities would exhibit different levels of elasticity - some would be able to demand higher prices from students with lower or zero overall loss of demand (even if this were to be achieved by substitutions within the cohort, i.e. replacing relatively poorer student applicants with richer ones). Equally, it is possible that some students would exhibit even greater elasticity, and see demand fall more than the sector average with any price increase.

To estimate tariff-specific elasticities, we run regressions on three collected subsets of higher education institutions (HEIs), categorised as high, medium, and low-tariff universities. Because these groups were defined by tariff, we exclude the quality-control variable from the model, as it becomes redundant under this specification.

As before, the error-correction model allows us to capture both the long-term structural relationship between price and enrollment, and the short-term impact of introducing the levy.

However, statistically significant and reliable results were obtained only for the medium-tariff group, where the short-term impact was estimated at -0.62. This is broadly consistent with the aggregate results.

For high-tariff universities, the analysis could not identify robust effects. This is likely due to confounding factors in the long-term structural regression, in particular the influence of prestigious universities that drive both average tuition prices and the size of country-specific student cohorts. In the aggregate analysis, this issue was successfully controlled for using the quality variable. However, once the sample is restricted to high-tariff universities, it becomes impossible to account for this confounding effect without adding so many controls that statistical significance is lost.

For low-tariff universities, the results were again statistically insignificant. This is most likely because the number of country-specific cohorts in these institutions is very small. We restricted the analysis to observations where there were more than 50 students from a given country, which reduced the low-tariff sample across HEIs, countries of origin, and years to just over 600 observations.

1d: Elasticity of EU student demand

In 2021, London Economics, using data from a longer and more stable period, were able to estimate negative elasticities for EU students in the short and long run. (Table 3)

	Short-run Price Elasticity	*Short-run p-value*	Long-run Price Elasticity	*Long-run p-value*
London Economics EU undergraduates (2021)	-0.268	*<0.01*	-0.35	*<0.01*
London Economics EU postgraduates (2021)	-0.261	*<0.05*	-0.033	

Table 3: London Economics' 2021 estimates of price elasticity of demand of EU undergraduate and postgraduate students

Our attempts to replicate this data, using the same methodology but covering student entries from 2017 to 2023, do not allow us to find any statistically significant results.

We do find some evidence - but not statistically significant - to suggest that the short term elasticity of demand of EU students is still negative, but slightly smaller in magnitude to the London Economics estimate from 2021. It is possible that this may be due to the 'Graduate visa effect'. Post-Brexit, the number of routes for EU nationals to settle in the UK is much reduced. As a result, the Graduate visa route, accessible only if you study a degree at a UK university, is one of the few paths to living long-term in the UK from the EU. Students may therefore be willing and able to accept slightly higher fees, if it means access to the UK labour market for a period post graduation.

However, we have been unable to effectively recreate the analysis we conducted on non-EU elasticity for EU students. We believe that the limited amount of data available (over 7 years) and the significant macroeconomic noise and sector specific drivers during this period either mean there is no effect during this time or it is difficult to detect this using the limited data.

Given this, we think it is most defensible to use London Economics' predictions of EU elasticity of demand when estimating the total impact of the levy on demand elasticity from EU students.

Section 2: Modelled implications for student numbers

In this section, and henceforth, we model projected changes in student numbers based on an assumption that all of the levy is passed on via increased fees. In practice, different institutions may make different responses (including both via not increasing headline fees by the full amount, or by providing 'after the fact' discounting in different ways, meaning overall cost to applicants rises by less than the sticker price).

However, the modelling below achieves what we see as one of the principal goals of the levy design - that there is no additional hit to the bottom line of the sector from a levy on those students who do attend. In other words, were student numbers to remain constant, the university would not lose out. As shown above, this is unlikely to happen in practice. But it is important to model on this basis, because that is the government assumption (that the direct cost of the levy will be covered by additional fees to international students who continue to come to the UK to study).

We are therefore modelling throughout this paper, what would happen to student numbers if fees rose by 6.38%.

Why do we model a fee increase of 6.38%, if the possible levy is only 6% of fees?

If universities pass the full amount of the levy on to students, their fees will need to rise by 6%. However, when that fee increase happens, a university's levy contribution will then be re-calculated, based on the fact that they are now charging 106% of what they were before. In order to cover the full fee increase, students will therefore have to pay a little bit more than 6%.

We have calculated that students will need to pay **6.38% more** in fees for universities to break even (if hypothetically no students then declined to come), if they increase their fees to ensure students cover the full cost of the levy.

2a: Modelling demand for non-EU student numbers

We project that if any new levy means fees increase by 6.38%, around **3.64% fewer non-EU students will enrol, the first year that any levy is introduced** (see Table 3).

	Short-run impact on student numbers (%)	Short-run p-value	Long-run impact on student numbers (%)	Long-run p-value
PF **all** non-EU students change to enrolment	-3.64	*9.69E-15*	0.134	*0.673*
PF non-EU **undergraduate** students change to enrolment	-3.38	0.00	-1.89	0.00
PF non-EU **postgraduate** students change to enrolment	-5.17	0.00	-2.94	0.00

Table 4: Estimating the impact of a 6.38% fee increase on non-EU student enrolment

As above, it should be noted that, in this calculation, we are creating an average impact across the entire sector, and not all universities would be impacted in the same way by a 6.38% fee increase. Some institutions may have more inelastic demand than others. Equally, some institutions' demand may be more elastic.

When we split students into undergraduate and postgraduate sub-populations, we observe the greatest drop in numbers among non-EU postgraduates. We anticipate that a fee rise to cover the full cost of the levy will lead to a decrease of 5.17% of non-EU postgraduate students from coming to study in the UK in the first year. Numbers of non-EU undergraduates would drop by 3.45% in the first year of the levy. We also forecast that both undergraduate and postgraduate non-EU enrolment numbers will permanently shrink, by at least 1.5% and 2.9%, respectively.

As in section 1c, we do not have statistically significant data to model the different impact on student numbers by university tariff.

Putting this into context, in the first year of the levy, this would mean 3,100 fewer undergraduate enrolments from non-EU countries, and just over 12,600 fewer postgraduate enrolments. **This is a total of 15,700 fewer enrolments from non-EU students in the first year of any levy**.

This is a much larger decrease than projected in the Home Office White Paper, which as above uses EU demand elasticity estimates from 2021 to apply to global student flows in 2025. Chart 1 below shows the difference.

How different are projections of the impact of the proposed levy on non-EU student enrolments, now that we have updated the elasticity model?

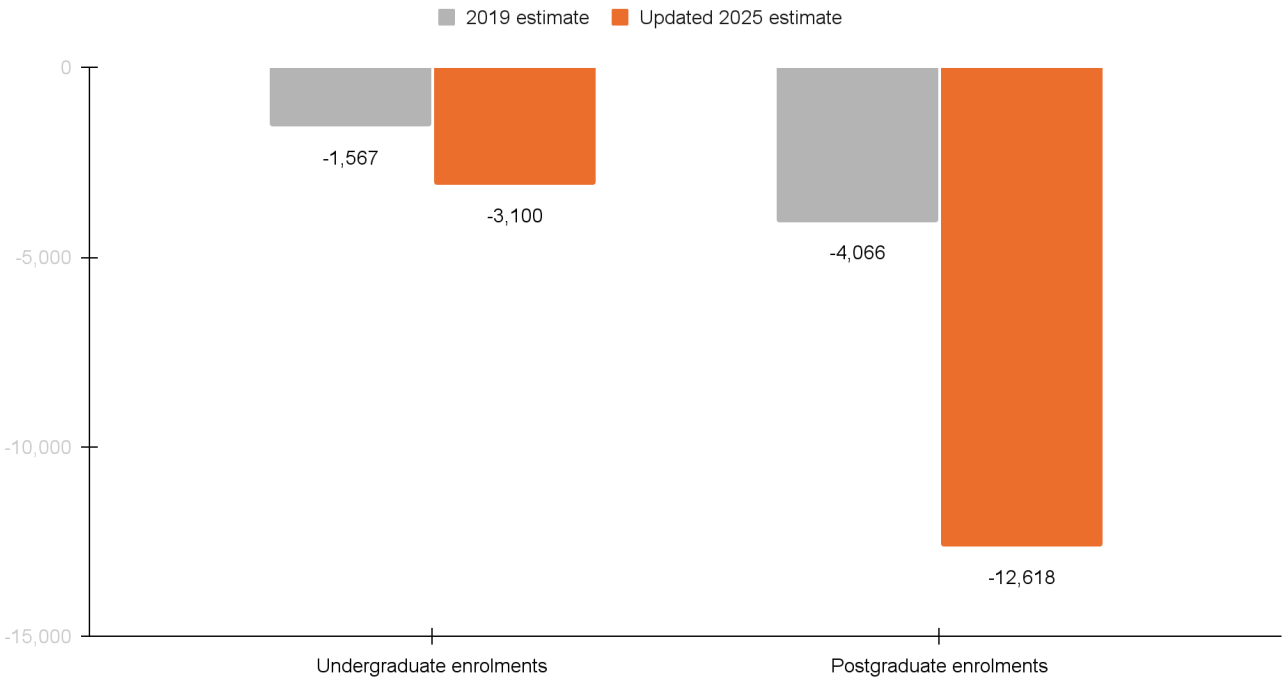

Chart 1: Updated estimates of decreasing non-EU student demand at undergraduate and postgraduate level, compared to Home Office White Paper estimates based on 2021 EU demand elasticity.

If EU enrolment elasticity figures (-0.268 for undergraduates and -0.261 for postgraduates) were applied to today's non-EU student enrolment figures, they would underestimate the size of the impact on non-EU enrolments in the first year of the levy by more than 10,000 students across undergraduate and postgraduate courses.

2b: Implications for EU student numbers

Continuing to use the London Economics 2021 numbers to estimate EU student demand elasticity, we project that, in the first year of the levy, 188 fewer undergraduates, and 214 fewer postgraduates, from the EU will enrol at UK universities.

The decrease in EU student numbers is much smaller than that for non-EU numbers, due to a combination of factors:

a) UK universities have far fewer EU students, compared to non-EU students. Non-EU students outnumber those from the EU at a ratio of about 9:1.
b) EU students are, using London Economics' modelling, far less negatively elastic, so are less price-sensitive than non-EU students.

2c: Implications for overall student numbers

Combining the non-EU and EU estimates, we project that, with a 6.38% rise in international student fees, the sector will lose over 16,100 international students in the first year the levy is introduced (Table 5).

	Drop in undergraduate numbers in proposed levy's first year	Drop in postgraduate numbers in proposed levy's first year	Total
Non-EU students	-3,099	-12,618	-15,718
EU students (using London Economics elasticities)	-188	-214	-402
Total	**-3,288**	**-12,832**	**-16,120**

Table 5: Estimated student number changes in Y1 of proposed levy introduction

Section 3: Implications for university finances

As discussed above, The Home Office White Paper technical annex projects changes in international student numbers based on London Economics EU demand elasticity applied globally, and produces (under) estimates for the decline in student numbers (and hence university finances, though these are not explicitly modelled in the White Paper).

Conversely, in the absence of any updated demand elasticity, other estimates of the levy on university finances assume no price correction, and simply model the impact of a 6% levy on overall international student receipts as of current data, leading to a Y1 estimate of losses of £621m[12].

We believe both of these calculations are incorrect. As in Section 2, we therefore now show the impact on university finances, based on our new demand elasticity modelling for non-EU students and subsequent declining demand, and with an assumed sector response which passes on the whole 6% levy in increased fees of 6.38%, and a decline in Year 1 of over 16,000 students.

In summary, we forecast that

- **The sector could lose £240 million in fees in the first year the levy was announced**
- **Over 5 years, demand could decrease by an aggregate of over 77,000 students, worth around £2.2 billion to the sector and to the broader economy**

	In the first year of the levy	In the first 5 years (cumulative)
Total fall in student enrolment	-16,120	-77,880
Total fall in income from students (in 2025/26 prices)	£240 million	£2.2 billion

Table 6: Estimated financial impact of fall in international students, in Y1 and first 5 years of any levy

[12] https://www.hepi.ac.uk/2025/08/08/the-true-cost-of-the-governments-proposed-levy-on-international-students/

3a: Calculating the impact on university budgets

We model implications based on an assessment of TRAC data. Within TRAC data, universities' income and expenditure is divided into five categories: Teaching (Publicly-funded), Teaching (Non-publicly funded), Research, Other (income generating) activities and Other (non-commercial) activities.

In 2023/24, Teaching (Publicly-funded), Research and Other (income generating) activities were, on balance, in deficit. By contrast, Teaching (Non-publicly funded) and Other (non-commercial) activities were in surplus. Chart 2 shows this further.

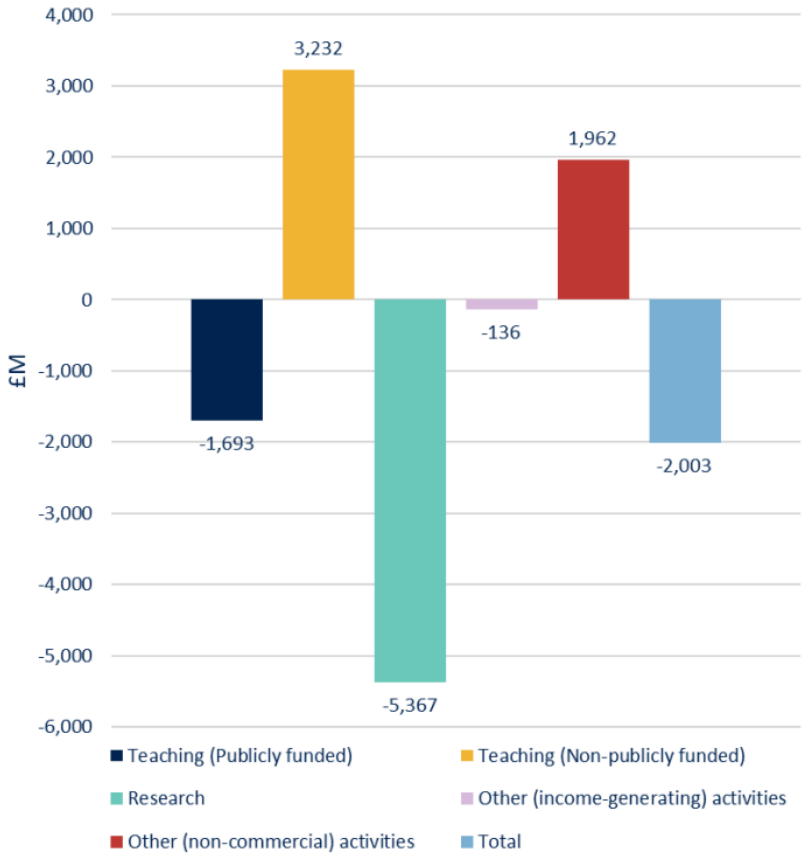

Chart 2: TRAC full economic cost surplus/(deficit) by activity, 2023-24 (higher education institutions in England and Northern Ireland), *source: Annual TRAC 2023-24 Summary*

Using "Teaching (publicly funded)" as a proxy for teaching of domestic students, and "Teaching (non-publicly funded)" as a proxy for teaching of international students[13], it is possible to model the

[13] Zooming in on income from non-publicly funded teaching, these are individuals who pay for their degree from their own pockets, rather than getting a student loan from the Student Loans Company. It is impossible to tell from the TRAC data how much of this income comes from international students, and how much comes from self-funding domestic students. As a rule of thumb, by comparing the numbers of registered domestic students to the amount of money that universities make from publicly funded teaching, we can work out that the vast majority of domestic students probably take out a student loan. A small minority of domestic students will self-fund their degrees. On the flip side, it is impossible to tell how much of universities' income from publicly funded teaching is from domestic students' loans, and how much is from EU nationals with "settled status" in the UK post-Brexit, who are also entitled to apply for a student loan. Again, as a rule of thumb, we can tell by looking at the numbers of people with settled status that the numbers of EU nationals taking out student loans will likely be a small minority of universities' publicly funded teaching income.

Given that a small minority of domestic students will fit into the non-publicly funded teaching category, and a small minority of EU students will fit into the publicly funded teaching category, we have made some assumptions for the benefit of our analysis. We assume that these two groups

consequences of a drop in international student numbers. This is because of the cross-subsidy from international student fees to universities' other undertakings. In particular, as can be seen in chart 2, international students are subsidising a significant portion of both domestic teaching, and research.

Creating a one year and a five year forecast

In all the calculations and modelling around financial implications, we present data over two time periods - over 1 year (the first year in which the hypothetical levy would be introduced) and over a five year period.

Implicit within this modelling is the assumption that for multi-year courses, any levy would be charged annually. That is, a levy would be charged annually onto the university for 6% of their international student receipts, and this would therefore involve a student based in the UK for a multi-year course being charged a higher fee every year to cover this levying. This would align, after all, with how multi-year fees are charged for international students at present, who pay annually.

To create a five year forecast, we create a simplified model for average course duration for international students, broken down into undergraduate and postgraduate level. To do this, we use HESA data on the number of non-EU and EU students currently studying every different level of course (from foundation years to doctorate research). We then assume an average course length for each of these degree levels (for example, an undergraduate degree was assigned an average length of 3 years, a postgraduate taught masters' was assigned an average length of 1 year, and so on). We also account for the effect that international students taking additional placement years or years abroad might have on these estimates. To do this, we assume that international students undertake these additional years at roughly the same rate as the student population as a whole (with no other data on which to base an estimate available). Taking into account the number of international students on each of these courses, we then calculated the average course length of an international postgraduate student, and the average course length of an international undergraduate student, studying in the UK.

Rounding these numbers to one significant figure, we calculate the average course length of an undergraduate course to be 3 years, and a postgraduate course to be 2 years.

Average course duration, combined with an assumption about annual levy charging, allows for multi year modelling, because we can project forward a changing international student cohort which mixes, in any one year, students here on a one year course, with students in the second or third year of multi year courses, and take account of forecast declining student numbers due to the impact of the levy. As such, five year cumulative assumptions are not the same as five times greater than year one impact.

are of roughly equal size, and therefore 'non-publicly funded teaching' can be used as a proxy for 'teaching of international students', and 'publicly funded teaching' can be used as a proxy for 'teaching of domestic students'.

3b: Decomposing the impact on university budgets

Below, we show how the topline projected impact in terms of student numbers and financial impact are disaggregated. As before, we show this split between EU students and non EU students, and between undergraduate and postgraduate students.[14] We show impact in the first year of any levy, and cumulatively across the first five years. All prices are shown in 25/26 prices, for simplicity.

	Unit of measurement of impact	In the first year of the levy	In the first 5 years (cumulative)
Non-EU undergraduate students	Student enrolments	-3100	-14,923
	Income (2025/26 prices)	-£46.2 million	-£537.9 million
Non-EU postgraduate students	Student enrolments	-12,618	-61,050
	Income (2025/26 prices)	-£188 million	-£1643.4 million
EU undergraduate students	Student enrolments	-188	-973
	Income (2025/26 prices)	-£2.8 million	-£34.5 million
EU postgraduate students	Student enrolments	-214	-934
	Income (2025/26 prices)	-£3.2 million	-£25.4 million

Table 7: The impact of the levy, measured in £ and also student numbers, across EU and non-EU, undergraduate and postgraduate cohorts

[14] There are insufficient data points on international PhD students specifically, so the postgraduate line combines data on students studying PGT, PGR, and PhDs.

3c: The regional impact of a decline of international students

Previously, Public First have modelled how much international students contribute to the GVA of individual constituencies - both from the export benefits to international students[15] and the impact on domestic living standards.[16]

Using this same model, we can calculate the loss in GVA at a Parliamentary constituency level from a projected decrease in international students. This is presented in chart 3 below (with the impact colour coded in a heat map form, on a log scale).

[15] https://www.publicfirst.co.uk/global-talent-local-growth-the-export-and-jobs-benefit-of-international-students-in-the-uk.html
[16] https://www.publicfirst.co.uk/calculating-the-positive-impact-of-international-students.html

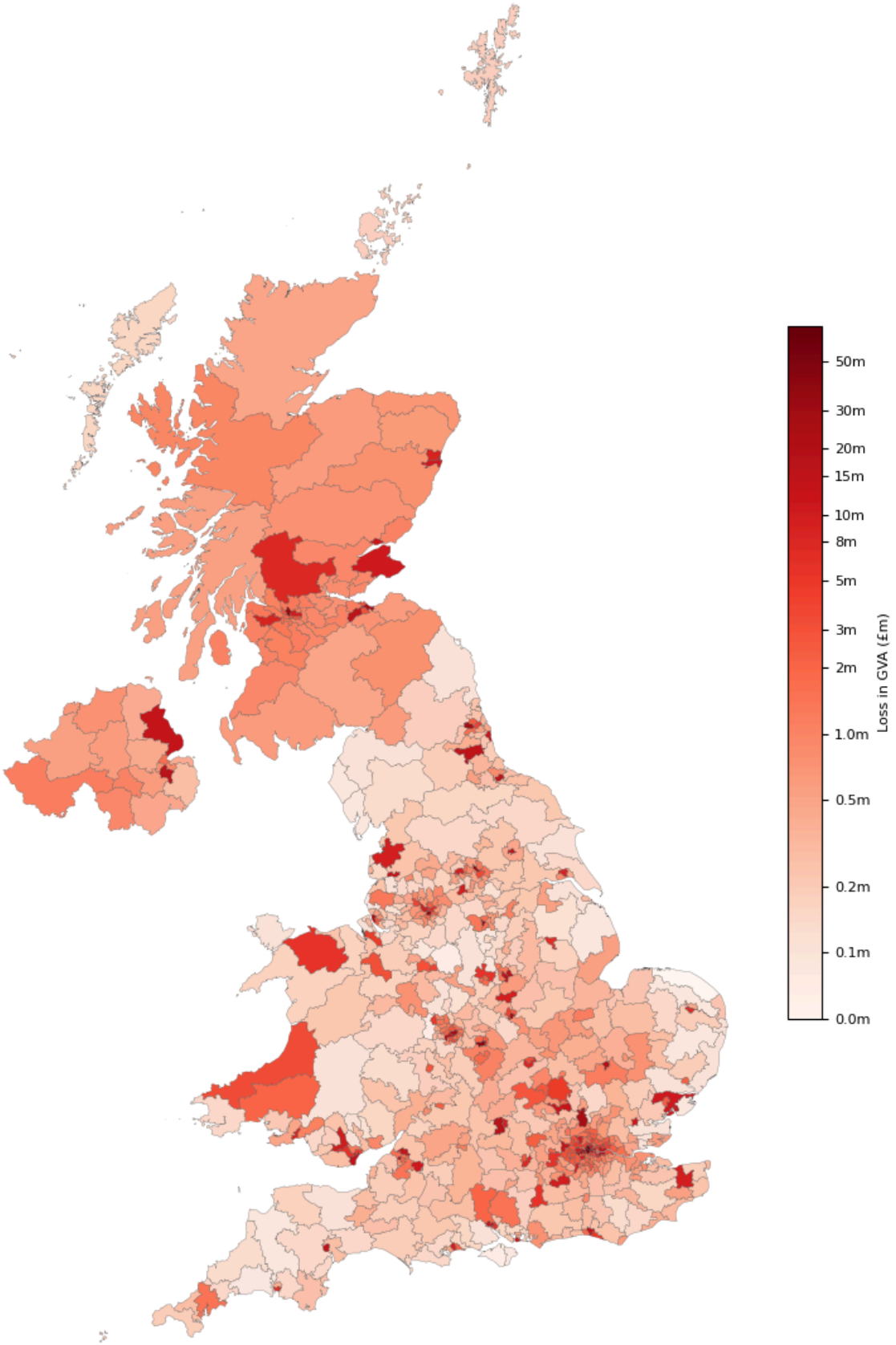

Chart 3: Estimated GVA impact (negative) by Parliamentary constituency from a projected decrease in international students

Again, we assume uniform demand elasticity here, in the absence of statistically significant data which would allow estimates by sub groups of institutions. We combine changes to undergraduate and postgraduate students and from the EU and non EU, to show cumulative impact, and model the wider spillover effects.

The largest impact, unsurprisingly, comes from constituencies across the UK which host universities and which have large concentrations of international students. Chart 4 shows the top ten most affected constituencies.

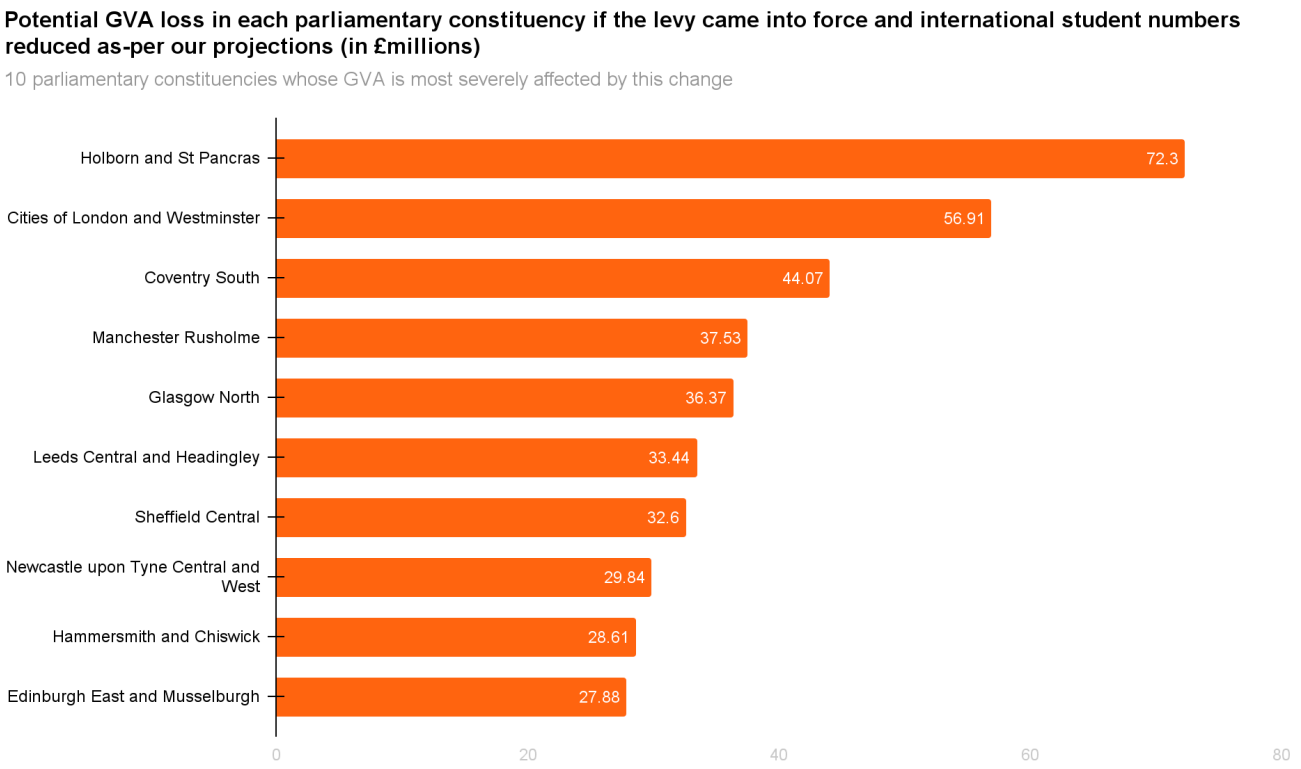

Chart 4: Projected GVA loss to each parliamentary constituency, 10 parliamentary constituencies whose GVA is most severely affected

3d: The knock on impact on domestic teaching, and research

Potential impact on domestic teaching

International students cross subsidise domestic students, due to the higher fees charged. This means that some courses only remain open for teaching because of international student income (which does not need to be directly into that faculty, as cross subsidy happens at university level).

As such, a decrease in international students and lower university income could lead to a potential reduction in the total cross-subsidy - meaning that some courses might be closed or numbers reduced. As such, a decrease in international students could directly lead to fewer places being offered to domestic students.

We model the potential consequences if universities responded to a decrease in income and cross subsidy by reducing the amount of domestic teaching that was offered. (In effect, we reduce losses as measured in aggregate TRAC data for domestic teaching by the extent to which we forecast that international student revenue falls).[17]

While it is perhaps implausible that this is the single response to any loss of international student income, it acts as a way of illustrating the wider knock on effects of any decrease.

Over a one year period and five year period, we forecast:

A cut to the budget for teaching UK domestic students by 1.52% in the first year of the levy

This is the equivalent of reducing 33,300 domestic student places the first year

Over 5 years, 135,000 number of domestic students might not get the chance to enrol

Potential impact on research cross-subsidy

We repeat the illustrative analysis to show the implications if cross subsidy for research were reduced by the full amount of any levy.

We forecast:

A 1.53% cut to the national budget for all university research in the first year of any levy.

This is roughly equivalent over a five year period to 2.9x the budget for the new Edinburgh supercomputer[18]…

or the entire increase to the defence budget announced in the 2025 Spring Statement[19].

[17] In making this illustrative example, we make a series of assumptions: an average course length of 2 years, that the sector's deficit of £2 billion cannot increase, that the economic cost of teaching publicly funded students remains the same every year, and that the economic cost of teaching is spread evenly across students. It also assumes no levy receipts recycle back into HE

[18] https://www.gov.uk/government/news/scotland-to-host-uks-national-supercomputer-as-chancellor-confirms-750-million-investment

[19] https://www.gov.uk/government/news/chancellor-delivers-security-and-national-renewal-in-a-new-era-of-global-change

The backdrop of university funding

When considering the financial impact of this kind of income loss, the wider financial context of the sector should be borne in mind. It has been well-documented over recent years that the sector is in considerable financial difficulty. The sinking value of a fixed tuition fee for domestic students, the soaring prices of staffing, energy and other operational costs, and fluctuations in student numbers are all contributing to a challenging financial landscape. Universities UK's analysis shows that recent government decisions (including everything from increased employer national insurance contributions to increased teacher pension contributions) are also due to take nearly £1 billion[20] out of the sector in the 2025-26 academic year.[21]

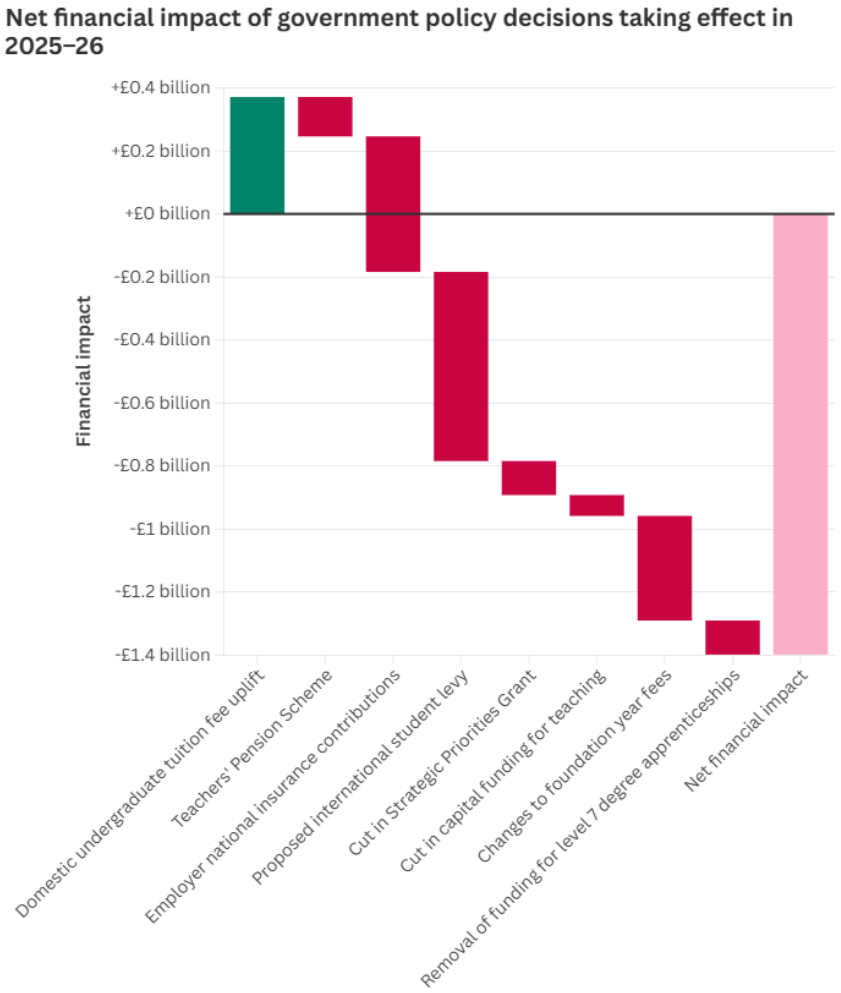

Chart 5: The net impact of various government policy decisions taking effect in the 2025-26 academic year on the higher education sector, *source: Universities UK 2025 analysis*

[20] The Universities UK total impact of government policy decisions on university budgets in 2025-26 is £1.4 billion. However, this includes an estimate of -£600 million in the first year of an international students levy, sourced from HEPI's calculation of the impact of a 6% levy on student demand. As we are calculating the impact of the levy separately, we have removed that £600 million from the total impact figure of £1.4 billion

[21] https://www.universitiesuk.ac.uk/latest/insights-and-analysis/financial-impact-government-policy

Section 4: Technical annex

Estimating demand elasticity of enrolment

We used an error Correction Model (ECM) to estimate the causal impact of increases in student fee on enrolment. The model estimates short-run elasticity (1% fee ↑ → X% enrolment change same period), long-run elasticity (1% fee ↑ → Y% enrolment change over time), and speed of convergence from short run change to long-run equilibrium. Our model updates the model specification used by London Economics to also exploit variation at a higher institution level in addition to country of origin and year. This update to the model specification is necessary due to the data for non-EU countries only being available over a short time period (2017 to 2023). We carry out the analysis separately for postgraduate and undergraduate students.

A number of controls are used in our regression, including: Country of origin of macroeconomic factors, country of origin local university factors, UK higher education institution 'quality' dummy, a COVID-year dummy, and UK inflation. Further to this, we don't include HE institution/ country of origin pairs with fewer than 100 students. The sample includes students from Bangladesh, China, Hong Kong, India, Malaysia, Nepal, Pakistan, Nigeria, Saudi Arabia, and the US.

We have identified a number of limitations to our model, including: structural breaks from COVID/Brexit (requiring more post-period data to test stability); and small per-country samples make country level results sensitive.

Estimating the impacts of demand elasticity

We start by estimating student entrant numbers in 2025/26, broken down by EU and non-EU and undergraduate and postgraduate, by taking HESA data for 2023/24 and adjusting using evidence from visa applications to the home office. The total income from first year international students is estimated by taking total international student revenue and applying the ratio of first year students to total students. This is then split between EU and non-EU and postgraduate and undergraduate by applying student ratios, implicitly assuming that average student's fees are the same across different groups.

The price elasticities are then applied to estimate the impact that a 6% levy would have on student numbers and university revenue, both in the first year and for subsequent years. We assume this levy payment is passed on entirely to the students, which implies a 6.38% increase in prices (explained on slide 8) .We estimate the impact that the levy could have on domestic student numbers by modelling what happens if a reduction in domestic students is used to ensure the university deficit remains unchanged. We use a similar approach to model the potential impact on research.

Estimating average course length

When calculating the longitudinal impact of the levy over 5 years, we have had to assume an average course length. This is in order to calculate the amount of income the sector misses out on from individual students over the course of multiple years. To approximate average course length, we used HESA data on the number of EU and non-EU students studying for every level of course at a UK HEI (from foundation year up to doctorate postgraduate level). The number of students studying for an additional year, for a work placement or study abroad, was also taken into account: we assumed that international students took on additional years of study at the same rate as the student population as a whole, so fed this into our calculations. Our average course length of an international undergraduate student in the UK was calculated to be approximately 3 years, and 2 years for postgraduates.

Sources:

HESA data

HM Government Immigration White Paper

ONS inflation data

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