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# Brexit as revelatory policy shock: what can we learn about international student mobility from changes in EU student mobility to the UK after Brexit?

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**Abstract**

The UK's exit from the European Union in January 2020, following a referendum in 2016, represented a significant potential rupture to EU student mobility to the UK. When the UK was an EU member, EU students were entitled to identical treatment to UK domestic students in higher education, able to finance undergraduate and master's fees through UK student loans (or pay no fees in Scotland) and access doctoral funding. After Brexit, EU students were treated like any other international student and liable for upfront and very high tuition fees. This policy shock has the potential to significantly disrupt full-degree EU student mobility to the UK. Using a comprehensive dataset of all EU full-degree enrolments in UK higher education, 2007 – 2023, we investigate patterns of incoming EU student mobility to the UK before and after Brexit. We find the sharp disjuncture to have both overall and more particular effects. Looking at how the shock of Brexit plays out differently across sending countries, levels and fields of study and institutional destinations provides interesting revelations about how international student mobility operates.

**Keywords:** Brexit, student mobility, tuition fees, European Union Word count: 8,249

## Introduction

Full-degree mobility of higher education (HE) students has grown to become a significant feature of the contemporary HE landscape. While such mobility has been a feature of universities since their mediaeval beginnings, the volume, and economic and geopolitical value of student mobility increasingly attract the attention of governments, businesses and social scientists. Among key questions about student mobility are the student-level drivers of international mobility; what it reveals about international political economy; and its role in social mobility and reproduction. Various factors have been noted as important influences on international mobility, often characterised (not unproblematically) as forces which 'push' students out of their home country and/or 'pull' them to the destination.

Here, we examine recent events in the UK to investigate what this particular case might reveal about international student mobility in general. The UK is among the world's most popular destinations for international students, accounting for about 9% of mobile students, being more than half a million students per annum (OECD 2022, 224). Incoming students arrive in the UK from almost all countries, but especially from member countries of the Commonwealth of Nations, China, and countries in the European Union. Since international students pay much higher tuition fees than domestic students in the UK, many British universities have come to rely on them as an important source of income and, in the context of a stagnating domestic market, as a means for growth. International students are thought to be attracted to the UK in part because of the strong reputation of its HE system (OECD 2022), perhaps demonstrated by a quarter of all countries in the world having a senior leader with some of their education completed in the UK (Hillman 2023).

We exploit recent policy changes to treat the UK as a kind of natural experiment. In our previous work, we investigated the apparent impact of a large increase in domestic undergraduate fees in 2012 on incoming full-degree mobility from the EU (Dias Lopes, Mateos-González, and Wakeling 2023). Since students from one European Union (henceforth 'EU') member state are entitled to equivalent treatment to domestic students in another EU member state, this change impacted both UK and EU students at the same time. We showed that this change had an immediate deleterious effect on EU enrolments in UK undergraduate degrees. However, numbers recovered in a short period of time, and then expanded. These changes were also experienced differently across the UK's constituent countries, across types of universities and by sender country.

'Brexit'[1] - the exit of the UK from the EU in January 2020 - initiated an 'age of disruption' (Lohse 2024) in Europe, complicated by the COVID-19 pandemic and the Ukraine war. While there is some discussion about whether Brexit can be considered an external shock given the combination of internal political decisions, domestic pressures, and evolving EU dynamics (Barzachka 2024), we develop this approach to consider the changes it provoked in the status quo of the HE systems in the UK and Europe, particularly regarding student/academic mobility and research funding.

The decision transformed the status of new incoming students from the EU from domestic-equivalent to international fee-paying. Undergraduate students entering the UK from the EU to commence in the academic year 2021/22 thus shifted from being able to borrow the £9,250 (€11,000)[2] annual tuition fee and only repay contingent on future income, to having to pay upfront a much larger annual fee, often upwards of £18,000 (€21,000). Similarly, postgraduate students moved from liability for a usually lower annual fee of around £5,000 - £12,000 (€6,000 to €14,000) with access to a potential loan of around £11,000 (€13,000), to fees of £18,000 - £25,000 (€21,000 - €30,000). Additionally, as Brexit ended free movement between the UK and EU, incoming EU students need a visa and to meet other entry requirements, such as a health surcharge.

The relatively few existing studies investigating how Brexit impacted EU student applications to UK universities observe sharp declines in EU application after 2021, especially from Central and Eastern Europe (Mayhew, 2023, Rowe and Singleton, 2024), with some mixed findings regarding applications prior to the formalisation of Brexit. One finds an immediate reduction post-referendum (Amuendo-Dorantes and Romiti, 2024) and another suggests a surge due to

[1] We use 'Brexit' to describe the general process of the UK's exit from the EU; 'the Brexit referendum' to refer to the plebiscite on 23 June 2015 where UK electors were asked to indicate whether or not they wished the UK to remain a member of the EU; and 'full Brexit' to refer to the constitutional change by which the UK formally left the EU (at midnight CET on Friday 31 January 2020).
[2] Exchange rates as of March 2025 ( figures round to nearest €1,000 for ease of comparison).

students rushing to apply before losing home fee status (Highman et al., 2023). Studies looking at broader contexts include reduced EU graduate retention, faculty departures, and shifts towards market-driven internationalisation in the UK. However, most studies focus on applications or intentions rather than actual enrolments. To the best of our knowledge, this has only been examined in the annual statistical bulletin of the UK's Higher Education Statistics Agency (HESA), which indicated a marked decline in the number of EU students during the 2021/22 academic year (HESA, 2023) and received significant media coverage.

Our study addresses that gap by analysing comprehensive enrolment data to better understand Brexit's immediate effects. We expect that these changes will have had serious consequences for the number of incoming EU students. However, we also expect that some important differences will emerge. We expect mobility from higher-GDP EU countries to be least impacted, as will mobility to high-status UK universities. We also anticipate that enrolments on the UK's relatively short (one-year) postgraduate master's degrees will be less affected than undergraduate or doctoral studies.

We aim to present more detailed data by using the rupture created by Brexit to help us understand aspects of international student mobility more broadly. If Brexit can be considered a political earthquake, what strata are revealed by the fault lines it created? Following Bourdieu's field theory (Margison 2008), we expect that the 'heteronomous' elements of the HE field - those more closely connected to other fields such as the economy - will suffer the most consequences of Brexit. Conversely, we expect, more 'autonomous' elements - those which are more 'academic' - will be relatively insulated. In concrete terms, we expect to see a decrease in the number of EU students in all UK higher education institutions (HEIs), but the impact will be less significant in prestigious institutions, namely 'Russell Group' institutions, and certain fields.

We proceed by addressing three specific research questions:

1. What impact did Brexit have on new EU student enrolments in UK HEIs?

2. How did the impact vary across level of study, institution type, field of study and sender country?
3. What factors might account for the observed differences?

**Prior studies**

Prior research suggests that a range of factors appears to influence EU students' mobility. This includes macroeconomic factors such as expenditure on tertiary education (Restaino, Vitale, and Primerano 2020), expenditure per student, GDP per capita (Caruso and de Wit 2015), and employment opportunities (Van Mol and Timmerman 2014). Richer countries are typically more attractive than others (Caruso and de Wit 2015), but students can be sensitive to cost factors too (Beine, Noël, and Ragot 2014; Lörz, Netz, and Quast 2016). Status of a country's HE system and/or individual universities are important attractors (Van Bouwel and Veugelers 2013). Often, internationally mobile students seek to achieve distinction or a 'second chance' if unable to secure a domestic place to their liking (Waters and Brooks 2010). Our previous work showed that the large increase in UK domestic undergraduate fees in 2012 had an immediate negative effect on EU enrolments in UK undergraduate degrees (Dias Lopes, Mateos-González, and Wakeling 2023). However, numbers quickly recovered and then increased past the starting point. These changes were also experienced differently across the UK's constituent countries, across types of universities and by sender country, with higher-status universities being insulated in particular.

Some studies have investigated how the introduction of tuition fees for international students impacts enrolments. Several EU countries or sub-national authorities have followed such a policy in recent years. Denmark, France, Norway and Sweden have all introduced or increased fees for international students, setting them apart from domestic students (who in most of these jurisdictions do not pay tuition fees for first-degree study). An analysis of the impact of the implementation of international student fees there showed an 80% drop in enrolments in the year following the changes, but that numbers recovered over the following decade to approach the original level (Nilsson and Westin 2022). Norway's change is more recent, but early indications are a drop in enrolments of 40% from international students (Myklebust, 2024). The German state of Baden-Württenberg introduced fees, which conversely had a minor impact on enrolments, according to Vortisch's (2024) difference-in-difference analysis. We are unaware of any study which compares across different reforms to determine whether the size of the tuition fee is a consideration in these differential outcomes. We would expect that the change from zero *upfront* fees to fees of £16,000 (€19,000) or even £20,000 (€24,000) has a considerably different impact to a change from (say) €500 to €1,500 (as in Germany).

Turning to Brexit specifically, four recent studies investigate changes in student applications. Neville, Rowe and Singleton (2024) looked at successful applications for undergraduate study via the UK's Universities and Colleges Admissions Service (UCAS). They found a reduction of about 65% for 2022 entry, which deteriorated a little further in following years. Applications reduced to less prestigious institutions and from certain countries, with Poland and Germany highlighted in particular. Taking into account COVID-19 restrictions, they showed that countries with tighter regulations saw smaller reductions. However, this study used successful applications rather than actual enrolments and only captured those applying through UCAS. Similar findings were also reported by Highman et al. (2023): looking at HESA and UCAS data, they showed a slight rise of EU student numbers in UK universities from the Brexit referendum up to the formalisation of Brexit. However, this increase was driven by a "last-chance" rush before EU students lost home fee status and access to UK student loans in 2021–2022, leading to a 40% drop in applications. Amuendo-Dorantes and Romiti (2024) looked at application numbers in the post-referendum, but pre-full-Brexit period, concluding that applications were reduced from the EU to UK universities as a result of the decision to leave. However, the focus is on application numbers, rather than actual enrolments. Mayhew (2022) showed that Brexit had significantly impacted EU student applicants in UK universities. Initially, Brexit raised concerns that higher tuition fees for EU students would reduce their numbers, similar to the drop seen after the 2012 domestic fee hike. However, EU student numbers held steady until 2021, when applications fell sharply by 40%, especially from Central and Eastern Europe. Meanwhile, non-EU applications rose, offsetting financial losses.

Other studies, while not directly investigating pre- and post-Brexit enrolments, give some relevant context. Falkingham et al. (2021) show that the UK's triggering of EU Article 50 impacted the decision of EU students graduating from UK universities to remain in the UK. Di Iasio and Wahba (2023) showed the Brexit referendum outcome was followed by a decrease in EU net migration to the UK, with more EU workers leaving and fewer joining. However, they did not find an impact on student migration. Marini (2024) showed evidence of an academic 'Brexodus' of EU faculty leaving UK HE jobs. In examining post-Brexit policies for HE and research, Corbett and Hantrais (2023) argue that the UK has been 'de-Europeanising' its HE system, shifting its focus towards the supposed benefits of marketised international policies, a trend that was only reinforced after Brexit. Framing the issue within path dependency theory, Lohse (2024) argues that Brexit led to partial institutional change, characterised by reactive regulatory adjustments, a reinforced normative commitment to European collaboration among universities, and ongoing cultural-cognitive tensions. However, the sector adapted by navigating these challenges through new internationalisation strategies, including increased targeting of specific countries such as India and Nigeria, rather than undergoing a wholesale transformation. Therefore, these studies establish that UK institutions' increased focus on the international student market is likely to lead to a decline in the number of EU students in the UK.

Together, research suggests that Brexit had an impact, but do not give a clear and consistent picture. There is conflicting evidence on the impacts on student enrolments in particular, with studies covering either student intentions, or applications only and with some different indications provided. In our study, we exploit comprehensive data on UK HE enrolments to show actual outcomes and how they change in the period prior to and after the Brexit referendum and full Brexit, with its consequences for EU students' status in the UK. By investigating patterns by sending country, receiving institution and field of study, we are able to provide a rounded understanding of the immediate changes to enrolments following Brexit.

**Data**

We use comprehensive time series data about the population of students registered in UK HEIs sourced from the HESA. HESA is the statutory body responsible for the collection and publication of data about UK HEIs, their finances, staff, students and estates. An annual census of student enrolments in all HEIs is conducted by HESA which includes a comprehensive set of variables about students, their programmes of study, their personal characteristics and their outcomes. This covers, for example, field of study, level of study, mode of study, nationality, location of ordinary residence, institution, age, gender, and ethnicity. Data covers the period 2007 – 2023, giving two post-full-Brexit data points (academic years 2021/22 and 2022/23). Since we are using population data, they give us a powerful oversight of trends, without concerns about missing data and representativeness.

Data are presented using HESA's data protection protocols, which require, among other things, rounding of all published statistics to the nearest five.[3] Licensing prohibits direct comparisons between named individual HEIs. For one analysis, data are supplemented by statistics from Eurostat on numbers of enrolments in each EU member state's domestic HE system. For reasons of space, we focus principally on first-degree students.

We classify students as being from an EU member state by using HESA's 'domicile' field. This records where a student was ordinarily resident prior to taking up their studies and is used in the determination of fee liability and 'fundability' in UK HE. It is separate from nationality, which is not directly relevant to fee liability. For instance, a student with UK nationality who had resided in Australia for ten years prior to study would be classified as 'overseas' for HE funding purposes, whereas an Australian national who had resided in the UK for ten years before entering UK HE

[3] The data rounding methodology in full is available here: https://www.hesa.ac.uk/about/regulation/data-protection/rounding-and-suppression-anonymise-statistics (accessed 29 July 2024).

would be considered a ‘home’ student. We use the ‘first year’ filter to capture new entrants only. We also limited our analysis to full-time students, on the basis that the part-time student population is more heterogeneous and there are restrictions on part-time study in the UK for international students. HESA separately lists students from Åland; the Canary Islands; and from French Guiana, Guadeloupe, Martinique, Mayotte, and Réunion. These have been aggregated with students from Finland, Spain and France, respectively. Students with the domicile of ‘Cyprus (not otherwise specified)’ are aggregated with Cyprus (EU), but those from ‘Cyprus (Non-EU)’ are excluded. We also exclude the small number of EU students who do not have a specific country of domicile, and students from Gibraltar (who are classified under EU students in the HESA dataset). Data on Norway includes Svalbard and Jan Mayen.

## Results

### *Overall trends; and patterns by country*

Unsurprisingly, we find clear and significant impacts of Brexit on EU student mobility into the UK (Figure 1). This effect was felt at all levels of study. First-degree enrolments decreased most, from around 37,000 first-year entrants in 2020/21 to just under 12,000 in 2021/22, a reduction of over two-thirds. At a stroke, this wiped out the long-term growth in EU student full-degree mobility to the UK which had built steadily over the previous 15 years, and which had resumed on its apparent original trajectory after the previous rupture associated with increased undergraduate tuition fees in England, Wales and Northern Ireland (seen from 2012/13 in Figure 1). Numbers also reduced for

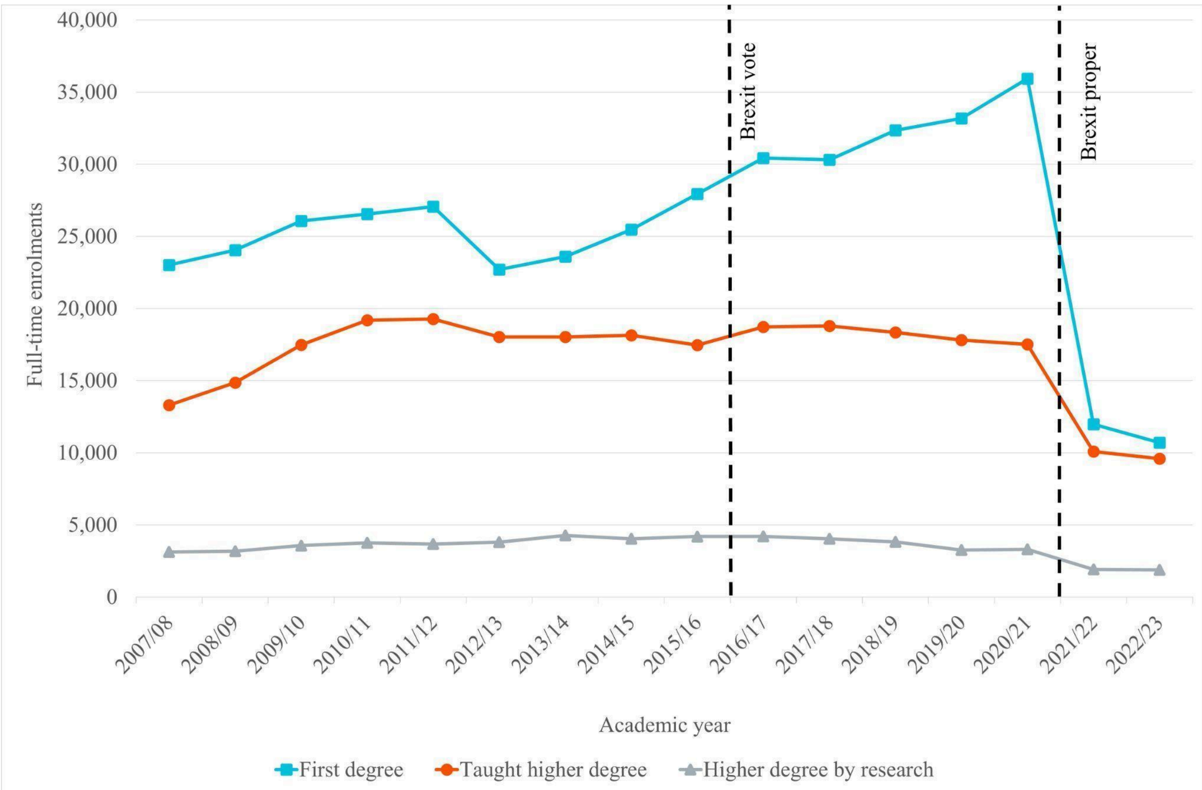


Figure 1. New full-time EU enrolments in UK HEIs, 2007/08 – 2022/23, by level of study

postgraduates, but less sharply, with a reduction of around 40% for both taught higher degree and research students, again sending enrolments below their 2007 levels, although both levels had seen no growth over the last decade. Unlike previous upward shifts in tuition costs in the UK, there were no signs of recovery in 2022/23, with numbers declining a little further.  Interestingly, there is no evidence of the Brexit referendum itself having a negative impact on incoming EU enrolments. This is perhaps contrary to expectation, since the referendum outcome may be considered a possible signal to migrant students about how welcoming the UK would be to them. Indeed, new enrolments continued an upward trajectory immediately following the referendum, especially at first-degree level.

Table 1 shows that reductions in first-degree enrolments were seen for all EU countries, with one exception: Ireland. Ireland is part of a separate and longstanding bilateral agreement with the UK about free movement of people, workers and students between the two countries. In arrangements which predate those for the EU, UK and Irish students are able to reciprocally study at HE level in the other country under the same conditions as a local student; Brexit did not affect this arrangement. The number and rate of student mobility to the UK from the EU for full-time first-degree study varied considerably by country both before and after Brexit. Romania sent almost 5,000 students in 2020/21, compared to only 65 entrants from Slovenia. Before full Brexit, Polish and Romanian students together comprised approaching one quarter of all EU enrolments. Conversely, Germany, which is by far the largest EU state in terms of population (83.4 million in 2023)[4] was only eighth largest for 2020/21, sending only slightly greater numbers than Greece (population 10.4 million). France, Portugal and Italy were also the source of large numbers of incoming EU students to the UK.

The final column in Table 1 attempts to adjust for the relative size of sending countries' populations by expressing the number of incoming EU students to the UK in comparison to the number of domestic undergraduate entrants in each country. This is a crude comparison in that it is not possible to adjust further for the numbers of undergraduates enrolled in the various countries who are themselves internationally mobile students, nor for those who are mobile outside of the EU. Nevertheless, it gives some idea of relative rates of mobility to the UK from each country, taking into account the relevant population sizes. Cyprus and Luxembourg emerge as outliers here, although this finding should be treated with caution given the small absolute size of the countries (two of the three smallest EU members) and their HE systems (e.g. Luxembourg has a single comprehensive university). Romania and the three Baltic countries each had a high proportion of students mobile to the UK using this comparative measure, with Lithuania sending 52 students to the UK for every 1,000 enrolments in Lithuanian HEIs in 2020/21, and Romania 39. Relative to domestic enrolments, few students came from the Netherlands, Germany, Slovenia, France, Denmark, Austria and Belgium. After full Brexit, alongside the substantial reductions in enrolments affecting all countries except Ireland, there was some re-arrangement of the rank order of countries.

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[4] Source: Eurostat *Facts and figures on life in the European Union*: https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en (accessed 29 July 2024).

Ireland moved from tenth in the list to first, and France from fourth to second. Conversely, Romania fell from first to eighth. In 2021/22, Romanian and Polish students now comprised only one in every twelve EU enrolments in the UK. There were also very significant reductions for students from Slovakia, Portugal, Bulgaria and Croatia.

| **Country** | **2020/21** | | **2021/22** | | **UK enrolments per 1,000 domestic enrolments (2020/21)** |
|---|---|---|---|---|---|
| | *N* | **Rank** | *N* | **Rank** | |
| Austria | 290 | 21 | 155 | 18 | 6 |
| Belgium | 555 | 17 | 295 | 12 | 6 |
| Bulgaria | 1,525 | 11 | 260 | 13 | 38 |
| Croatia | 275 | 22 | 40 | 25 | 10 |
| Cyprus | 1,940 | 7 | 755 | 6 | 304 |
| Czech Republic | 855 | 13 | 195 | 16 | 13 |
| Denmark | 240 | 24 | 95 | 22 | 5 |
| Estonia | 210 | 25 | 50 | 24 | 34 |
| Finland | 380 | 20 | 85 | 23 | 9 |
| France | 2,850 | 4 | 1,490 | 2 | 5 |
| Germany | 1,850 | 8 | 925 | 5 | 4 |
| Greece | 1,810 | 9 | 615 | 7 | 21 |
| Hungary | 705 | 14 | 175 | 17 | 21 |
| Ireland | 1,665 | 10 | 1,860 | 1 | 36 |
| Italy | 2,500 | 6 | 995 | 4 | 8 |
| Latvia | 440 | 19 | 125 | 19 | 30 |
| Lithuania | 1,120 | 12 | 220 | 15 | 52 |
| Luxembourg | 245 | 23 | 115 | 20 | 224 |
| Malta | 70 | 26 | 35 | 26 | 25 |
| Netherlands | 495 | 18 | 235 | 14 | 3 |
| Poland | 3,490 | 2 | 445 | 9 | 18 |
| Portugal | 2,725 | 5 | 435 | 10 | 37 |
| Romania | 4,910 | 1 | 590 | 8 | 39 |
| Slovakia | 595 | 16 | 95 | 21 | 18 |
| Slovenia | 65 | 27 | 15 | 27 | 4 |
| Spain | 3,420 | 3 | 1,365 | 3 | 14 |
| Sweden | 700 | 15 | 310 | 11 | 11 |
| *Total* | *35,930* | - | *11,970* | - | *13* |

Table 1. New full-time EU first-degree enrolments in UK HEIs, 2020/21 and 2021/22 (before and after Brexit), by country of origin.

Source for enrolments in country of origin: Eurostat dataset 'New entrants by education level, programme orientation, sex and age': bachelor's or equivalent level.

Taking a longer view of the impact of Brexit on EU enrolments in the UK, Figure 2 presents trends in enrolments from 2007/08 to 2022/23 for each EU member, with incoming Norwegian, Swiss, which as members of the European Economic Area (EEA), were also affected by tuition fees changes after Brexit, and UK domestic enrolments presented for comparison. The *y*-axis on the graph is allowed to vary in order to highlight the trend. The sharp and fairly uniform drop following Brexit is clearly evident here. While the years leading up to Brexit saw different trends, with the exception of Ireland each country saw a precipitous drop in student mobility to the UK for a full-time first degree.

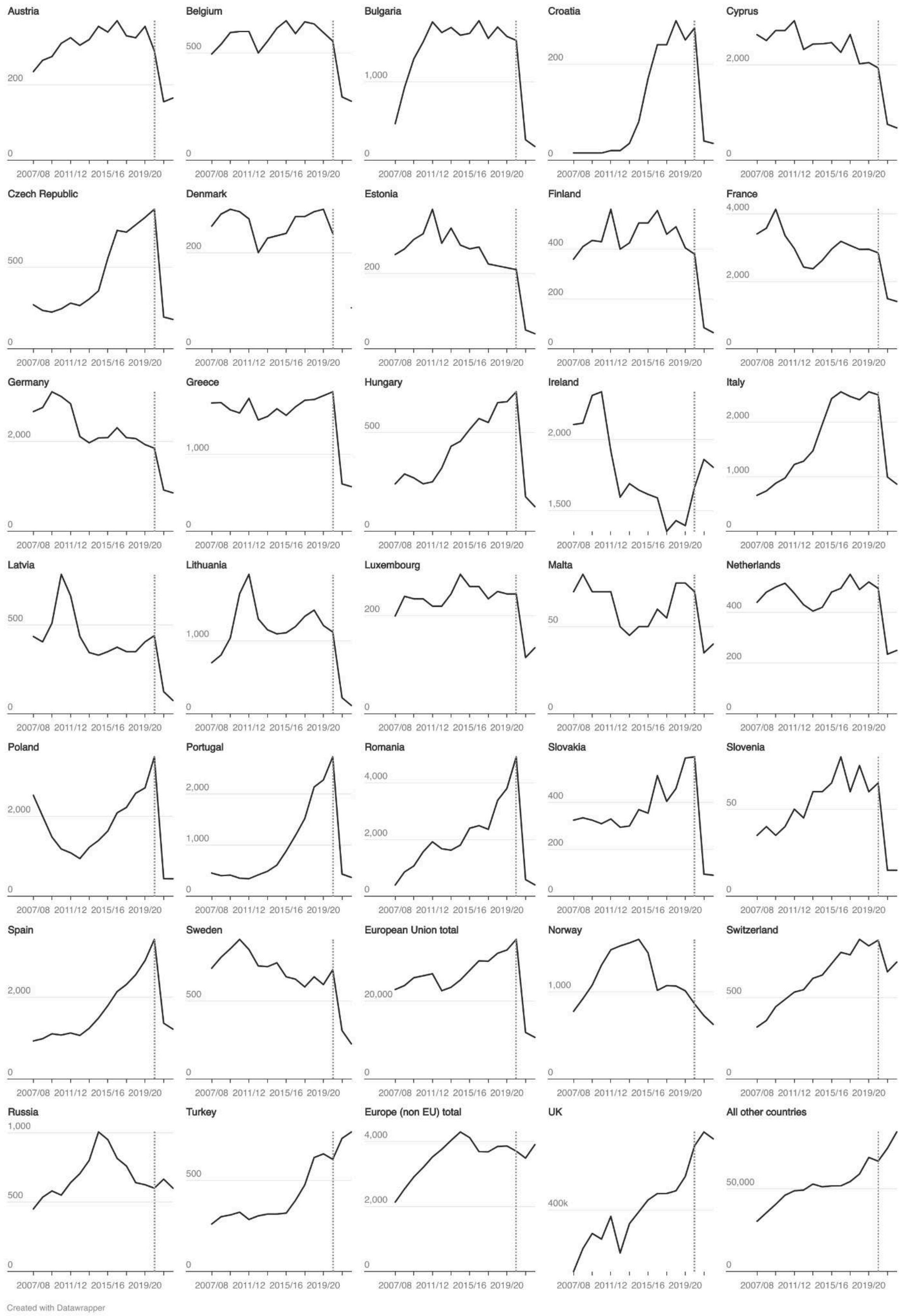



Figure 2. New full-time first-degree enrolments in UK HEIs 2007/08 –2022/23, by country of origin (EU and selected comparator countries).

For some countries (Cyprus, Estonia, Finland, France, Germany, Sweden) Brexit strongly accentuated a secular trend of declining enrolments. In others (Croatia, Czech Republic, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Spain) it abruptly halted and almost entirely wiped-out long-term growth in inward student mobility across the period.

As already noted, a potential confounder for the impact of Brexit was the COVID-19 pandemic, which resulted in lockdowns and severe travel restrictions in most EU countries. Here, Russia and Turkey are useful quasi-controls, in that students from those countries saw no change of status before and after Brexit. EU enrolments in 2020/21, during the first COVID wave, actually increased, although by the point of the pandemic hitting in Spring 2020, many students would have already committed to their undergraduate plans and may have faced few realistic alternatives given restrictions on employment. Looking at 2021/22 enrolments, Russia and Turkey actually increased. Enrolments from other countries also appeared not to have been reduced by the initial pandemic wave, with increases in enrolments against 2020/21 for students from Africa, Asia and the Americas, and small reductions for those from the Middle East, Australasia and other European countries not already mentioned.

As a final look at overall country-level differences, Figure 3 presents the change in enrolments by country immediately prior to and after Brexit, with 2020/21 enrolments indexed at 100. For instance, enrolments from Belgium in 2022/23 were half of their 2020/21 level; in Romania only 8% of their previous level; but in Ireland there was an 8% increase. As a general pattern, the size of the decline increases with geographical distance from the UK. Among the exceptions here are Ireland (no decrease), plus Malta and Cyprus. All three countries have very strong historical ties with the UK and English is a main language spoken by much of the population. Equally plausible alongside distance in understanding the relative changes is the wealth of a given country. The richer northern/western EU member states are also the least affected, with the exception of Finland. Drops are generally sharper in poorer EU member states, judged by GDP per capita in purchasing power standard (PPS)[5] (Bulgaria, Slovakia, Croatia, Portugal, Romania and Poland), although this is not a simple correlation (e.g. Greece and Latvia did not drop as sharply as others).

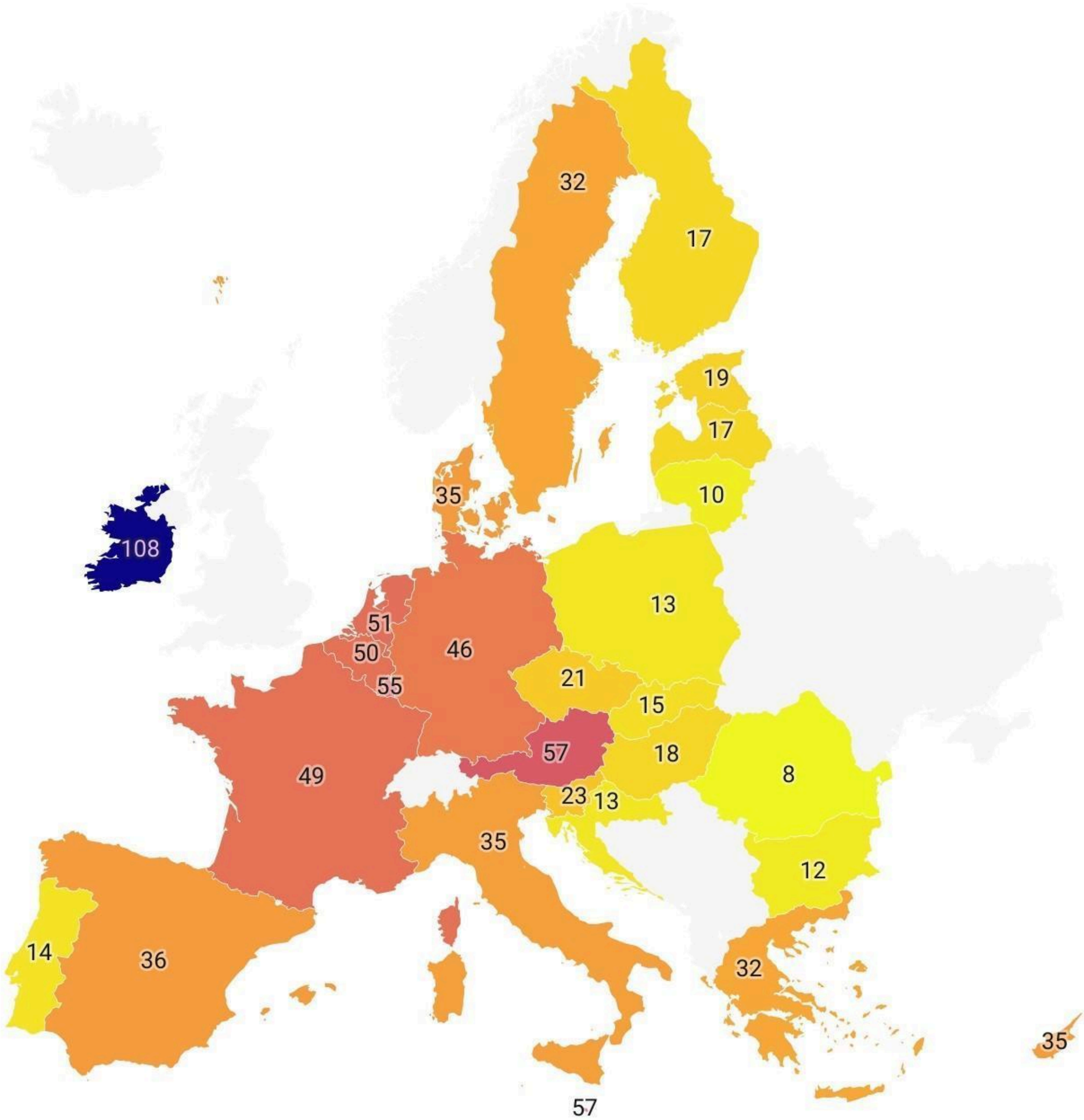



Figure 3. Indexed change in new full-time first-degree enrolments in UK HEIs, 2020/21 – 2022/23 by country of origin (2020/21 = 100)

Additionally, we investigated whether there were shifts in the UK regions to which EU students were mobile before and after Brexit. However, little notable shift in UK regional

[5] See Eurostat *Facts and figures on life in the European Union*: https://european-union.europa.eu/principles-countries-history/key-facts-and-figures/life-eu_en (accessed 29 July 2024).

destination was evident, with two exceptions. First, Northern Ireland was somewhat insulated from the Brexit impact, largely down to a continued flow of students over the border from the Republic of Ireland. Second, the East of England saw its share of EU students decline more sharply than others (from 12% to 5%).

### *Institutional differences*

We now turn to examine changes in enrolment by EU students across different groupings of institutions. As noted earlier, there are good reasons to anticipate that the impact of Brexit would be felt differently in different parts of the UK's HE sector, both because of the behaviour of internationally mobile students, but also because the varying approaches to international enrolments institutions themselves have previously adopted potentially differentially expose them to the Brexit shock.

Figure 4 shows the change in new full-time first-degree EU enrolments from 2007/08 to 2022/23 for three groups of UK HEIs. The Russell Group is a self-selecting club of 24 mainly older research-intensive universities, most of which feature prominently in international league tables and some of which are household names, both in the UK and elsewhere. Other pre-1992 institutions are those established prior to the Further and Higher Education Act 1992 but which are not in the Russell Group, generally more traditional and older universities. Post-1992 institutions comprise former polytechnics and a range of other institutions, many of which gained university status through or after the 1992 act. While these are not official categories and the practice of classification in this way is subject to critique as reductionist and/or exclusionary, nevertheless the categories have some construct validity in that they are associated with empirical differences in a range of measures.

Institutionally, there was a reduction in enrolments for all three institutional groupings, but the reduction was smaller for the Russell Group, leading to a fundamental shift in the distribution of EU students in UK institutions. In 2020/21, there were approximately two first-degree EU entrants to Russell Group universities for every five to other universities; by 2022/23, this ratio had shifted to almost 2:3. The fortunes of post-92 institutions were considerably worse. In 2007/08, the majority of new EU full-time first-degree enrolments in UK institutions were in the post-92 sector. While this dominance slowly eroded over the period, there was a resurgence after the Brexit referendum, with a majority re-attained in 2020/21. This was followed by a crash in numbers after Brexit, falling by over three quarters from the previous year (whereas those for the Russell Group halved). Other pre-1992 universities saw a reduction in numbers too, although less sharp than that seen for post-92's and after a period of having slowly lost share to the other two groups.

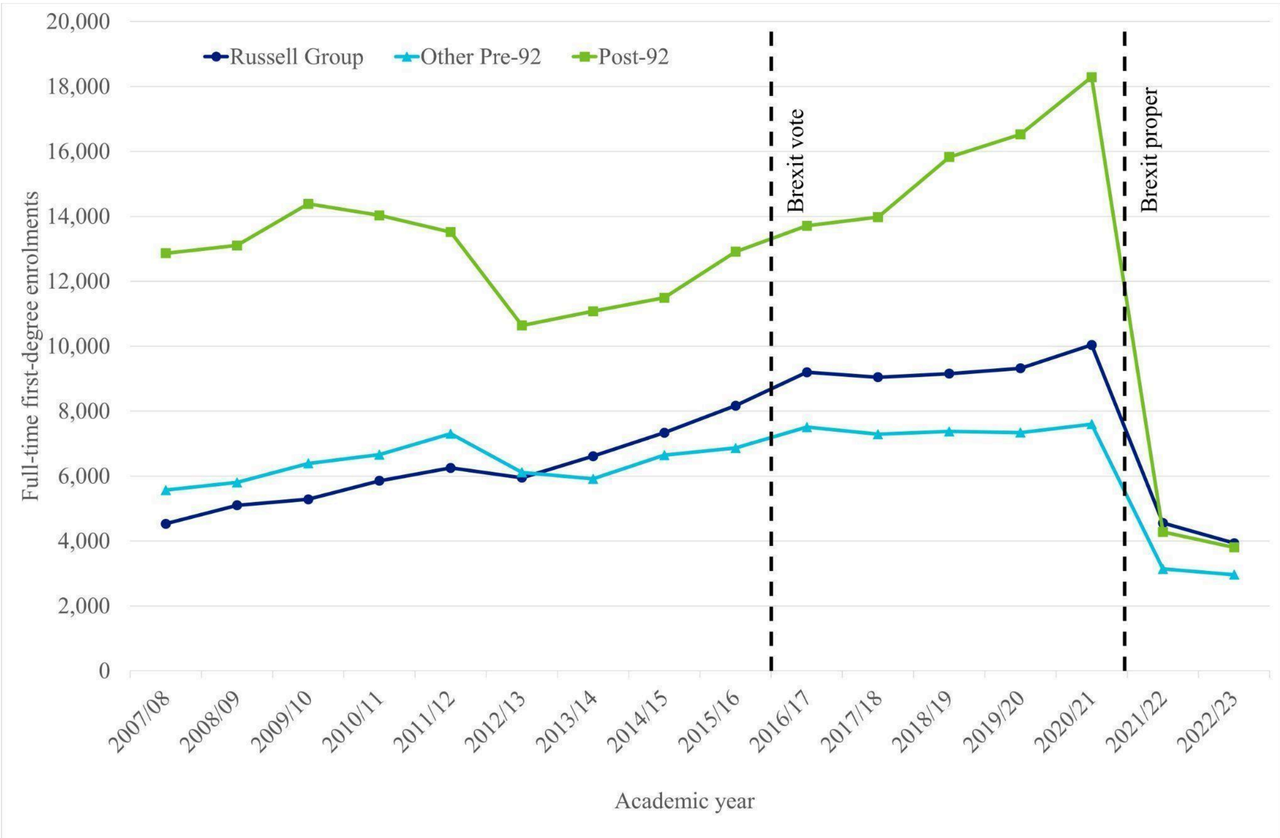
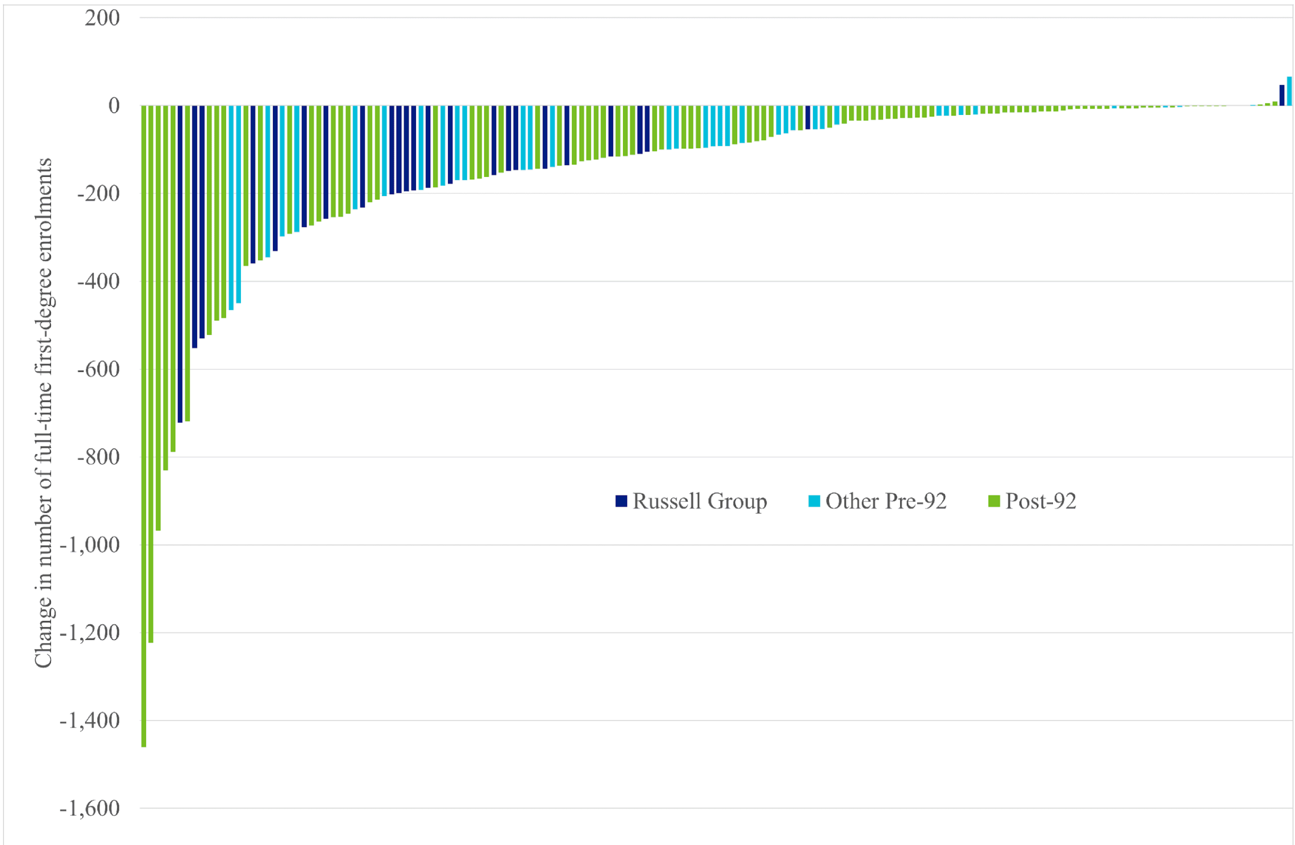


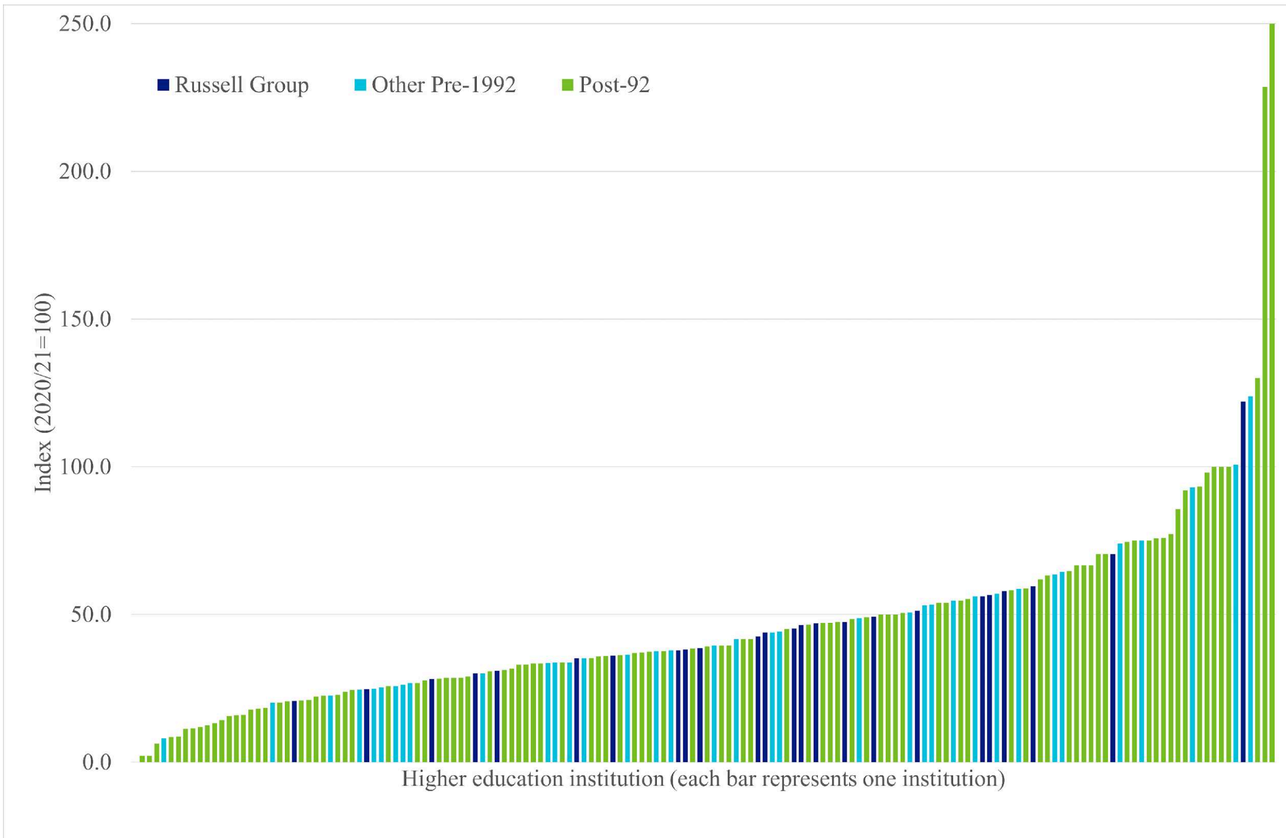

Figure 4. Full-time EU first-degree enrolments in UK HEIs, 2007/08 – 2022/23, by classification of receiving institution

More detail at the level of individual institutions is presented in Figures 5a and 5b. These show, respectively, the absolute change in enrolments immediately prior to and after Brexit by institution and mission group; and the relative change in the same enrolments, with 2020/21 set at an index of 100. Each bar represents an individual institution, coloured to indicate its sector, but individual institutions are not named. Both charts show clearly that the impact of Brexit on individual institutions was very far from uniform. Most of the institutions experiencing the sharpest reduction in intake – whether in terms of total EU student numbers or proportion of EU students – were from the post-1992 sector. Some saw drops of over 500, or even more than 1,000 students in their post-Brexit intake. This would translate into a multi-million-pound financial hit to an institution's income, not to mention perhaps threatening the viability of particular programmes and changing the character of the incoming cohort considerably. The ten most-affected post-1992 institutions collectively account for almost one third of the total reduction in EU student numbers between 2020/21 and 2021/22. However, among those institutions which experienced the least impact on enrolments, post-1992 institutions are also most prominent. These institutions appear to be little impacted on the basis that they had few EU enrolments in 2020/21 and hence little to lose. A small number of institutions managed to increase their EU enrolments after Brexit, although the absolute size of those increases was very small and rendered tiny by comparison to the scale of reduced numbers.

Figures 6a and 6b show the distribution of EU entrants by country across the three institutional groupings. Immediately prior to Brexit, Romanian, Portuguese and Polish students were prominent across all three institutional groupings. By contrast, French and Spanish students were more prominent among the older universities (Russell Group and pre-92). There were almost twice as many French students in Russell Group universities than in post-92 institutions, for instance. By contrast, Romanians were more than four times as likely to be in post-92 than Russell Group universities, and Portuguese students around *nine* times more likely. Following Brexit, Irish

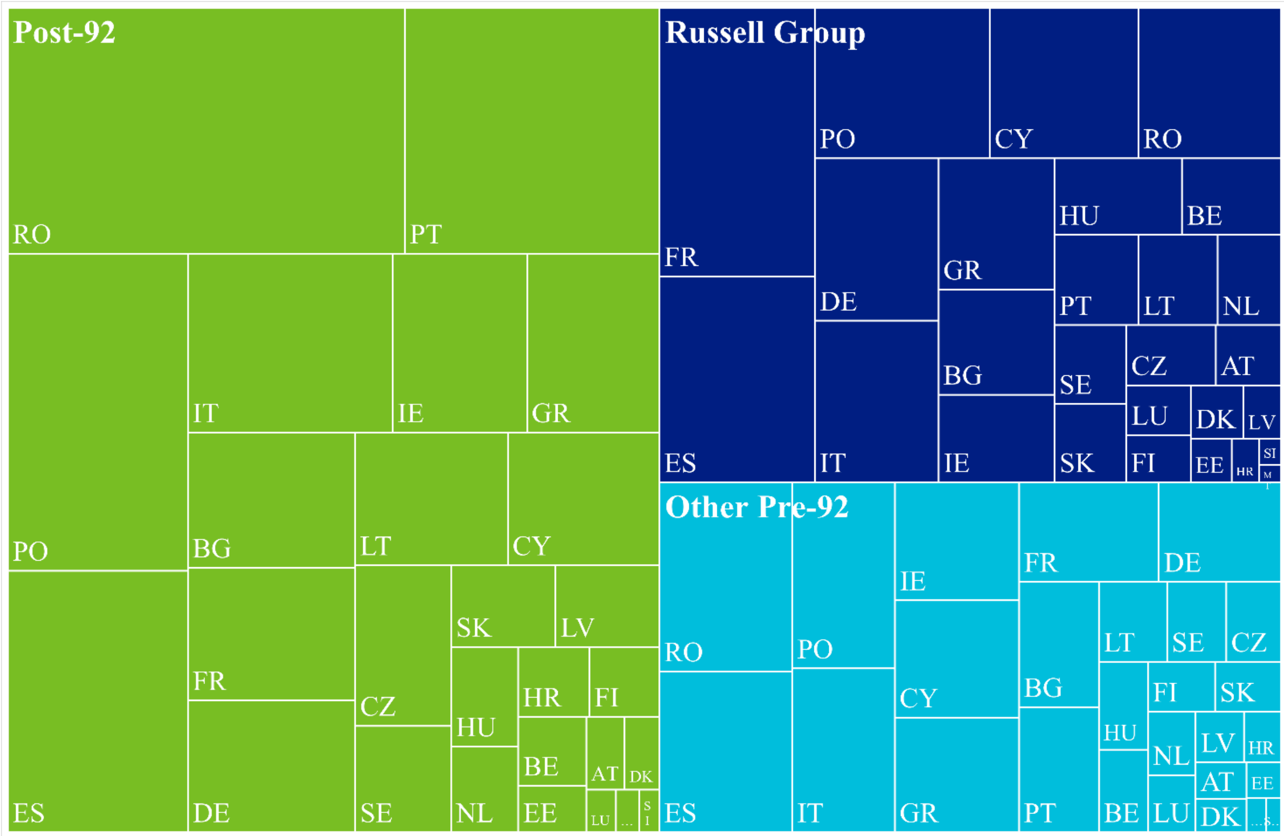



*(a) Absolute change in enrolments*

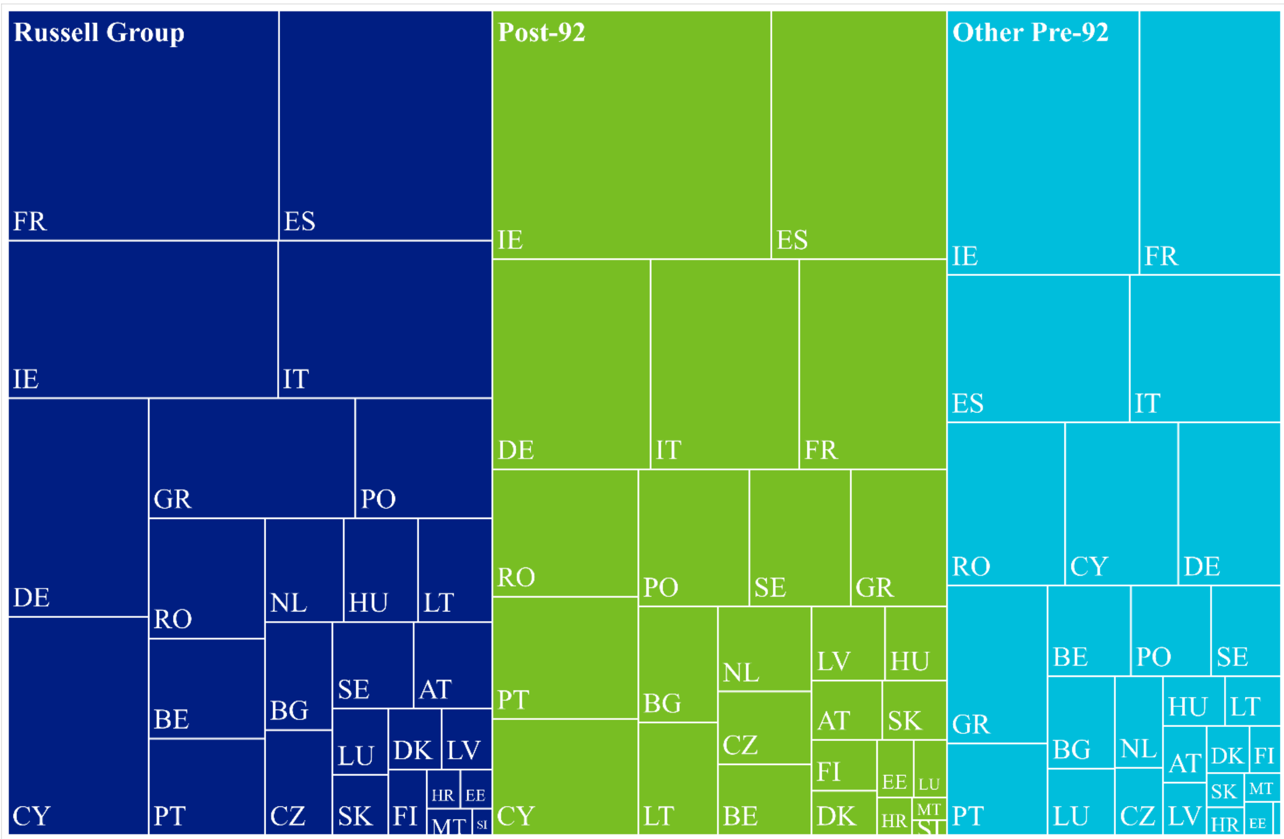



*(b) Relative change in enrolments (2020/21=100)*

Figure 5. Change in new full-time EU first-degree enrolments in UK HEIs 2020/21 – 2021/22 by institution and mission group




*(a) 2020/21*




*(b) 2021/22*

Figure 6. Treemaps of new full-time EU first-degree enrolments in UK HEIs 2021/22 by sending country and mission group

students became the single biggest nationality for Other Pre-92 and Post-92 institutions, but not for the Russell Group, where French and Spanish students remained the largest grouping.

### *Field of study*

Finally, we consider how enrolments by field of study change before and after Brexit. Figure 7 shows the relative and absolute changes in enrolment by field of study for 2020/21 and 2021/22. Fields of study are reported using HESA's 'Higher Education Classification of Subjects' scheme, which groups fields into 19 distinct areas. The chart plots the proportion of all new full-time first-degree EU enrolments in each year. Those fields of study sitting below the orange line saw a reduction in representation after Brexit, whereas those above saw an increase. Those on the line saw no change. The size of each bubble represents the absolute reduction in number of enrolments between 2020/21 and 2021/22.

All fields of study experienced a reduction, although the absolute and relative size of that reduction varied considerably across fields. Business and management was the single largest field both before and after Brexit, but the scale of its dominance was reduced post-Brexit, reducing from one quarter of new EU enrolments before Brexit to only one fifth afterwards. One third of the entire reduction in EU enrolments is attributable to this single field. Other subjects were more insulated against Brexit, however. Health professions, including Medicine and dentistry, Subjects allied to medicine and Veterinary science had small proportional reductions, as did Law. Psychology, Creative arts and design, and Computing all suffered considerable reductions.

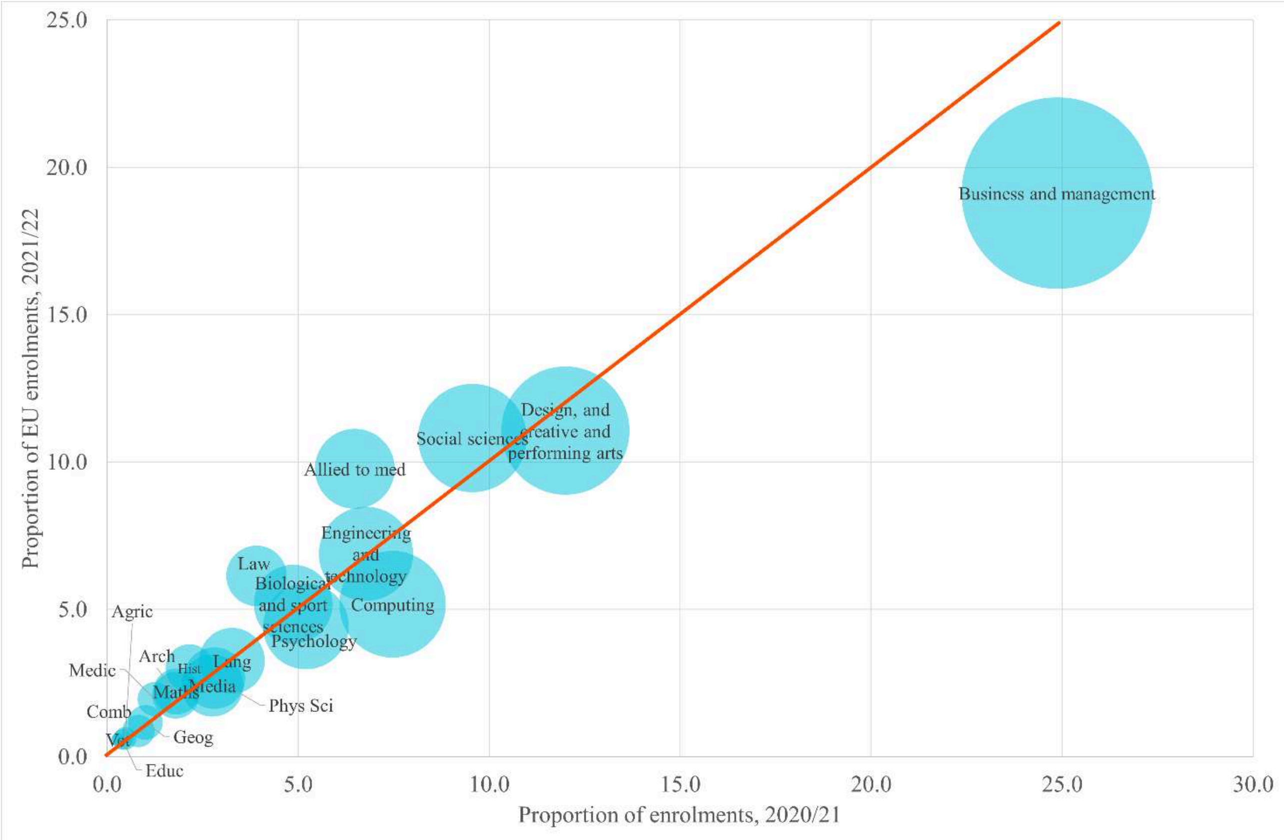



Figure 7. Change in new full-time first-degree EU enrolments in UK HEIs, 2020/21 – 2021/22, by field of study (size of bubble represents absolute reduction in enrolments)

## Discussion

Brexit represents one of the biggest abrupt shifts in international student mobility in the last few decades. While other countries have arguably enacted similar policies, such as decisions by various EU countries (including the UK in 1981) to end free HE for international students, the scale of EU enrolments in the UK prior to Brexit and the radical shift in costs makes this a particularly interesting case. Access went from having no up-front cost at the point of entry (since students could borrow to pay fees and repay later) to being very high-cost and immediate. Yet the impact of Brexit on EU student mobility to the UK has received relatively little attention from scholars of international mobility, beyond the headline observation of significant reduction in volume of mobile students before and after Brexit. Reflecting on the immediate apparent impact, it is difficult to overstate the profound disruption observed. Enrolments dropped massively at both undergraduate and postgraduate levels. Post-Brexit, new first-degree enrolments were only one-third of their prior level. Although it is not analytically possible to entirely disentangle the impact of COVID-19 from Brexit for UK enrolments, comparing patterns with other countries across the Brexit/COVID-19 period shows a precipitous drop only for EU countries. The consequences for the opportunities available to (mostly younger) EU citizens and for UK universities are profound. These will be felt in a range of ways, from secondary economic impacts in universities' surrounding communities due to a loss of incomers and their spending power, to the quality and diversity of discussion in UK university classrooms, through perhaps to the viability of programmes of study in certain areas. The 'soft power' associated with British HE in terms of cultural understanding and influence will be diminished, as will the reciprocal intercultural competence which British students could develop. Even taking a narrowly UK-centric economic view of the direct impact on HEIs' income there is only limited comfort to be had. The UK exchequer will incur lower expenditure on loans to EU students, which will be replaced by higher upfront fees, thus generating greater 'exports'. However, spillover effects, including tax yield from EU students' purchasing, are lost. For the institutions themselves there is a net loss of income because although fee-per-student approximately doubles, this does not compensate for a two-thirds reduction in new enrolments (of first-degree students).

That said, it would be hyperbole to claim that the impact of Brexit was *terminal* for EU mobility to the UK. Even though the apparent impact was very severe, nevertheless it did not result in the complete erasure of EU students in UK HE. Rather, from the UK side, the change has contributed to a more slowly unfolding crisis which has multiple causes. Previous major changes within UK HE, such as in the introduction of higher levels of tuition fee, have typically seen an immediate substantial decrease, followed by a rebound in subsequent years, often to return to the original trajectory over several years (Dias Lopes, Mateos-González, and Wakeling 2024; Murphy Scott-Clayton and Wyness 2019; Wakeling and Jefferies 2013). However, no such rebound is evident for 2022/23, and UCAS data showed a continued decline in demand from EU applicants in each of the 2023 and 2024 entry years.[6]

[6] Source: https://www.ucas.com/undergraduate-statistics-and-reports/ucas-undergraduate-releases/applicant-releases-2024-cycle/2024-cycle-applicant-figures-30-june-deadline (accessed 26 March 2025).

While we saw a very large reduction in new EU enrolments in UK HE institutions according to all the dimensions we examined, there was variation in the extent of the reductions. Thus, reductions were seen at first-degree, postgraduate master's and research degree levels, but with the sharpest change for first degrees. With the exception of Ireland, for which different rules apply, every EU country sent far fewer new first-degree students to the UK in 2021/22 than in 2020/21. However, the extent of the change varied considerably, from a reduction of less than 50% in a few cases, to almost-decimated numbers in others. There appeared to be three distinct groups of countries. First, those with a strong historical connection to the UK, and where English is in common everyday use, saw the least impact. This group comprises Ireland, Cyprus and Malta. Second, a group of richer EU member states which are geographically closer to the UK, were relatively less impacted. This included France, Germany, Austria, the Benelux countries and to some extent Spain, Sweden, Denmark and Italy. Finally, the third set comprised poorer countries more geographically distant from the UK. This included all post-2002 EU expansion countries, plus Portugal. Finland saw similar reductions but stands as an anomaly in this grouping. Several of these countries were, prior to Brexit, significant sources of EU mobility to the UK, in both absolute numbers of students and also relative to their domestic HE enrolments.

We explored further detail through examining the institutions and fields of study in which EU students enrolled (at first-degree level) between 2020/21 and 2021/22. Stratifying UK institutions into three groups, we showed that each saw a large reduction in EU enrolments. Hardly any institutions escaped this trend, and many saw very large reductions. Collectively, institutions in the Russell Group, generally viewed as the most prestigious UK universities, were the most insulated from Brexit, with post-92 institutions most impacted, seeing drops of about half and about three-quarters in new EU first-degree enrolments respectively. This meant the Russell Group overtook the post-92 sector as the most popular grouping among EU incomers. There was perhaps less of a differential outturn across fields of study, although some areas stand out. Business and management, for instance, saw a large absolute and relative decline in EU enrolments, with about one third of the reduction in first-degree EU enrolments accounted for by the discipline. Health sciences disciplines and Law saw somewhat smaller year-on-year reductions.

What do these observations suggest about international student mobility more generally? It seems fairly evident – and entirely unsurprising – that a huge increase in costs will deter many students. The main pattern from all our analyses is of a very large reduction in enrolments, to some extent drowning out all other trends. Strictly speaking, we cannot claim causality and we have used observational rather than causal statistical measures. However, the size of the change seen and its coincidence with Brexit, together with the apparent absence of a COVID effect for comparator countries, leaves room for no other plausible conclusion than a Brexit effect.

Looking below the overall tear in the fabric of EU student mobility to the UK, there are some strong hints at other patterns. We cannot know whether the country-level, institution-level and field of study patterns observed result from a change to student behaviour or instead from a 'survivor' effect – i.e. these are the enrolments which remain after others have been blocked. Our hypothesis is that questions of absolute affordability excluded a swathe of EU students from coming to the UK post-Brexit. This is seen in the country-level patterns, where richer and geographically closer countries saw the smallest reductions. We also expect that beyond absolute affordability, there is some price elasticity for students of more advantaged means, but only under certain conditions. There is, at least on the face of it, a suggestion that the cachet of a degree from a high-status UK university is more likely to pass a cost-benefit test by a student (and their family), as might a degree in particular disciplines. We think these patterns can usefully be understood as revealing the heteronomous and autonomous poles of the field of HE. More 'academic' subjects in high status universities were most insulated, whereas vocational subjects without a tight occupational pathway, such as business and management, in more vocationally-oriented universities saw the greatest declines.

We need to understand more, however, about the socio-economic background of internationally mobile students. We would expect that the most disadvantaged EU students did not come to the UK previously, so what we may be observing are differences within a larger European middle class, both between different national middle classes, who have different average levels of purchasing power (and also imperatives to move), and between sections of the middle class within countries too, with only the upper echelons of the middle class (and the upper class) able to bear the very high fees post-Brexit. Moreover, even before Brexit, UK students were less likely to be outwardly mobile to EU countries for full degree study, meaning the disbenefits of Brexit for students more likely fell on relatively advantaged EU students than on British students. The relative insulation from the impact of Brexit seen for the highest status UK universities gives a further strong hint that the most advantaged groups have been less influenced by post-Brexit changes to study costs, since it is widely known that those from the highest socio-economic backgrounds are overrepresented in the highest status universities (e.g. Wakeling and Savage, 2015).

**Conclusion**

Brexit is a generational political change, with considerable reverberations across many aspects of British and EU economies and societies. Here we have shown its apparent impact on international student mobility into the UK. The policy shock of Brexit was followed by a massive retraction in EU student mobility to the UK across all institutional types, levels and fields of study. Focusing on first-degree entrants, we have argued that the radical increase in upfront tuition fee costs resulting from EU entrants change of status to ‘international’ is likely to have been the main block or dissuasion. Nevertheless, Brexit has acted as a sorting mechanism that has significantly reinforced the existing stratification within the UK HE sector. This effect has clearly advantaged the research-intensive Russell Group universities, which have continued to attract EU students, due to their enduring reputational capital. In contrast, post-1992 universities have faced a substantial decrease in EU students. The differentiation is further evident in patterns of enrolment by field of study and country of origin, with more academic and research-focused programmes remaining relatively unaffected, and with Western European students dominating, while fewer applications are seen from Eastern European countries.

Contrary to much previous research on significant student funding policy changes, where predictions of dire effects were often not borne out in reality, in this case the Brexit outcome for international student mobility from the EU is very much as anticipated. The consequences of this change are likely to be long lasting, although time will tell whether the UK follows the pattern seen by Sweden of a long-term reversal of reductions (Nilsson and Westin 2022). Interestingly though, and contrary to Armuendo-Dorantes and Romiti (2024), the Brexit referendum was not followed by changes in student mobility – these only appeared after full Brexit.

Our findings point to three broader questions which would benefit from further investigation by HE researchers. The first and most immediate question is to investigate what became of the 'missing' tens of thousands of EU students who, without Brexit, we would have expected to enrol in UK HE. Are UK universities successfully attracting non-EU students to replace EU enrolments and increasing revenue streams? Is there evidence of changes to intra-EU or other extra-EU mobility, or does it appear that would-have-been mobile students stayed in their origin countries? French President Emmanuel Macron's 2017 Sorbonne speech (Élysée, 2017), which directly addressed Brexit, underscored the need for educational integration across Europe. This vision led to innovations like the European Universities Initiative, enabling students to study across multiple EU countries within unified degree programmes. Additionally, the expansion of English-taught degrees across EU universities (Dixon, 2024) provides more options for students who might otherwise have chosen the UK. These immediate reactions to Brexit might indicate an effort to foster intra-EU mobility and reinforce educational ties among member states.

The second question is to better understand the background characteristics of full-degree internationally mobile students (both within Europe but also more generally). Systematic data on the socio-economic background of HE students is very good in some countries (e.g. UK, Nordics) but poor in others; but for most countries data collection focuses on domestic students only. Without such data, we cannot test the assumption that most full-degree mobile students are from middle-class backgrounds with highly educated parents, nor can we investigate differences between advantaged groups. Our findings hint at considerable differences between the wealthy and the merely comfortable which would benefit from greater examination.

Finally, the Brexit rupture in international student mobility can be expected to have longer-term consequences. What changes might there be in later outcomes, for instance, based on the reduction in EU incomers to the UK? Will this impact on labour markets (both in general and for the 'missing' students)? Will it reconfigure the UK's projection of soft power, particularly as universities strive to shift to other international markets? Relatedly, what will be the social outcomes? One in four former Erasmus exchange students have a romantic partner of a different nationality, half of whom met on the exchange (Souto-Otero, Manuel and European Commission 2019), yielding according to some estimates one million Erasmus babies (Puhl and Crosier 2019). The demographic consequences of UK HE's Brexit will likely therefore be long-lasting.

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