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Working Paper 8: The impact of the 2012 tuition fee changes on student flows across the UK's internal borders

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Introduction

About 7% of full-time undergraduate students domiciled in the UK move to another home country of the UK to study. This proportion varies widely across the four home countries, from less than one in twenty English-domiciled students to around one in three from Wales and Northern Ireland. This cross-border movement offers potential educational benefits both to the students who move and to the institutions and fellow-students where they study. The interests of social justice require that opportunities for cross-border study be made available to all categories of students; the benefits to the receiving institutions and their students should similarly be available to all types of institutions, and these benefits are likely to be greater if they derive from a broad cross-section of students from the sending countries. Neither social justice nor the potential benefits of cross-border study, therefore, are likely to be realised if this is restricted to students from the most favourable social and educational backgrounds and to higher status institutions.

The risk of this happening may have been increased by devolution. Before 1992, UK universities were funded and administered as a UK-wide system; most students remained within their home country but the governance arrangements presented few administrative or financial barriers to cross-border study beyond those arising from the geographical, cultural and social distance that this often involved. Following administrative devolution in 1992, and parliamentary devolution in 1998-9, HE in the four home countries tended to become more differentiated, with a degree of policy divergence, even if UK higher education remained a single system in important respects including its arrangements for admissions. These changes, and especially the divergent funding and fee regimes, may have increased the barriers to cross-border study. These barriers may not only reduce the overall level of cross-border study but also restrict it to advantaged students and to high-status institutions. A study of trends up to 2010 showed that the proportion of students studying elsewhere in the UK had tended to decline, albeit unevenly, since devolution ([Raffe and Croxford 2013](#)). It also found that cross-border study was associated with the educational, social and ethnic backgrounds of students as well as with institutional characteristics. However, it did not observe any substantial changes in the student characteristics associated with cross-border study, and it noted that the detailed patterns had been complex, shaped by the intersecting influences of ethnicity, subject preference and the balance of supply and demand. The largest category of receiving institutions had been post-1992 universities in England. The study was able to dispel the fear that UK HE had become a 'two-tier structure in which advantaged students and elite universities inhabit a UK-wide system and other students and institutions inhabit more narrowly bounded systems' ([Raffe and Croxford 2013](#), 132; see also [Croxford and Raffe 2014](#)). This paper asks whether more recent changes, and especially the new fee regimes introduced in 2012, have affected this conclusion.

Students entering HE in 2012 were the first to face the higher fee levels introduced following the 2010 Browne Report and the subsequent raising of the fee cap from around £3,500 to £9,000 per annum. The Browne Report covered only England; most English universities introduced fees at or near the new annual cap, with an average of around £8,748 in 2014/15 ([Office for Fair Access 2014](#)). Welsh universities were also permitted to raise their fees to a maximum of £9,000, but Welsh-domiciled students studying at a UK university received an additional grant which offset the increase in fees. Universities in Northern Ireland were also allowed to increase their maximum fees, but only for students from the rest of the UK (RUK). Northern Irish students continued to be charged fees at the pre-2012 level, adjusted only for inflation. Scottish universities were allowed

to increase the (relatively modest) fee they had previously charged RUK students to the £9,000 maximum. Tuition continued to be free for Scottish-domiciled students at Scottish institutions.

The influence of these fee changes on students' choices of whether, what and where to study is complicated by a number of factors. First, fee repayments are deferred, income-contingent and time-limited. The evidence so far available suggests that this considerably reduces the disincentive of fees and fee increases on entry to higher education, compared with simple up-front fees. Second, in all four jurisdictions the picture is complicated by the diverse array of national and institutional student support arrangements, which may affect the actual or perceived costs of study in different locations for different categories of students ([Chowdry et al. 2012](#), [Blackburn 2014](#)). Third, the decision whether or not to study in another part of the UK is influenced by a variety of other factors, including differences in costs of accommodation and travel, diverging school qualification regimes, the opportunities for employment in the place of study and, perhaps, changing attitudes generated by publicity about the Scottish referendum. It is also influenced by the availability of suitable places in the home country. For example, students from Wales and Northern Ireland who wish to study veterinary medicine have no alternative but to move to another part of the UK or beyond. In Northern Ireland there is a chronic aggregate shortage of HE places overall, relative to the demand for places, resulting in relatively high entry requirements for many courses. In recent years around one in three NI-domiciled students have studied elsewhere in the UK, and these have comprised two main groups: the 'determined leavers' who study by choice and the 'reluctant leavers' who do not meet the high entry qualifications required by institutions in Northern Ireland ([Gallagher et al., 1999](#); [Osborne 2006](#)).

Subject to these complications, we can anticipate two possible consequences of the 2012 changes for the level and distribution of cross-border study. First, if the changes have made HE more expensive regardless of where students go, as is the case for most English students, they may seek to offset their higher costs by studying closer to home. This would lead to a reduction in the level of cross-border study, especially among less advantaged students for whom financial considerations are likely to be more important. The greatest reduction might be in the number moving to Scotland to study, where degree courses typically require four years' study rather than the three years which is the norm in the rest of the UK.

Second, we anticipate a larger effect on the level and especially the distribution of cross-border study among students domiciled in Scotland, where the fee differential between home and RUK study increased significantly in 2012, or Northern Ireland where a difference in fees appeared for the first time, than in England or Wales. English students faced higher fees than before but (subject to the relatively modest variation across institutions) they faced the same high fees wherever in the UK they studied. Welsh students also faced the same fee levels wherever they studied, since they received a grant to cover the increase in fee charged by any UK institution. However, Scots studying elsewhere in the UK now faced a maximum annual fee of £9,000 compared with free tuition at home; and Northern Irish students studying elsewhere in the UK now faced a fee differential for the first time, since those who remained in Northern Ireland continued to pay fees at the old level. Particularly among Scottish-domiciled students, therefore, we would expect cross-border study to be increasingly concentrated among the most advantaged students, for whom the fee differentials are less of a deterrent, and/or among students entering elite universities or high-status courses whose reputational and economic return is most likely to justify the additional cost.

The UK home countries therefore provide a natural experiment of the impact of fees, and fee differentials, on the student and institutional characteristics associated with cross-border study. Our discussion above suggests that the fee changes might lead to:

- A reduction in the volume of cross-border study among students domiciled in Scotland and (subject to the availability of places at home) Northern Ireland, and to a lesser extent England, but not Wales;
- A reduction in flows from England and Northern Ireland to Scottish universities;
- A tendency for cross-border study to be increasingly concentrated among the more advantaged students. This would affect students from Scotland more than England or Northern Ireland (where disadvantaged 'reluctant leavers' may still lack the opportunities to study at home), and it would not affect students domiciled in Wales.
- A tendency for cross-border study, especially among Scottish-domiciled students, to be increasingly associated with elite institutions or high-status courses. However, there may be countervailing effects of the different fees charged by different institutions, but the differences are relatively small. There may also be knock-on effects of the changing social composition of students who cross borders, given the tendency for students from different backgrounds to enter different institutions and courses.

Data

In this paper, therefore, we examine

- the level of cross-border study,
- the social, educational and demographic characteristics associated with cross-border study, and
- the types of institutions and programmes where they study.

We compare the patterns and trends among students domiciled in England, Wales, Northern Ireland and Scotland, who entered HE in 1996, 2004, 2010, 2011 or 2012. We use data supplied by the Higher Education Statistics Authority (HESA) on full-time undergraduate students in their first year of study in UK HE institutions in each of these years. We focus on young people (aged under 21)¹, among whom entry to HE is closer to an annual flow, such that year-on-year data will reveal the main impacts of changes. There is evidence that fee changes have had different, and larger, impacts on adult participants ([Independent Commission on Fees 2013](#); [UCAS 2012a](#)).

Ideally we would have used UCAS data based on the year in which students applied to HE, rather than HESA data based on the year of entry, but a change of UCAS policy meant that its data were not available to the project. In a normal year a proportion of applicants who are offered places in the annual UCAS application round choose to defer entry until the following year. This proportion had tended to decline during the 2000s; it was about 9% of successful 18-year-old applicants in 2010. In the 2011 round this proportion fell sharply, to 3%, as applicants sought to avoid the higher fees due to be introduced in 2012 ([UCAS 2012b](#)). In 2012 it returned to nearly 8%, close to its earlier level. As a result, the 2011 entrants include, and the 2012 entrants exclude, a number of successful 2011 applicants who would 'normally' have deferred entry to 2012. Since deferred entrants are not representative of all students this may have an impact on the profile of entrants

¹ The student group covered by this paper therefore differs from that covered by our earlier paper ([Croxford and Raffe 2014](#)), which focused on entrants of all ages to full-time first-degree programmes.

in a given year. Lacking data on applicants in each year, we can allow for these effects by comparing data for the three years of 2010, 2011 and 2012. To the extent that any impacts in 2012 are due to the smaller number of deferred entrants, we would expect any differences between 2011 and 2012 to be matched by opposite trends between 2010 and 2011, when the number of entrants was swollen by those who would otherwise have deferred entry.

The level of cross-border study

[Table 1](#) shows the number of students domiciled in each home country of the UK who entered full-time undergraduate higher education in each year of our study. The table distinguishes between stayers and movers, that is between those who studied in the ‘home country’ and in another country of the UK respectively. [Table 2](#), based on the same data, shows movers as a percentage of students from each country in each year.

Table 1: Raw numbers: movers/stayers by country of domicile and year of entry (Full-time UK-domiciled undergraduates aged under 21)

Country of domicile		Year of entry				
		1996	2004	2010	2011	2012
England	Stayer	170166	208125	252370	269905	231292
	Mover	11548	11304	12193	13561	11678
Wales	Stayer	5613	7331	8823	8596	8484
	Mover	5815	5714	5359	5572	6099
N Ireland	Stayer	4914	7830	7191	7147	7260
	Mover	3397	3311	3686	4225	3293
Scotland	Stayer	19034	21464	21473	20809	21323
	Mover	1552	1419	1305	1389	1082

Table 2: Percentage who are movers by year by country of domicile

Domicile	Year of entry				
	1996	2004	2010	2011	2012
England	6.4	5.2	4.6	4.8	4.8
Wales	50.9	43.8	37.8	39.3	41.8
N Ireland	40.9	29.7	33.9	37.2	31.2
Scotland	7.5	6.2	5.7	6.3	4.8

The number of English-domiciled students entering HE each year rose (by nearly a half) between 1996 and 2010; over the same period, the proportion who studied in another part of the UK fell from 6.4% to 4.6%. The number of entrants rose by 7% in 2011, and then fell by 14% in 2012, when the new fees became payable. The reports published by UCAS ([2012a](#), [2013](#)) show that this trend partly reflected the decline in deferred entries noted above. Despite these trends, the proportion studying elsewhere in the UK changed little over the three years, at 4.6%, 4.8% and 4.8% respectively. This contrasts with the pattern among Welsh-domiciled entrants, whose level of entry to HE barely changed between 2010 and 2011 (the number of stayers and movers combined fell by a mere 14 students) and then rose in 2012, with a continuing increase in the proportion studying outside Wales. This reversed the trend during the previous decade and a half, when the proportion of Welsh movers declined from over 50% to 37.8%. Northern Irish-domiciled students present yet another pattern: the number of stayers remained roughly level over the

three years 2010-2012, while the number of movers rose in 2011 and then fell by an even larger amount in 2012. The fall in 2012 is consistent with a fee effect, but it could also be explained as the simple result of a change in deferred entry. Between 2010 and 2011 the number of Northern Irish movers rose by 539. Let us suppose that all this increase was contributed by students who would normally have deferred entry to 2012, but were deterred from doing so by the imminent fee rise. The 2012 applicants would have had no such disincentive to defer entry, so normal patterns of deferral might be resumed. Adding 539 to the total of movers in 2012 therefore gives a possible indication of the number of movers in a steady-state year following the fee changes. In this case movers would comprise 34.5% of NI-domiciled entrants in 2012, compared with the 31.2% of actual entrants shown in 2012. This figure of 34.5% is actually higher than the proportion of movers in 2010 (33.9%), suggesting that any reduction in cross-border movement out of Northern Ireland in 2012 was a temporary consequence of the decline in deferred entrants.

In Scotland, too, the proportion of movers rose in 2011 and declined in 2012, in this case based on a declining total number of entrants. However, a similar calculation of the possible effects of reduced deferral suggests that this does not wholly explain the decline in movers in 2012. Adding the 'extra' 2011 movers to the total for 2012 movers would increase the latter to 5.2% of Scottish-domiciled entrants in 2012, still slightly lower than the 5.7% in 2010. However, this decline may merely be a continuation of an existing downward trend, from 7.5% in 1996 to 6.2% in 2004 to 5.7% in 2010 (see [Raffe and Croxford 2013](#)).

More than two-thirds of English movers studied in Wales, and most of the remainder studied in Scotland. The proportion studying in Scotland had declined from 33.3% to 25.8% between 1996 and 2010; it then declined further to 22.0% in 2011 and rose to 29.1% in 2012 (table not shown). This does not confirm the prediction of a reduced preference for Scottish institutions, although a longer time series would be needed to confirm this. There was a similar trend between 1996 and 2010 for Northern Irish movers, like their English counterparts, away from study in Scotland: the proportion doing so fell from 43.3% to 24.6%. In the following two years it was very slightly lower, at 22.3% and 23.7% respectively. The overwhelming majority of movers from Scotland and Wales continued to study in England.

Institutions and subjects

[Table 3](#) shows the institutional sectors entered by movers from each country, compared with the stayers. Movers out of England or Scotland were more likely than stayers to enter older, higher-status institutions. The 2012 fee changes appear to have encouraged this tendency, but only with respect to the highest status institutions. The proportion of English movers entering Russell Group universities rose in 2012, but the proportion entering any pre-1992 institution fell in 2011 before rising again in 2012. More Scottish movers entered Oxford or Cambridge, but this was balanced by a fall in the proportion entering other Russell Group universities.

Table 3: Type of institution entered by movers/stayers by country of domicile and year of entry

County of domicile		Year of entry					
		1996	2004	2010	2011	2012	
England	Stayer	Oxbridge	3.0	2.5	2.0	1.9	2.1
		Russell Group	19.7	21.0	17.9	16.9	17.8
		Other Pre-1992	18.5	20.0	19.7	19.1	19.6
		Post-1992	49.9	47.6	54.8	56.3	54.4
		Other HEI	8.9	8.9	5.7	5.9	6.2
	Mover	Russell Group	35.5	39.1	30.3	30.7	38.6
		Other Pre-1992	37.9	39.5	44.6	41.9	42.3
		Post-1992	15.7	13.7	22.8	26.2	17.9
		Other HEI	10.9	7.7	2.3	1.3	1.2
Wales	Stayer	Russell Group	17.9	19.7	14.8	15.3	16.9
		Other Pre-1992	27.4	31.2	32.9	32.7	40.7
		Post-1992	34.0	36.4	52.3	52.0	42.4
		Other HEI	20.7	12.7	.0	.0	.0
	Mover	Oxbridge	3.3	3.4	2.4	2.4	2.1
		Russell Group	20.6	26.8	23.8	22.9	21.8
		Other Pre-1992	19.1	20.3	20.1	20.2	21.5
		Post-1992	43.9	34.6	48.3	49.4	48.9
		Other HEI	13.1	14.8	5.4	5.1	5.6
N Ireland	Stayer	Russell Group	53.1	40.6	43.6	42.2	44.7
		Other Pre-1992	46.9	53.4	50.3	51.5	49.1
		Other HEI	.0	6.1	6.1	6.3	6.1
	Mover	Oxbridge	3.6	3.8	2.4	2.4	2.5
		Russell Group	16.9	26.4	24.8	23.3	22.9
		Other Pre-1992	24.8	21.6	20.3	19.9	22.2
		Post-1992	45.7	43.0	48.9	51.1	48.5
		Other HEI	9.1	5.2	3.6	3.3	3.9
	Scotland	Stayer	Russell Group	18.6	20.9	18.3	18.5
Other Pre-1992			34.1	36.3	34.8	32.6	33.6
Post-1992			39.4	32.6	39.0	41.7	39.7
Other HEI			7.9	10.2	7.9	7.3	7.8
Mover		Oxbridge	8.1	11.4	9.5	8.4	12.1
		Russell Group	26.4	30.0	28.1	28.6	26.0
		Other Pre-1992	19.1	18.7	23.0	19.5	21.1
		Post-1992	38.6	30.0	31.9	35.3	32.3
		Other HEI	7.9	9.8	7.5	8.2	8.6

Among Welsh and Northern-Irish-domiciled entrants, movers tended to enter newer institutions than stayers. This may reflect the less selected nature of movers groups as well as the fact that most studied in England with its much higher proportion of post-1992 universities. There was no increase in the proportion of movers entering older institutions in the years after 2010.

[Table 4](#) similarly shows the subjects entered by movers and stayers from each country. There was a general trend for more movers than stayers to study medicine or arts and fewer to study social sciences and law. However, other trends varied according to the supply and demand for each country. English movers were relatively likely to study sciences, Northern Irish stayers were relatively likely to study engineering and technology, and Scottish movers were relatively likely to study arts. There were few substantial changes in the subject profiles of cross-border movers in 2011 or 2012.

Table 4: Subject area entered by movers/stayers by country of domicile and year of entry

Domicile		Year of entry					
		1996	2004	2010	2011	2012	
England	Stayer	Medicine & Vet Med	3	3	3	3	3
		Subjects allied to medicine	6	7	7	7	7
		Sciences	21	22	24	24	24
		Engineering & technology	10	8	8	7	7
		Social science & law	29	34	33	34	34
		Arts	18	24	25	25	24
		other	13	1	0.3	0.4	0.2
	Mover	Medicine & Vet Med	6	5	5	5	5
		Subjects allied to medicine	4	4	4	4	5
		Sciences	21	28	30	30	32
		Engineering & technology	7	7	7	7	7
		Social science & law	24	24	23	24	21
		Arts	24	32	31	30	31
		other	14	0.3	0.0	0.0	0.0
Wales	Stayer	Medicine & Vet Med	3	3	2	2	2
		Subjects allied to medicine	7	9	7	7	6
		Sciences	20	23	26	26	27
		Engineering & technology	9	8	8	7	6
		Social science & law	33	34	35	37	37
		Arts	16	22	21	21	22
		other	11	0.5	0.1	0.2	0.0
	Mover	Medicine & Vet Med	4	6	7	6	6
		Subjects allied to medicine	5	6	9	9	9
		Sciences	22	22	22	23	23
		Engineering & technology	11	9	9	9	8
		Social science & law	25	30	26	27	28
		Arts	20	26	27	26	26
		other	13	1	0.3	0.2	0.4

Domicile			Year of entry				
			1996	2004	2010	2011	2012
N Ireland	Stayer	Medicine & Vet Med	5	4	4	4	4
		Subjects allied to medicine	7	12	12	13	12
		Sciences	22	21	22	22	22
		Engineering & technology	14	14	12	12	13
		Social science & law	31	34	35	36	35
		Arts	13	15	14	13	14
		other	10	0.0	0.0	0.0	0.0
	Mover	Medicine & Vet Med	6	9	8	8	8
		Subjects allied to medicine	6	9	11	10	13
		Sciences	14	22	21	22	20
		Engineering & technology	12	10	9	8	7
		Social science & law	38	32	33	33	33
		Arts	10	17	17	19	18
		other	13	1	0.4	0.3	0.1
Scotland	Stayer	Medicine & Vet Med	5	4	4	4	4
		Subjects allied to medicine	11	10	11	11	10
		Sciences	19	25	26	24	24
		Engineering & technology	14	12	12	12	12
		Social science & law	32	36	35	35	34
		Arts	8	13	13	14	15
		other	12	0.4	0.1	0.0	0.0
	Mover	Medicine & Vet Med	7	7	6	6	6
		Subjects allied to medicine	3	5	6	5	6
		Sciences	18	18	16	16	16
		Engineering & technology	14	13	12	11	11
		Social science & law	22	26	24	26	25
		Arts	22	31	36	34	35
		other	14	1	1	1	0.4

Student characteristics

[Table 5](#) shows, for each home country of domicile, the demographic, social and educational characteristics of stayers and movers respectively who entered HE in each year. Some of the variables, notably parental social class and HE qualification, are affected by high levels of missing information. Cases with missing information are excluded from the 100% base in [Table 5](#), although in the case of parental HE we suspect that a majority of the 'unknown' cases had parents who did not attend HE, leading to inflated percentages in [Table 5](#). It is unlikely that this significantly affects the comparison either between stayers and movers or over years.

Table 5: Characteristics of stayers and movers by country of domicile and year of entry

Domicile			1996	2004	2010	2011	2012
England	Stayer	Female	50	54	54	54	54
		Ethnic minority	16	21	23	23	26
		Higher Man & prof	25	25	25	24	25
		Working class	21	23	24	25	23
		Independent school	14	11	11	11	12
		Parent has HE qual			55	55	53
		Low participation area			13	13	13
		Top attainment quintile	19	19	20	21	20
		Lowest attainment quintile	21	21	19	21	20
	Mover	Female	54	54	53	52	53
		Ethnic minority	5	6	8	10	11
		Higher Man & prof	31	31	33	32	32
		Working class	14	16	16	17	16
		Independent school	21	17	17	20	19
		Parent has HE qual	0	0	68	69	68
		Low participation area			8	8	9
		Top attainment quintile	16	23	27	26	24
		Lowest attainment quintile	13	11	14	15	15
Wales	Stayer	Female	53	56	56	56	55
		Ethnic minority	3	5	6	5	6
		Higher Man & prof	16	16	18	19	17
		Working class	26	30	30	30	29
		Independent school	3	2	2	2	2
		Parent has HE qual			59	57	60
		Low participation area			13	13	13
		Top attainment quintile	13	11	15	14	14
		Lowest attainment quintile	23	23	25	26	25
	Mover	Female	52	56	55	55	57
		Ethnic minority	4	5	7	8	8
		Higher Man & prof	27	27	28	27	27
		Working class	18	20	18	20	19
		Independent school	9	9	9	9	9
		Parent has HE qual			67	69	67
		Low participation area			8	8	9
		Top attainment quintile	27	30	27	29	28
		Lowest attainment quintile	16	13	14	14	13

N Ireland	Stayer	Female	55	57	55	55	55
		Ethnic minority	1	1	1	1	2
		Higher Man & prof	12	13	15	15	14
		Working class	26	27	26	26	27
		Independent school	0.1	0.4	0.3	0.4	0.3
		Parent has HE qual			58	60	62
		Low participation area			7	7	7
		Top attainment quintile	10	17	18	18	18
		Lowest attainment quintile	12	17	16	22	17
	Mover	Female	54	57	58	57	59
		Ethnic minority	2	2	3	3	3
		Higher Man & prof	21	22	23	24	22
		Working class	18	20	21	21	20
		Independent school	0.4	1	1	1	1
		Parent has HE qual			64	65	63
		Low participation area			5	6	6
		Top attainment quintile	33	29	25	25	25
		Lowest attainment quintile	31	20	18	22	25
Scotland	Stayer	Female	55	55	56	56	57
		Ethnic minority	4	5	5	6	6
		Higher Man & prof	24	27	28	28	27
		Working class	22	22	21	21	21
		Independent school	9	9	9	9	9
		Parent has HE qual			65	66	65
		Low participation area			3	3	3
		Top attainment quintile	19	19	19	19	19
		Lowest attainment quintile	16	20	20	19	20
	Mover	Female	53	52	56	56	55
		Ethnic minority	5	7	10	10	11
		Higher Man & prof	38	41	44	46	42
		Working class	12	11	9	10	11
		Independent school	42	49	52	51	48
		Parent has HE qual			83	83	82
		Low participation area			2	2	2
		Top attainment quintile	45	36	33	34	32
		Lowest attainment quintile	17	13	18	20	25

Compared with stayers, more movers from each country come from managerial or professional class backgrounds, have attended independent schools, have HE-qualified parents and/or are in the highest attainment quintile. Fewer movers than stayers are from working-class backgrounds or areas with low participation in HE. (However, the low-participation measure is acknowledged to be less appropriate for Scotland and Northern Ireland.) Some of these patterns vary across countries. Ethnic minority students domiciled in England are less likely than white students to leave their home country; those domiciled in the other home countries are more likely to do so.

And whereas among English and Welsh students in the lowest attainment quintile are relatively likely to be stayers, in Northern Ireland and Scotland they are more likely to be leavers – perhaps the ‘reluctant leavers’ discussed earlier. The quintiles are calculated in relation to higher education entrants in the relevant home country in the relevant year. It should be noted that patterns relating to the lower Scottish quintiles may be affected by the much higher proportion of Scottish students who enter HE in colleges. These students, who tend to have lower qualifications than university entrants, are not included in the HESA data.

Once again, our main interest is in comparing the composition of movers in 2010, 2011 and 2012, allowing for any deferral effects. In England, there are only two variables where a possible but very small fee effect may be observed: ethnic minority students and former independent school pupils both increased as a proportion of movers. The proportion of independent-school pupils appears to show a deferral effect (rising in 2011 and falling on 2012), consistent with the higher propensity of such pupils to take a gap year. Any impacts on the composition of Welsh movers are even smaller; the percentage of working-class students rose then fell, but only gained one percentage point between 2010 and 2012. In Northern Ireland, the only change of any size was an increase in the proportion of stayers from the lowest attainment quintile, suggesting that these students may have suffered displacement effects as more of the better-qualified students chose to remain in Northern Ireland. This trend was already established in 2011, although that year’s figure may have been affected by displacement effects created by students not deferring. A similar increase in the proportion of movers from the lowest quintile is evident among Scottish domiciled entrants; there are few other clear trends over the 2010-2012 period in Scotland.

Finally, [Table 6](#) presents a series of logistic regressions to predict cross-border study in each home country in the years 2010, 2011 and 2012. The regressions show the association with cross-border study of each of the characteristics discussed earlier, net of the other characteristics in the model. It includes subject area among the predictor variables, on the ground that for many students this may have been the prior decision, which in turn affected both the opportunities and the attractiveness of study elsewhere in the UK. The regression also tests for the interaction between the effects of each characteristic and year of entry.

Table 6: Binary logistic regression predicting study in rest of UK: under-21 full-time UK-domiciled entrants by country of domicile, 2010-2012

	England		Wales		NI		Scotland	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Female	-.010	.012	-.029	.025	.072	.029	.009	.046
Ethnic minority	-1.194	.042	.219	.089	1.207	.179	.744	.133
Lower managerial & prof	-.061	.029	-.299	.065	-.477	.077	-.038	.097
Intermediate	-.130	.034	-.362	.071	-.635	.079	-.158	.120
Working class	-.388	.038	-.606	.070	-.838	.085	-.477	.141
Unclassified	-.201	.035	-.443	.072	-.441	.089	.018	.116
Independent school	.355	.029	1.059	.103	.380	.316	2.027	.079
High attainment quintile	-.008	.033	-.193	.066	-.229	.074	-.751	.116
Middle attainment quintile	-.158	.032	-.517	.066	-.447	.079	-.366	.107
Low attainment quintile	-.144	.033	-.826	.070	-.234	.076	-.527	.121
Lowest attainment quintile	-.255	.037	-.958	.069	.063	.080	-.055	.116
Medicine & vet medicine	.758	.030	.971	.066	.612	.059	-.238	.099
Subj allied to medicine	.059	.031	.597	.047	.226	.046	-.373	.098

	England		Wales		NI		Scotland	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Sciences	.662	.016	.040	.031	.031	.037	-.083	.066
Engineering & tech	.295	.026	.545	.048	-.387	.050	.282	.074
Arts	.438	.017	.454	.032	.322	.041	1.232	.058
Other subj	-2.106	.335	1.414	.287				
2011	-.046	.038	.177	.088	.089	.100	.002	.134
2012	-.107	.039	.195	.085	-.081	.098	-.386	.138
Ethnic minority 2011	.228	.054	.274	.122	-.221	.239	-.148	.186
Ethnic minority 2012	.218	.053	.023	.116	-.571	.235	-.115	.187
Lower man & prof 2011	-.024	.040	.026	.089	.121	.104	-.176	.135
Lower man & prof 2012	-.025	.040	.186	.086	.006	.104	-.272	.139
Intermediate 2011	-.102	.047	.009	.098	.065	.108	-.196	.169
Intermediate 2012	-.114	.047	.037	.094	.026	.107	-.245	.173
Working class 2011	-.096	.051	-.035	.097	.207	.115	-.093	.198
Working class 2012	-.066	.051	.121	.093	.135	.114	-.260	.206
Unclassified 2011	.091	.048	-.164	.100	-.113	.122	-.183	.163
Unclassified 2012	.025	.048	-.030	.097	-.307	.123	.080	.163
Independ school 2011	-.021	.040	.180	.147	.925	.447	.283	.110
Independ school 2012	.207	.039	.210	.141	.202	.450	.252	.112
High attainment 2011	.090	.044	-.349	.091	-.061	.102	.032	.159
High attainment 2012	.050	.044	-.250	.089	-.209	.101	-.052	.165
Middle attainment 2011	.150	.044	-.144	.091	.067	.106	-.391	.158
Middle attainment 2012	.229	.044	-.140	.088	-.106	.108	-.281	.162
Low attainment 2011	.107	.046	-.045	.096	.042	.105	.137	.163
Low attainment 2012	.250	.046	-.011	.090	-.029	.103	.078	.172
Lowest attainment 2011	.081	.050	-.257	.097	-.147	.105	.254	.157
Lowest attainment 2012	.250	.050	-.290	.093	.303	.105	.457	.158
Constant	-3.029	.032	.187	.069	-.102	.079	-3.187	.108

Reference category: male; white; upper managerial & professional class; state school; highest attainment quintile; studying social sciences; not from a low participation area; entered in 2010

The top part of the table, which shows the effect of each characteristic in 2010, the reference year, broadly confirms the patterns in [Table 5](#). Cross-border study is associated with ethnic minority status (positively in England, negatively elsewhere), with social class, independent schooling, prior attainment (but with a U-shaped relationship in Northern Ireland and Scotland) and (negatively) with residence in a low-participation area. It is not associated with gender.

Controlling for student characteristics and subjects studied, the propensity to study elsewhere in the UK did not change between 2010 and 2011 in England, Wales and Scotland, but increased in Northern Ireland. However, between 2010 and 2012 to propensity to study elsewhere in the UK decreased in England, and Scotland, remained the same in Wales, and increased in Northern Ireland. A further model that included interactions between subject studied and year of entry (not shown) suggests that the 2012 effects were mainly associated with subjects allied to medicine and arts.

As seen in [Table 5](#), English ethnic minority students became increasingly likely to cross borders; there was a Welsh effect in 2011 (reversed in 2012) and a negative effect in Northern Ireland, although it is not clear if any of these changes can be attributed to fee changes. There was no change in the association between social class and cross-border study in either Northern Ireland or Scotland (discounting the ‘unclassified’ group), and only small (and not easily interpreted changes in England and Wales. There was an apparent strengthening of the association between independent schooling and cross-border study in England, Northern Ireland and Scotland. The association between attainment and cross-border study appeared to weaken slightly in England; in Northern Ireland students in the lowest quintile became more likely to study elsewhere; in Wales and Scotland the impacts across the attainment spectrum were not linear and harder to interpret.

Summary and discussion

Our earlier discussion suggested that the fee changes might lead to four outcomes

A reduction in the volume of cross-border study among students domiciled in Scotland and (subject to the availability of places) Northern Ireland, and to a lesser extent England, but not Wales.

Cross-border study declined, albeit slightly, among Scottish-domiciled students, but there was little change amongst students from England or, allowing for changed deferral patterns, Northern Ireland. It rose among students from Wales.

A reduction in flows from England and Northern Ireland to Scottish universities.

Scotland has become less significant as a UK destination for students from England and Northern Ireland over the period since 1996. However, there was little evidence that this trend intensified in the 2010-2012 period – if anything it may have reversed in respect of England. Few Welsh students study in Scotland.

An increasing tendency for cross-border study to be concentrated among the more advantaged, especially among students from Scotland (and possibly England or Northern Ireland, but not Wales).

The association between independent schooling and cross-border study has become stronger (except in Wales, where the change is not significant). However, if we control for this effect, we do not find that cross-border study has increasingly been associated with social class or with residence in a low-participation neighbourhood. In Scotland and Northern Ireland students in the lowest attainment quintile have increased as a proportion of students who leave the home country, possibly due to displacement effects as more of the better-qualified students fill places at home.

A tendency for cross-border study, especially among Scottish-domiciled students, to be increasingly associated with elite institutions or high-status courses.

There has been a slight tendency for students leaving England or Scotland to target the most elite institutions, but this could be seen as a reversal of earlier trends since 2004 and it is partly offset by a reduced tendency to target the next highest-status institutions. There have been few substantial changes in the subjects taken by cross-border students at the time of the fee increases.

Overall, any impacts of the 2012 fee changes that we have been able to detect have been modest and often uncertain. This partly reflects the difficulties of attributing any changes to the new fee regime. On the one hand, higher education in the UK has not been static; any impacts of fee changes have been superimposed on the impacts of other changes and of longer-term if fluctuating trends. On the other hand, the most evident impact of fee changes has been a

disruption in past patterns of deferred entry, which have made the year-on-year changes described in this analysis much harder to interpret. We would need to observe flows over several cohorts of entrants to be more certain about the impacts of the fee changes.

The modest and uncertain effects reported above also reflect the complex set of factors which influence the choice of higher education, and of the location of study, among which the fees and fee differentials are not necessarily the most important. Not only are factors other than costs influential on students' choices, but tuition fees may not be the most salient aspects of costs, especially when their payment is deferred and supported by relatively generous and progressive loan arrangements. And these factors evolve over time; students from different social, ethnic and geographical communities often follow established pathways to university, but new pathways may emerge over time.

We conclude by mentioning two findings from this study which might repay further investigation. First, it confirms the evidence of earlier research that ethnic-minority students domiciled in Scotland (and also Wales or Northern Ireland) are more likely than other students to leave the home country to study. This trend appears not to have been affected by the 2012 changes, but the implications for equality deserve further attention, especially now that cross-border study carries a much larger financial penalty. Second, we note that one of the few evident impacts of the 2012 changes has been to increase the already strong association between independent schooling and cross-border study, especially into and out of Scotland. The 'widening participation' agenda tends to focus attention on disadvantaged students; but this finding reminds us that issues of equality of access to higher education and its relation to social mobility relate at least as strongly to students considered to be more advantaged.

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