

The Movement of Talent:
Migration patterns among
UK graduates and
implications for regional
economic disparities

Maria Abreu (Cambridge)

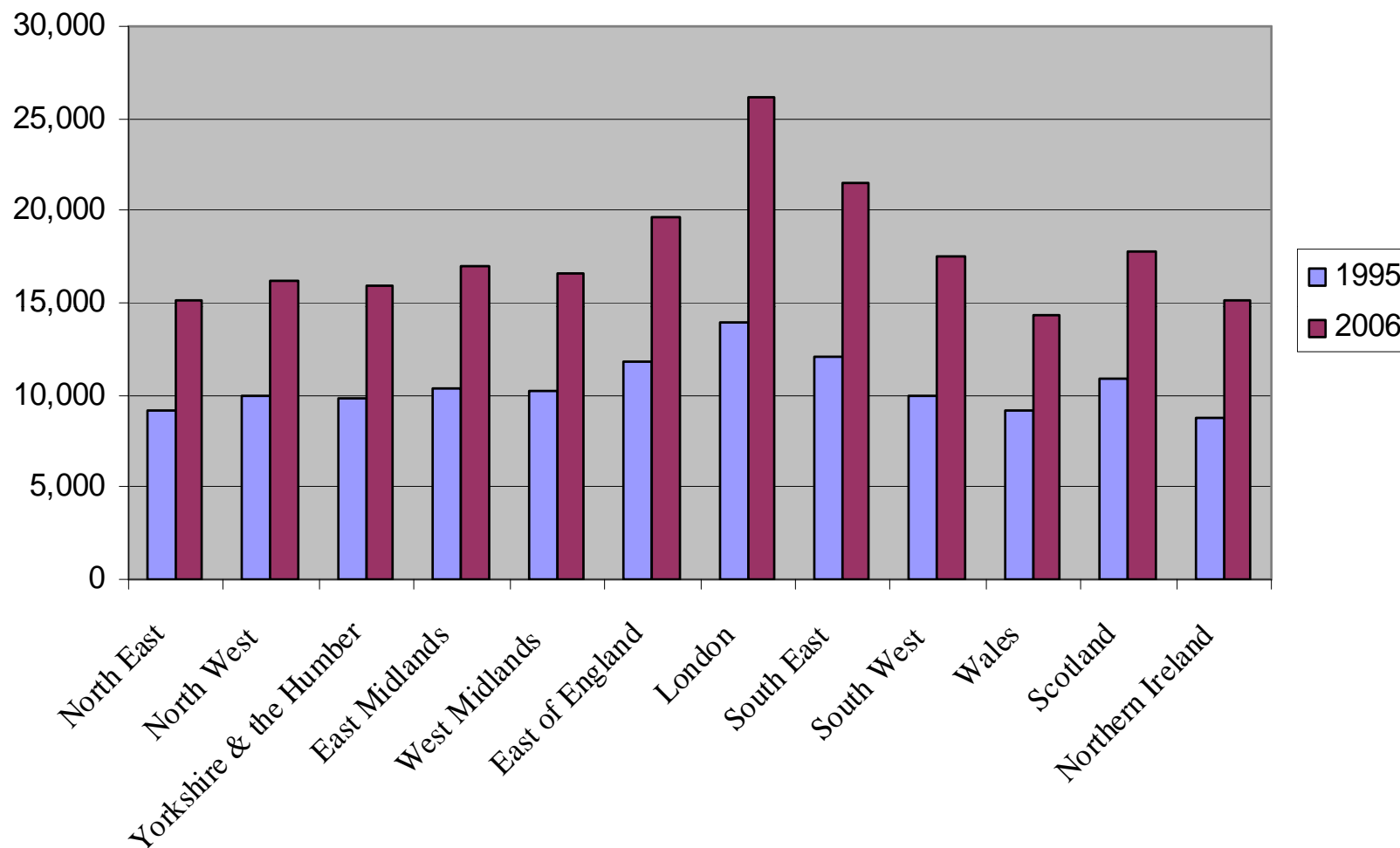
Michael Kitson (Cambridge)

Phil Wales (LSE)

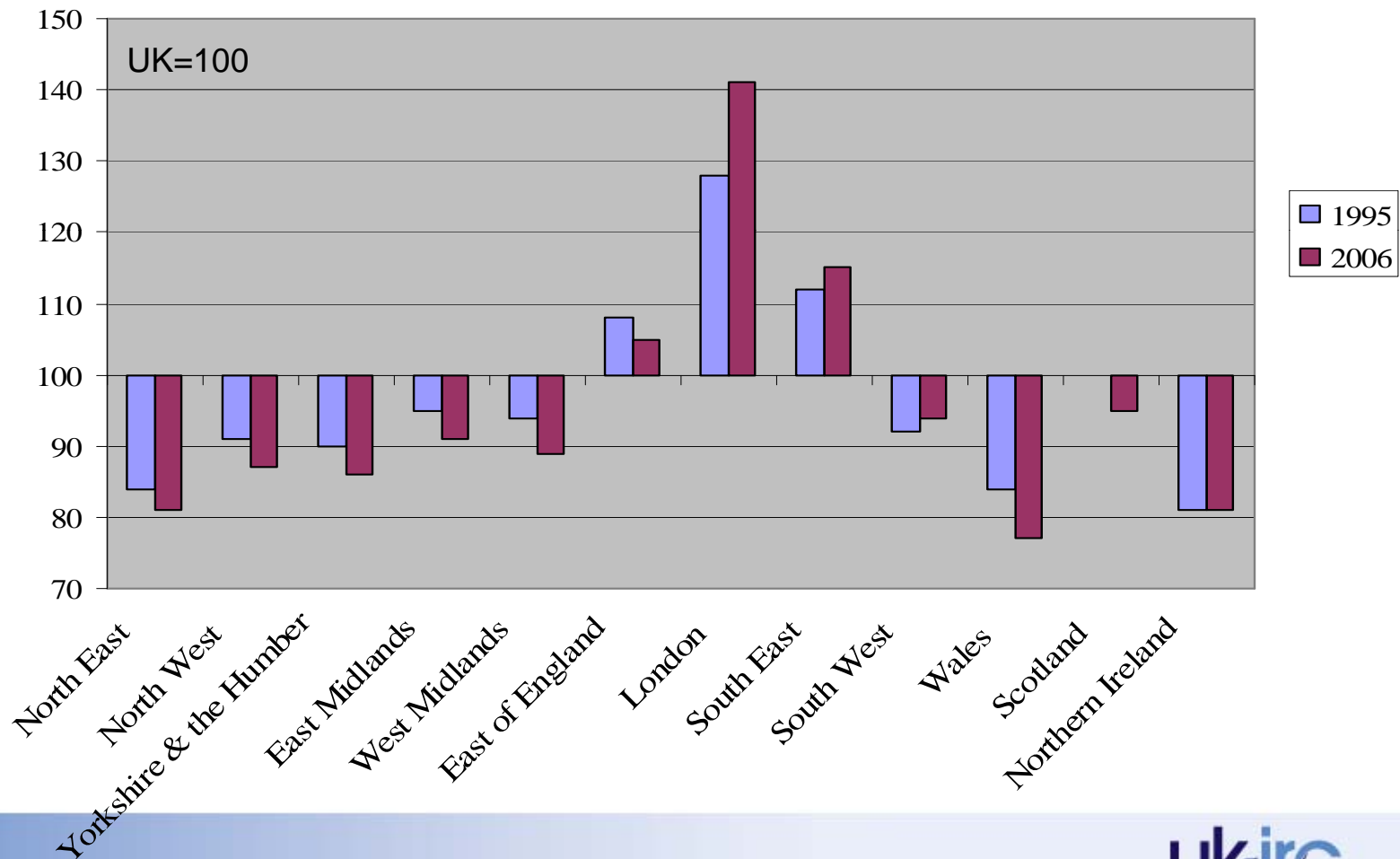
Regional Divergence in the UK

- Since the mid-1980s we have observed substantial differences in productivity levels between London / South East and the rest of the UK
- This gap has widened over the past 20 years
- The highest rates of employment growth have been in the South East, East of England, South West and Northern Ireland
- Other areas have not fully recovered from job declines in the early 1980s (North East, North West, Midlands)

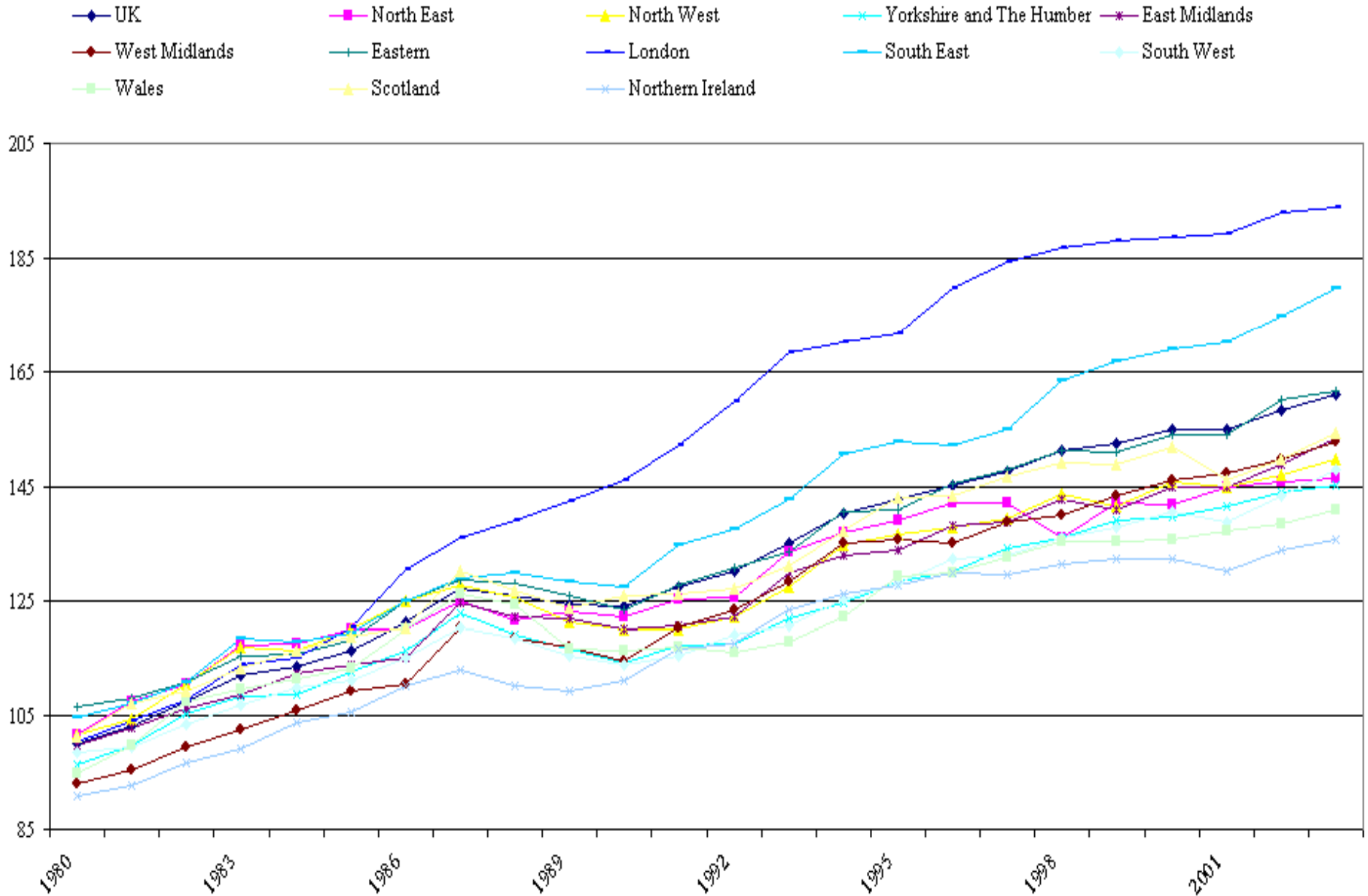
Variation in GVA per capita



Variation in GVA per capita



Regional Labour Productivity, 1980-2003 (UK 1980=100)



Key Issues

- Successful regions attract skilled labour and knowledge capital which further raises their productivity
- Leading to agglomeration effects and divergences in economic performance
- The aim of this study is to analyse graduate migration flows in the UK, to help understand productivity disparities across regions
- To what extent do personal characteristics affect the decision to migrate?
- Do neighbourhood effects play a role?
- Do higher education institutions attract and retain human capital in their regions?

Previous findings

- Universities can act as a conduit to attract human capital into a region (Faggian and McCann, 2006)
- UK female graduates are less likely than male graduates to migrate in the first place, but more likely to migrate repeatedly (Faggian et al., 2007)
- Non-white migrants less likely to migrate to region different from their domicile region to attend university (Faggian et al., 2006)

Data sources

- Higher Education Statistics Agency (HESA) data on the origin and destination of students leaving higher education in the UK
- Data on subject, degree class, type of qualification and personal characteristics (age, gender, ethnicity)
- Students contacted 9-12 months after leaving university
- Record of location, industry, employment information
- Postcode information allows us to track students geographically as they go to and leave university

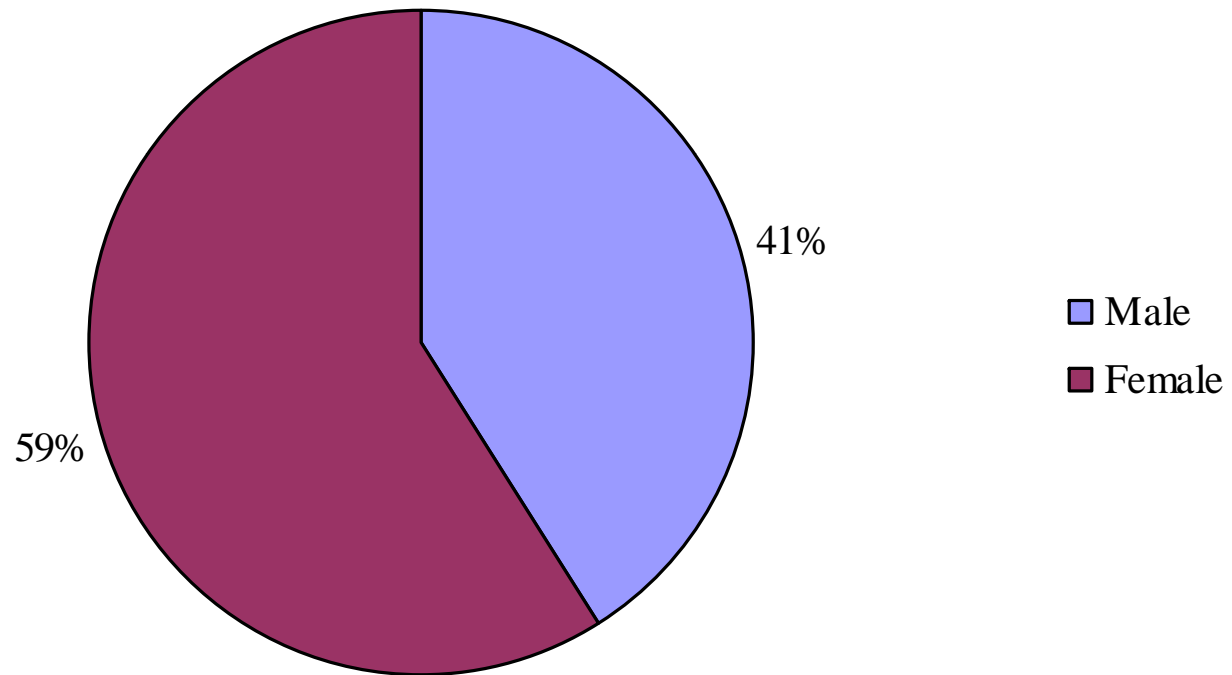
Data sources

- The data contains information on 202,803 students who graduated in 2005/06
- Of those, 118,791 completed their first or other undergraduate degree; this is our target population
- Additional data on regional characteristics taken from the Office for National Statistics (ONS), Land Registry (for England and Wales), Scottish Government and Northern Ireland Statistics and Research Agency

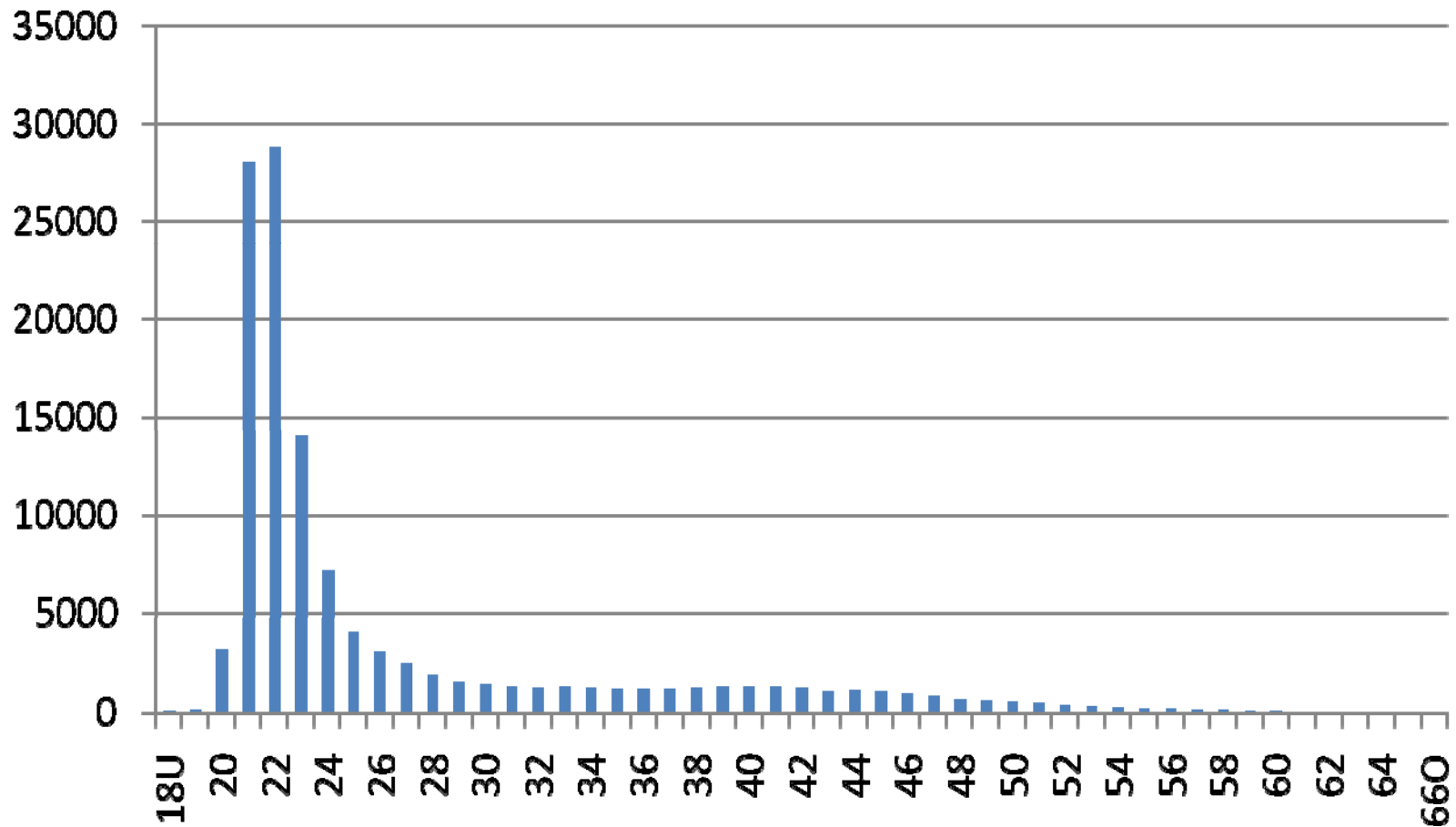
Notes on geography

- HESA data is available at two levels of spatial aggregation:
 - Region of domicile is provided at NUTS 3 level (135 units).
 - Region of employment is provided at UALAD level (217 units).
- For a number of individuals the spatial information is missing:
 - 2% of individuals are domiciled outside the UK.
 - 3% of individuals are employed outside the UK.
 - 3% are recorded as employed in 'England', 'Wales', 'Scotland' or 'NI'.

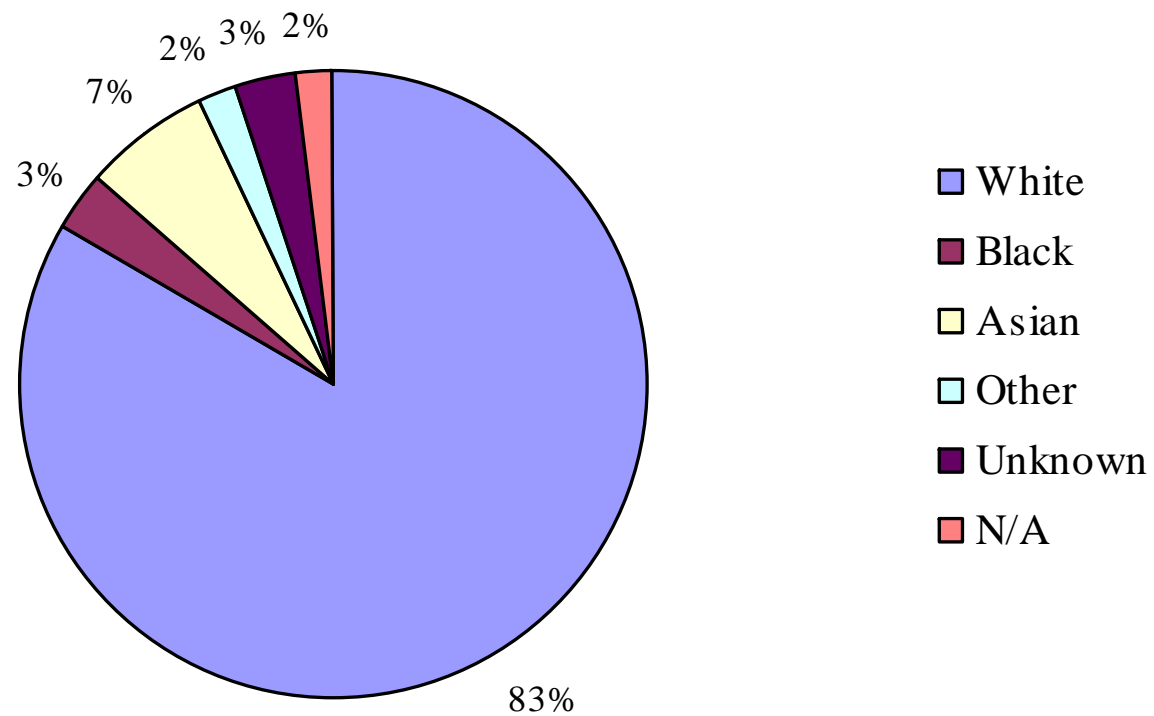
Gender



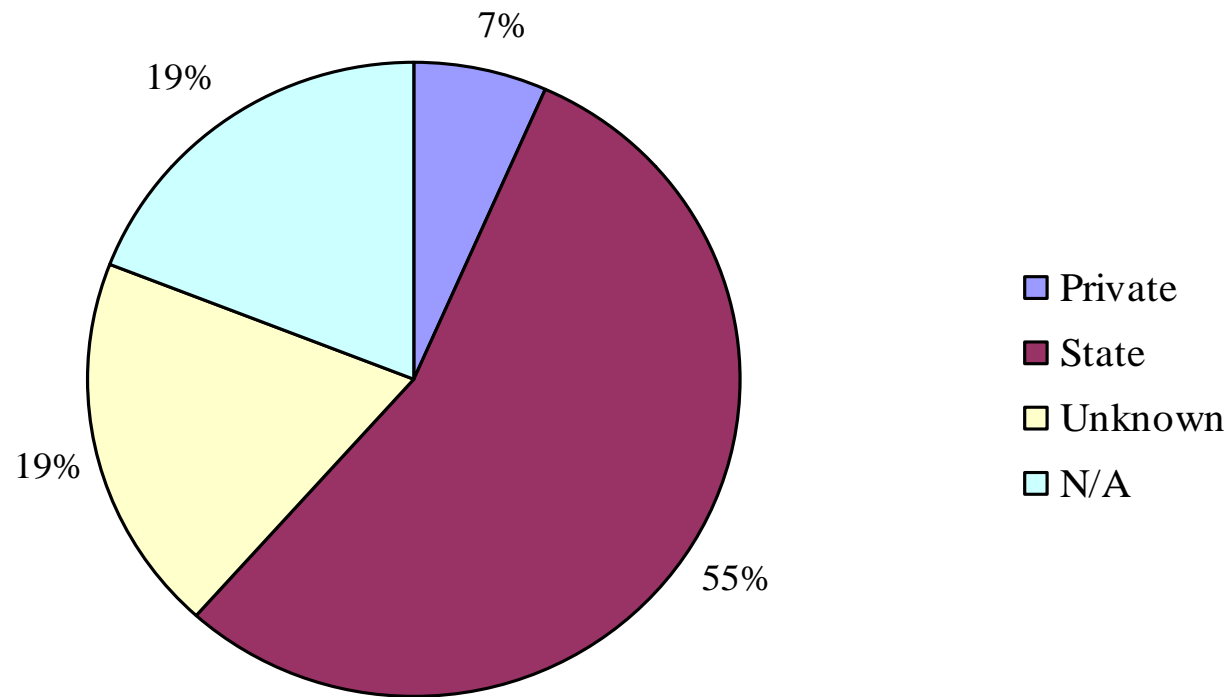
Age



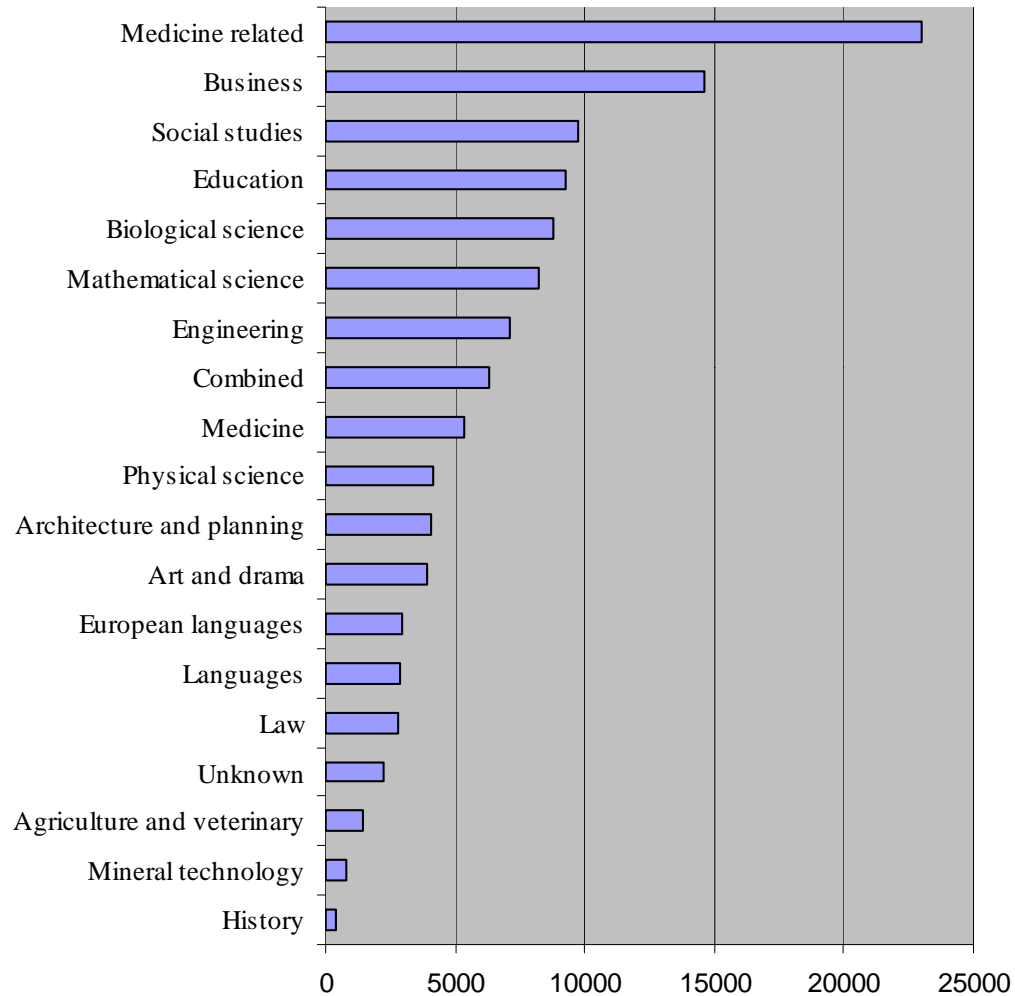
Ethnicity



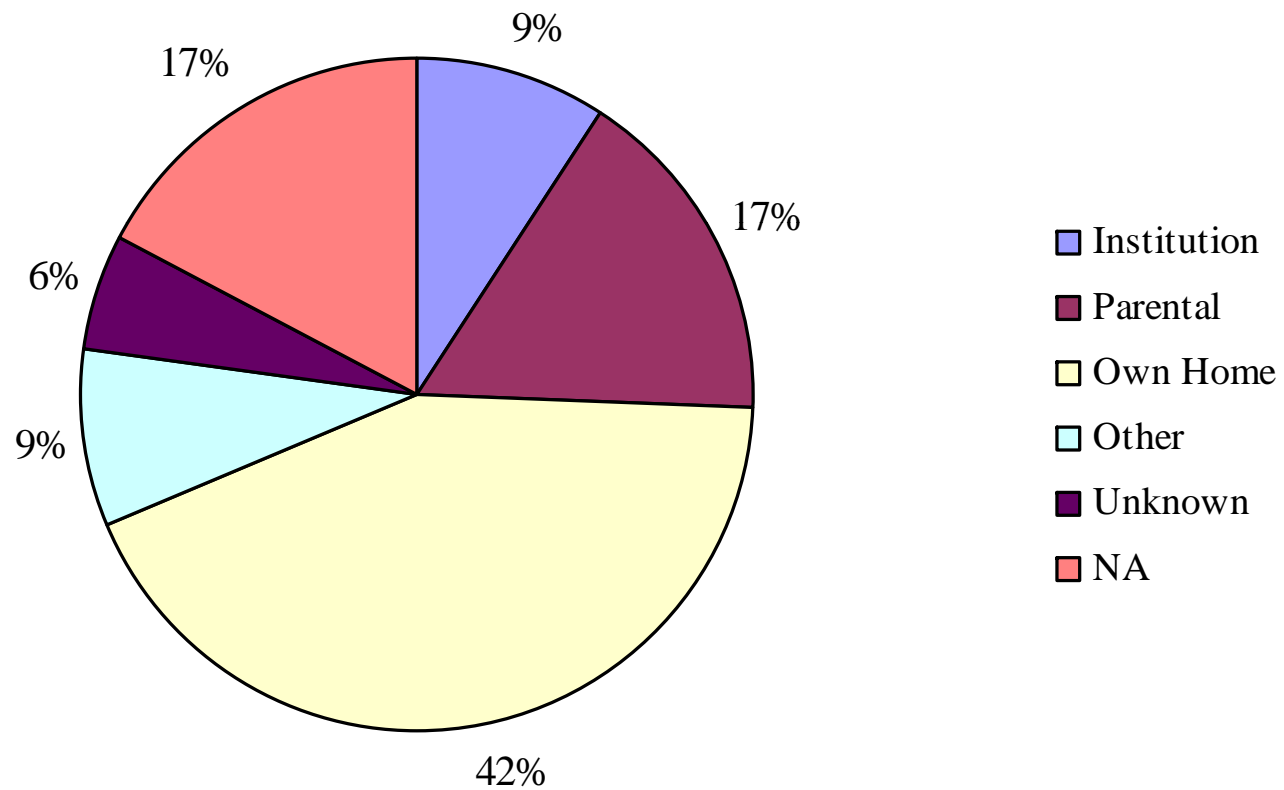
School Background



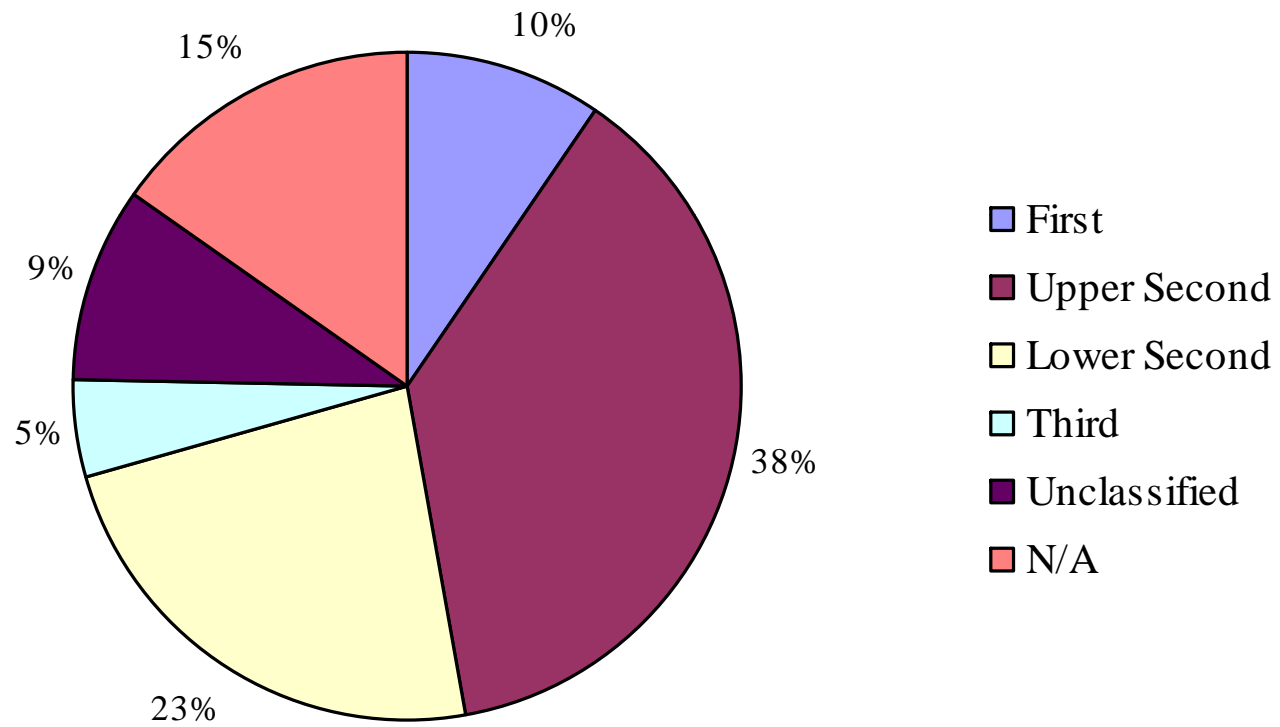
Subject Studied



Where do students live?

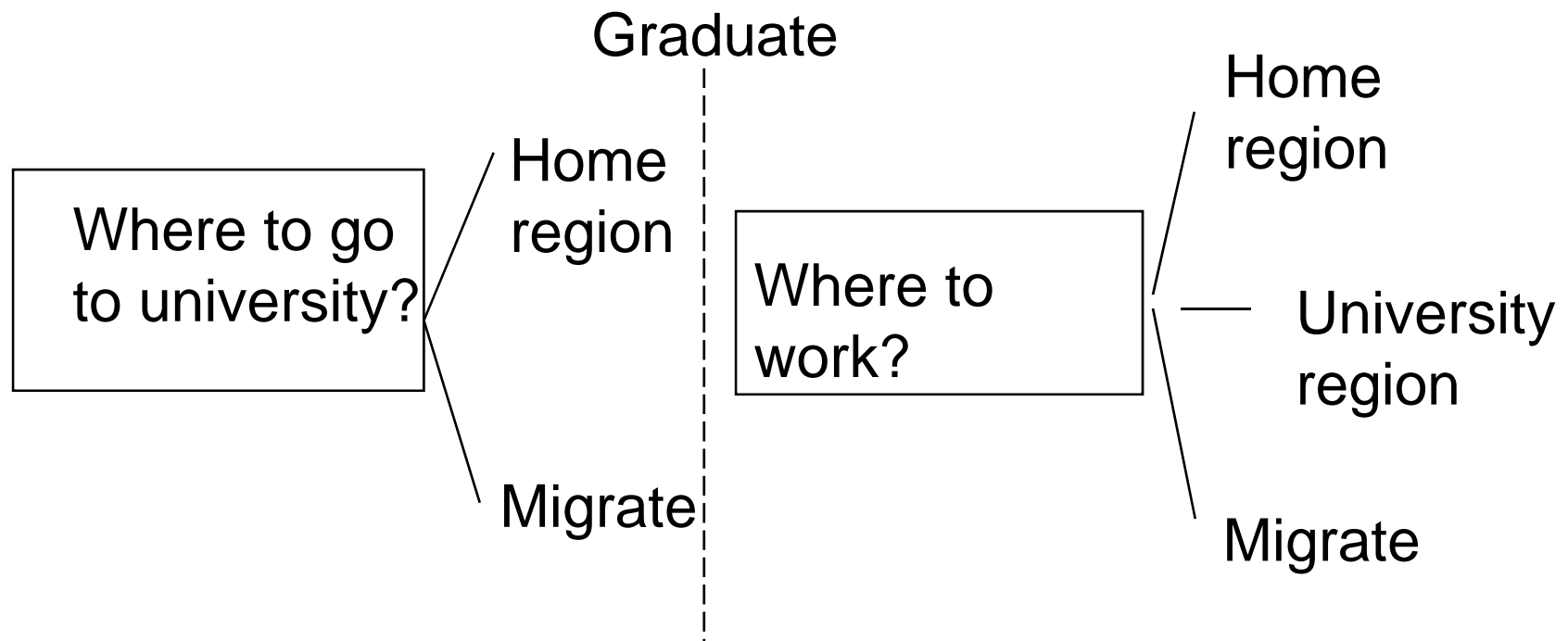


Degree class achieved

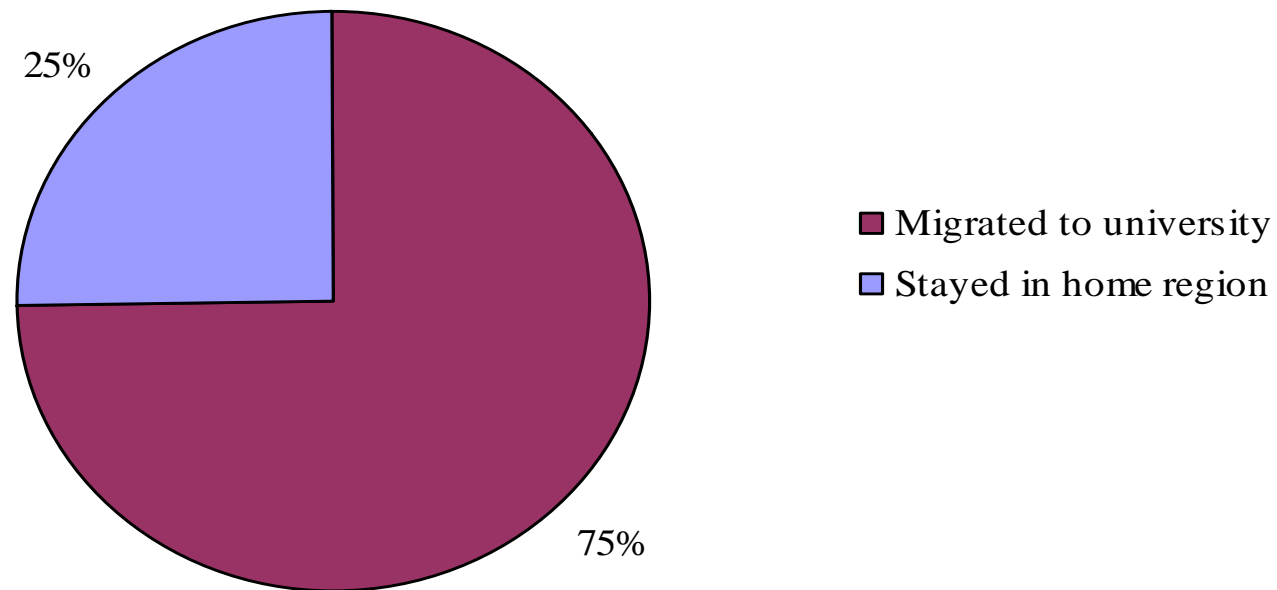


Two-stage decision process

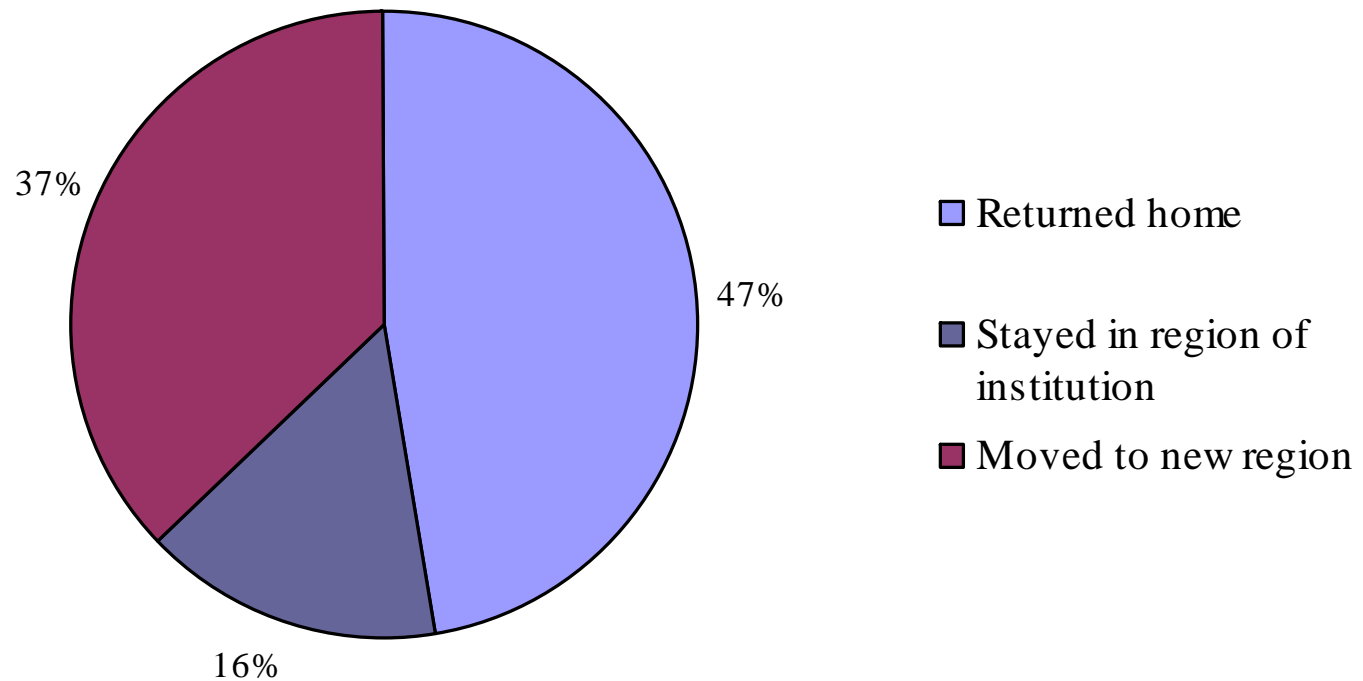
- Decision to migrate composed of:



Migration to university



Migration from university



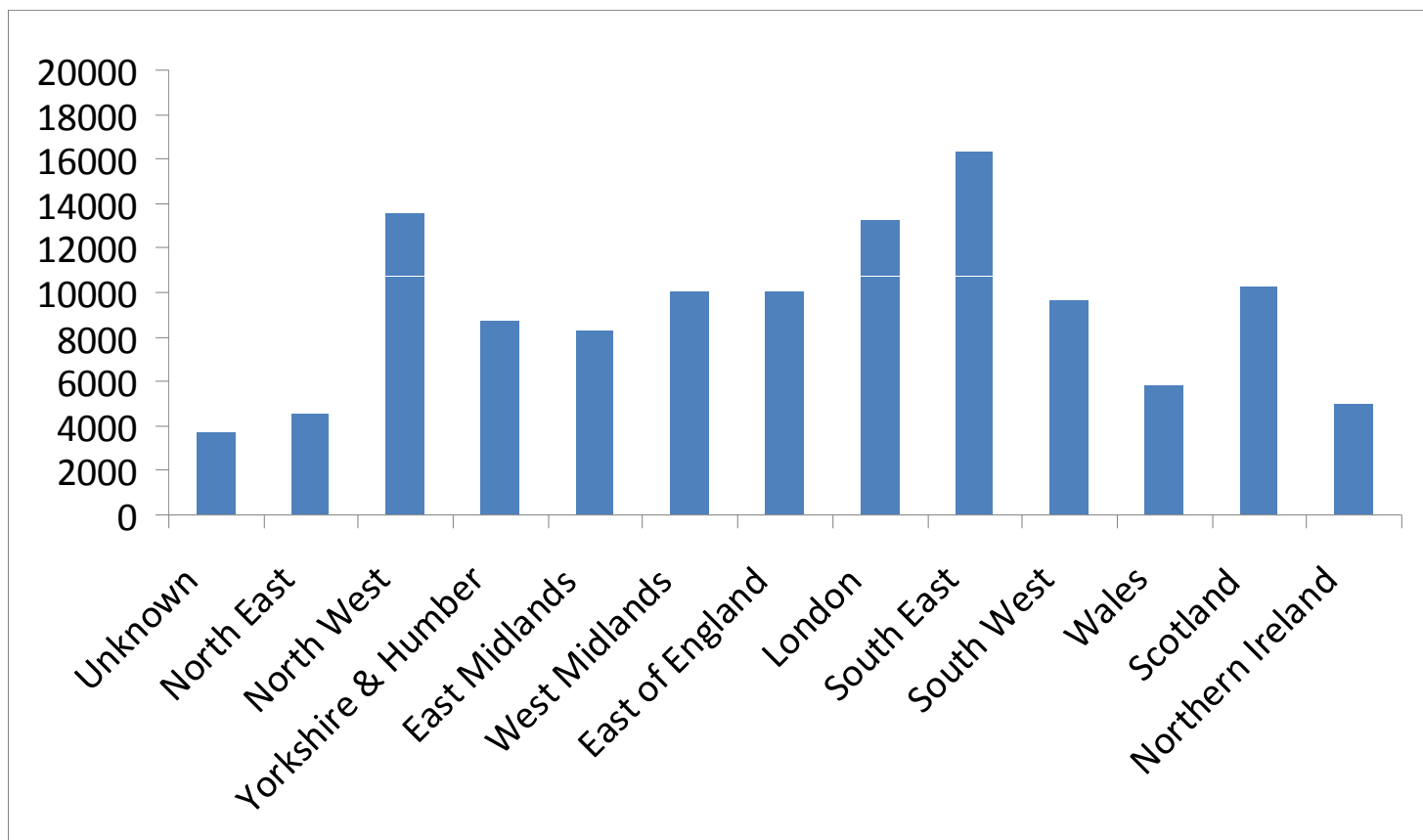
Intermediate and net flows

- We can think of graduate migration in terms of intermediate and end destination flows
- Type A flows are from the region of domicile to the region of HEI
- Type B flows are from the region of HEI to the region of employment
- End destination flows are from region of domicile to region of employment
- End destination flows can be positive or negative, and are a combination of type A and type B flows

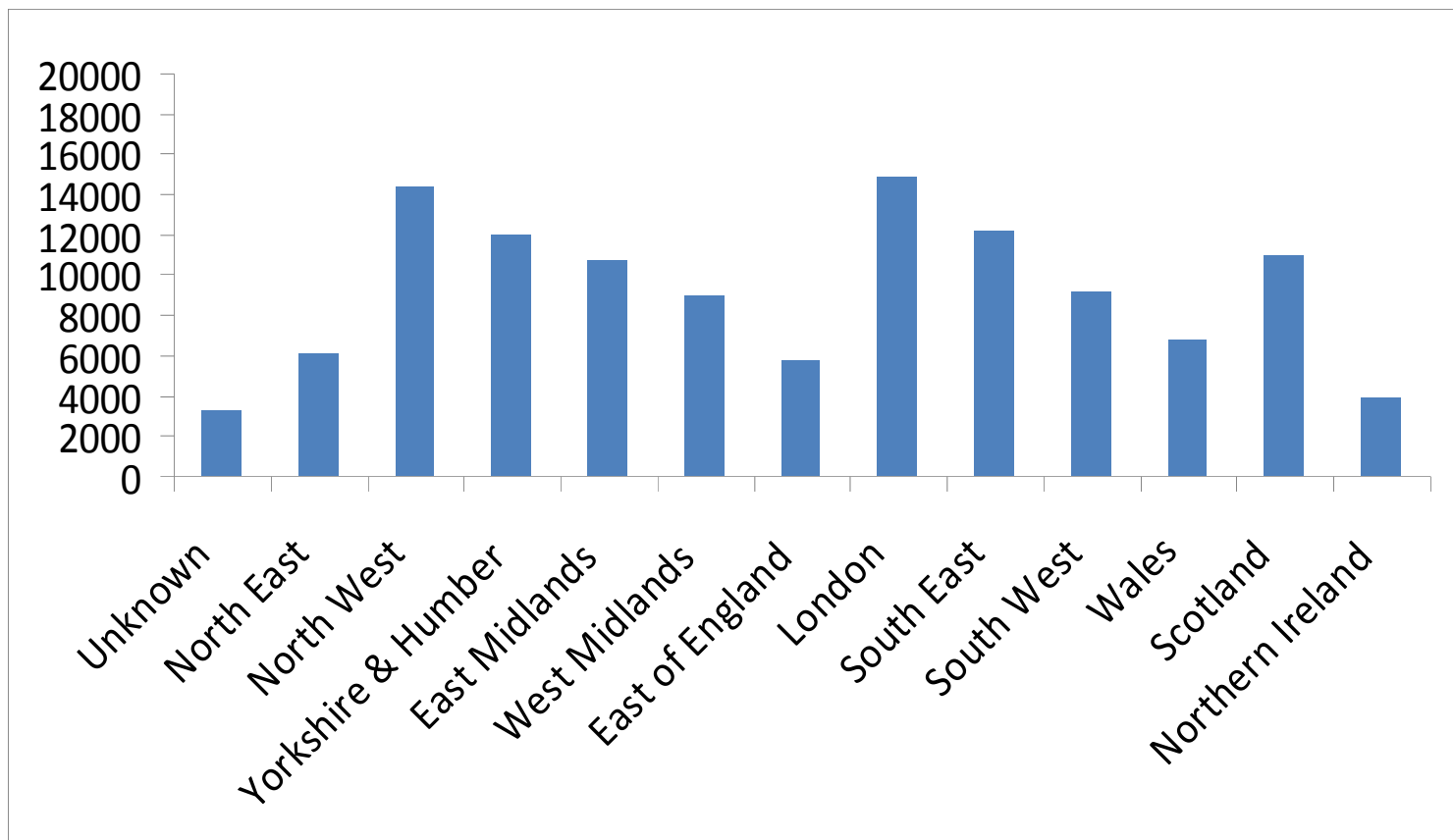
Intermediate and end flows

- A region may lose or gain undergraduates through a type A flow, as they move to attend university
- A region may lose or gain graduates through a type B flow, as they move to obtain employment after university
- The net flow may be positive or negative, a region may lose undergraduates as they move away to university, but gain them through employment after graduation

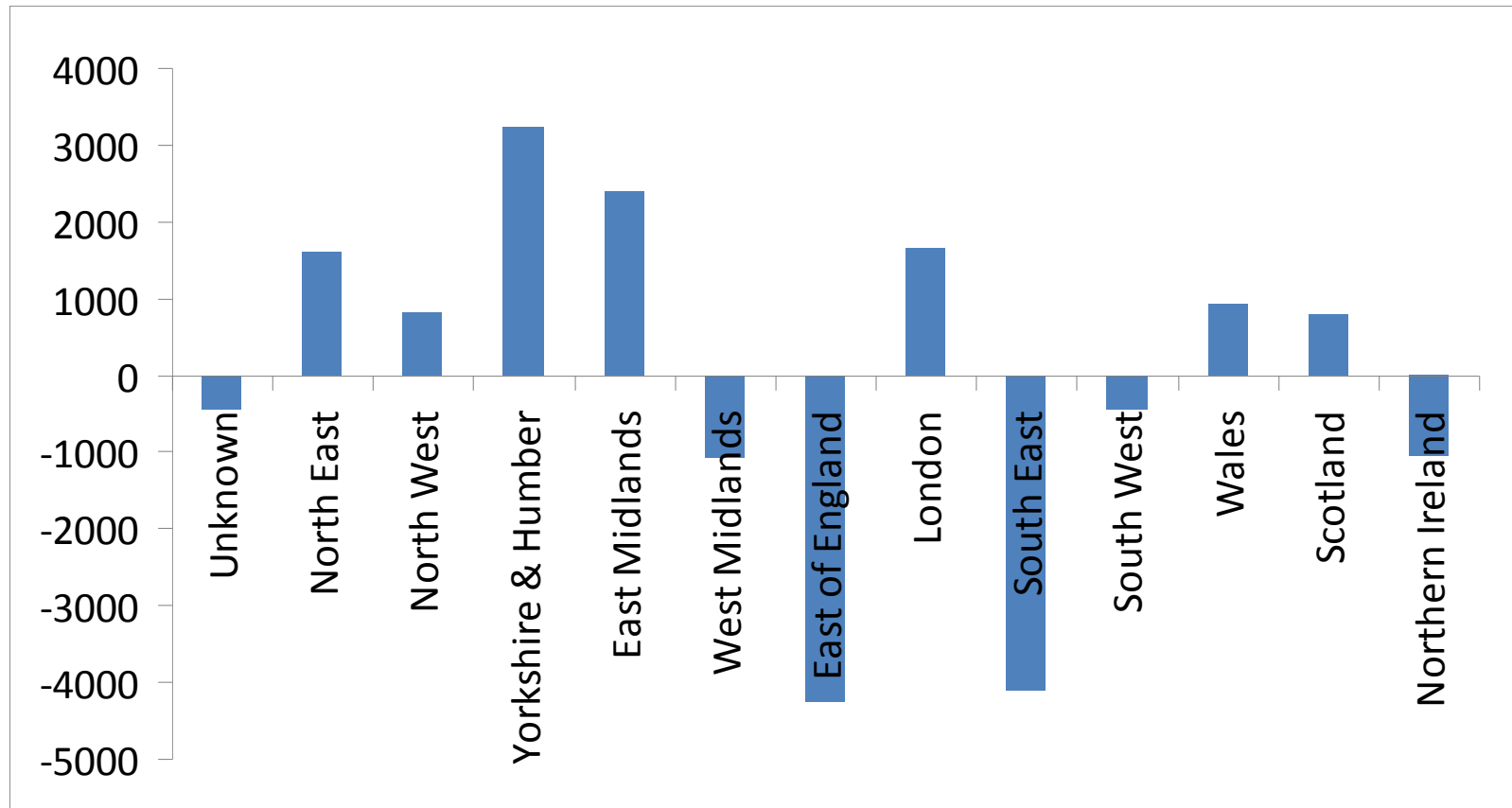
Graduates by region of domicile



Graduates by region of institution

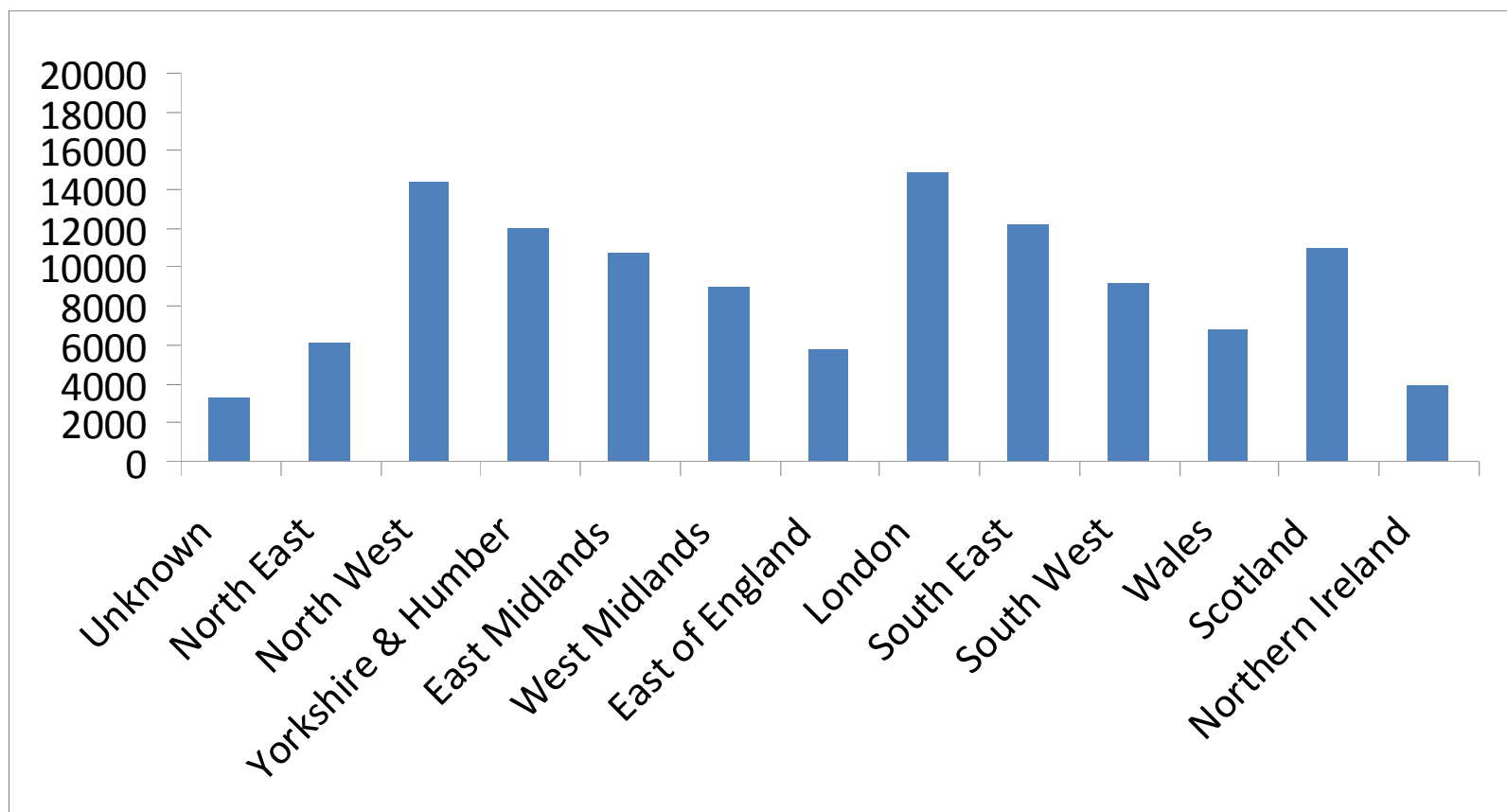


Intermediate type A flows

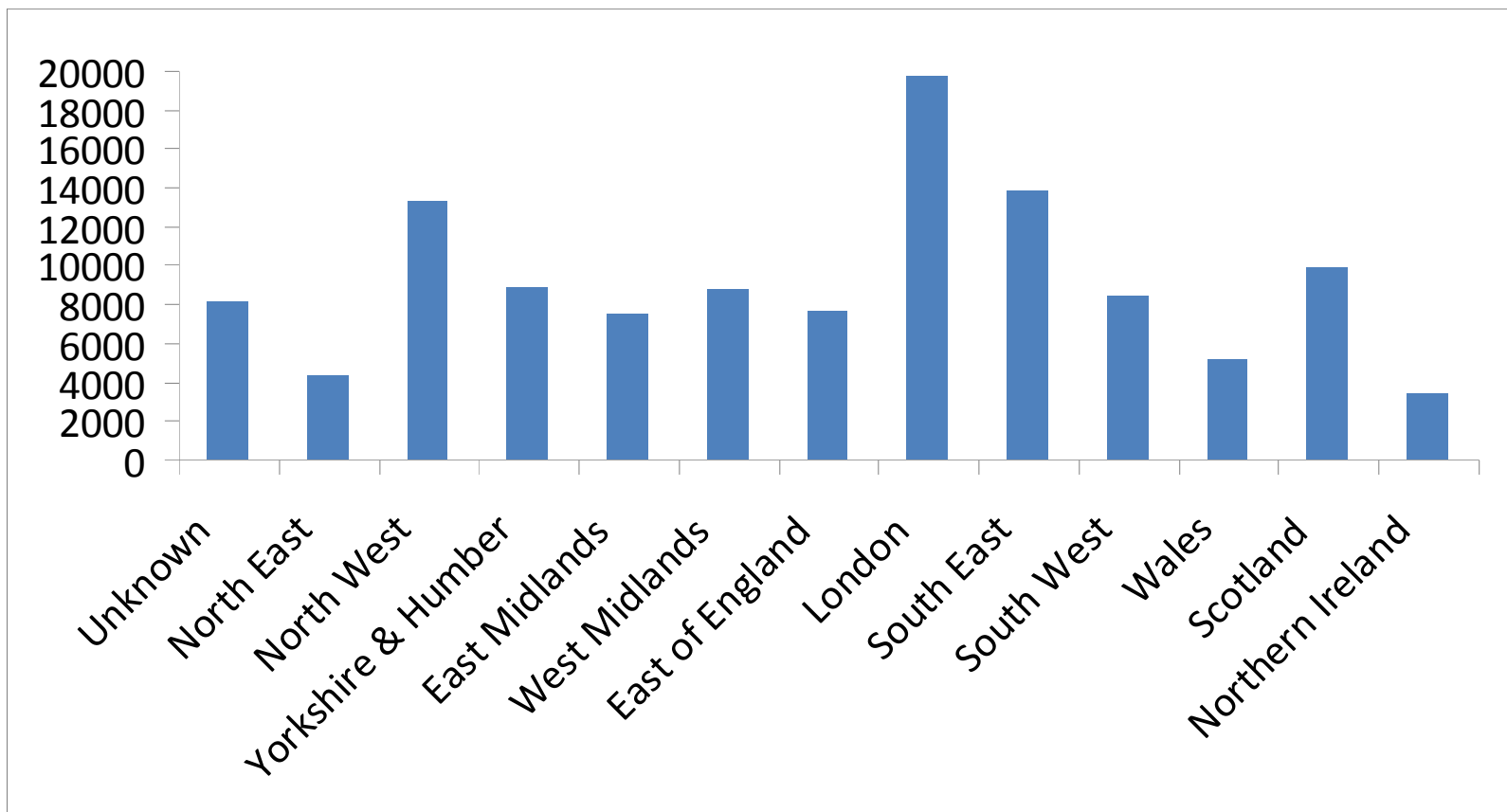


Total number of students studying in the region minus students domiciled in the region

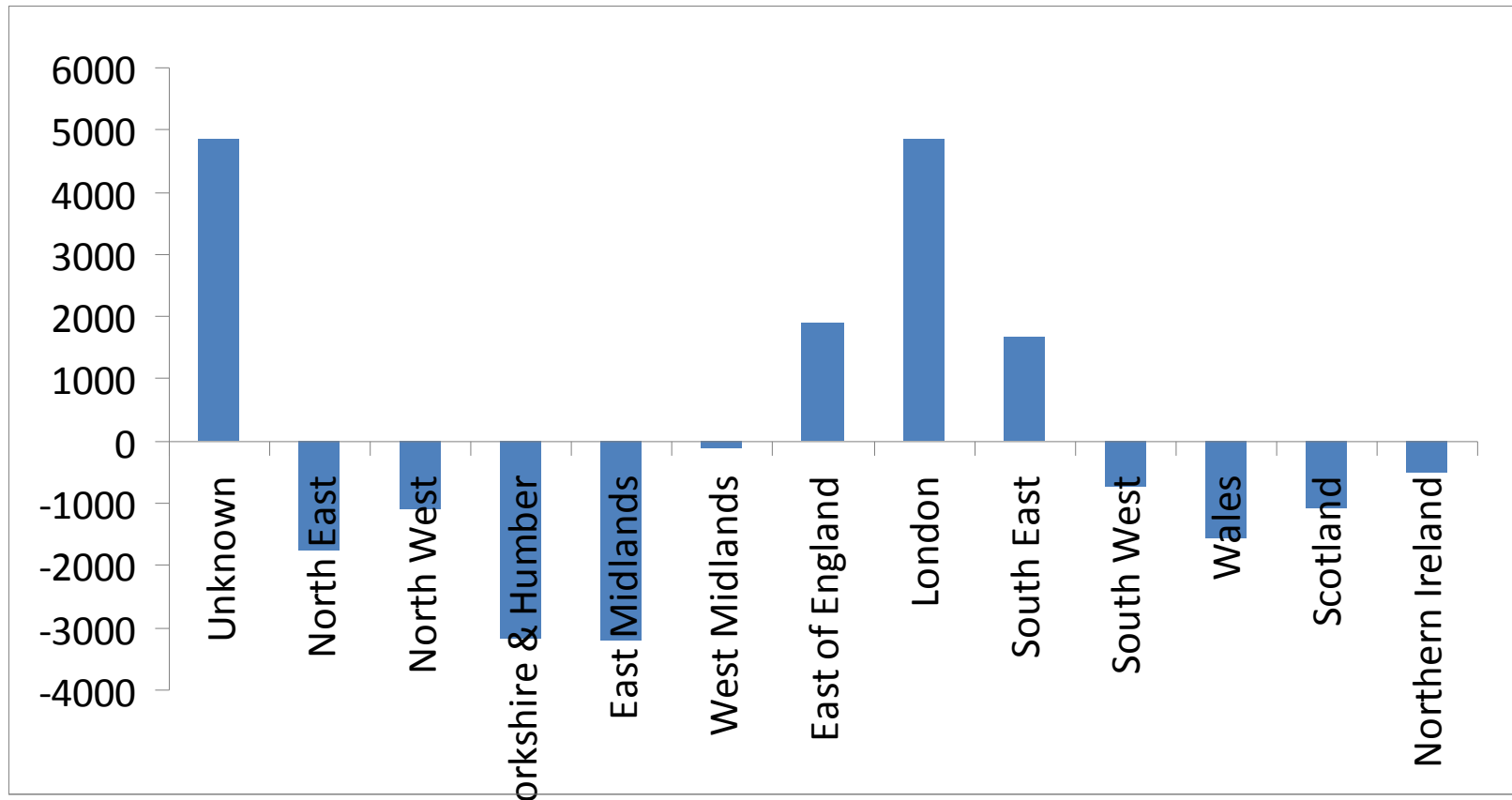
Graduates by region of institution



Graduates by region of employment

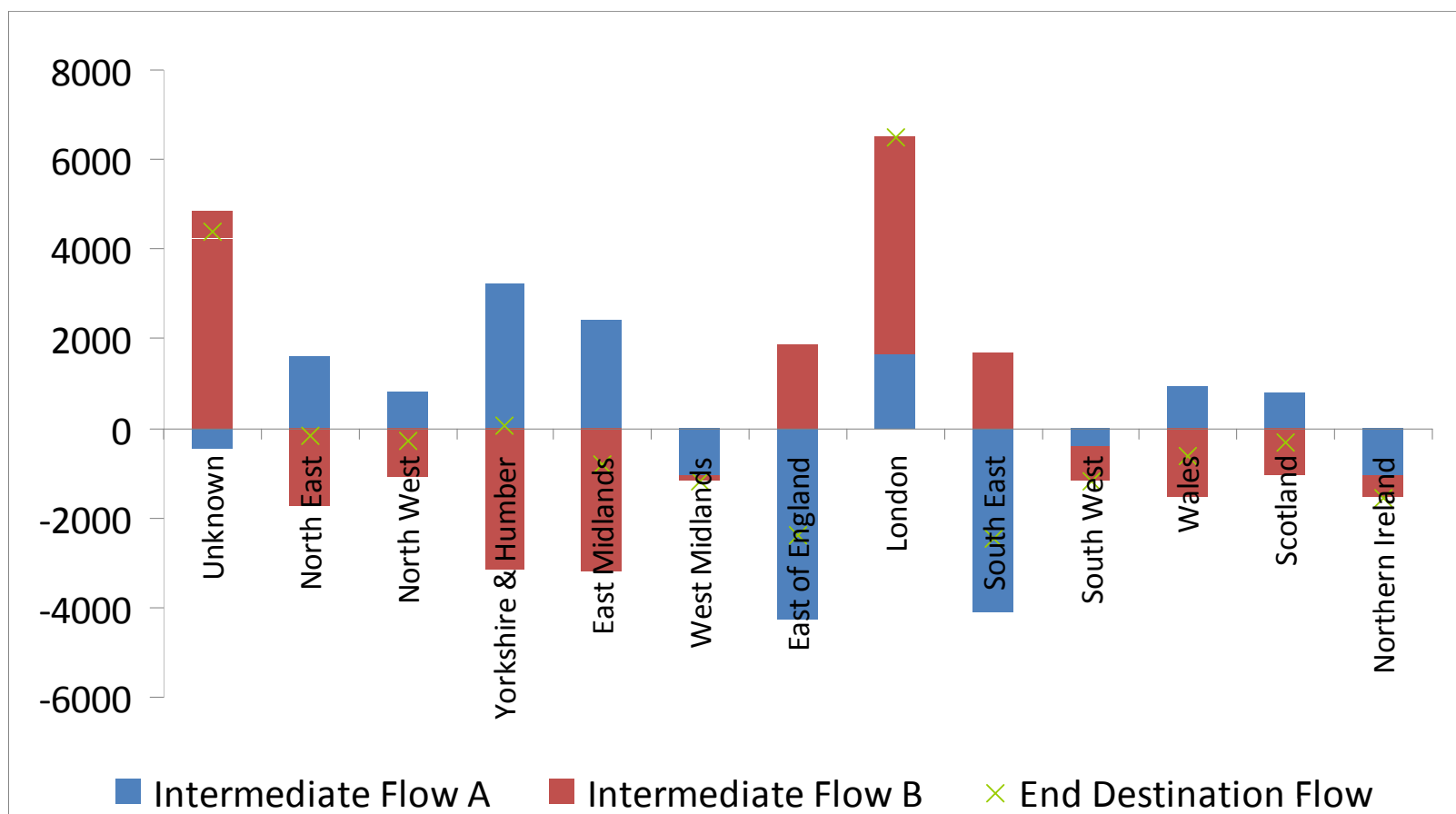


Intermediate type B flows

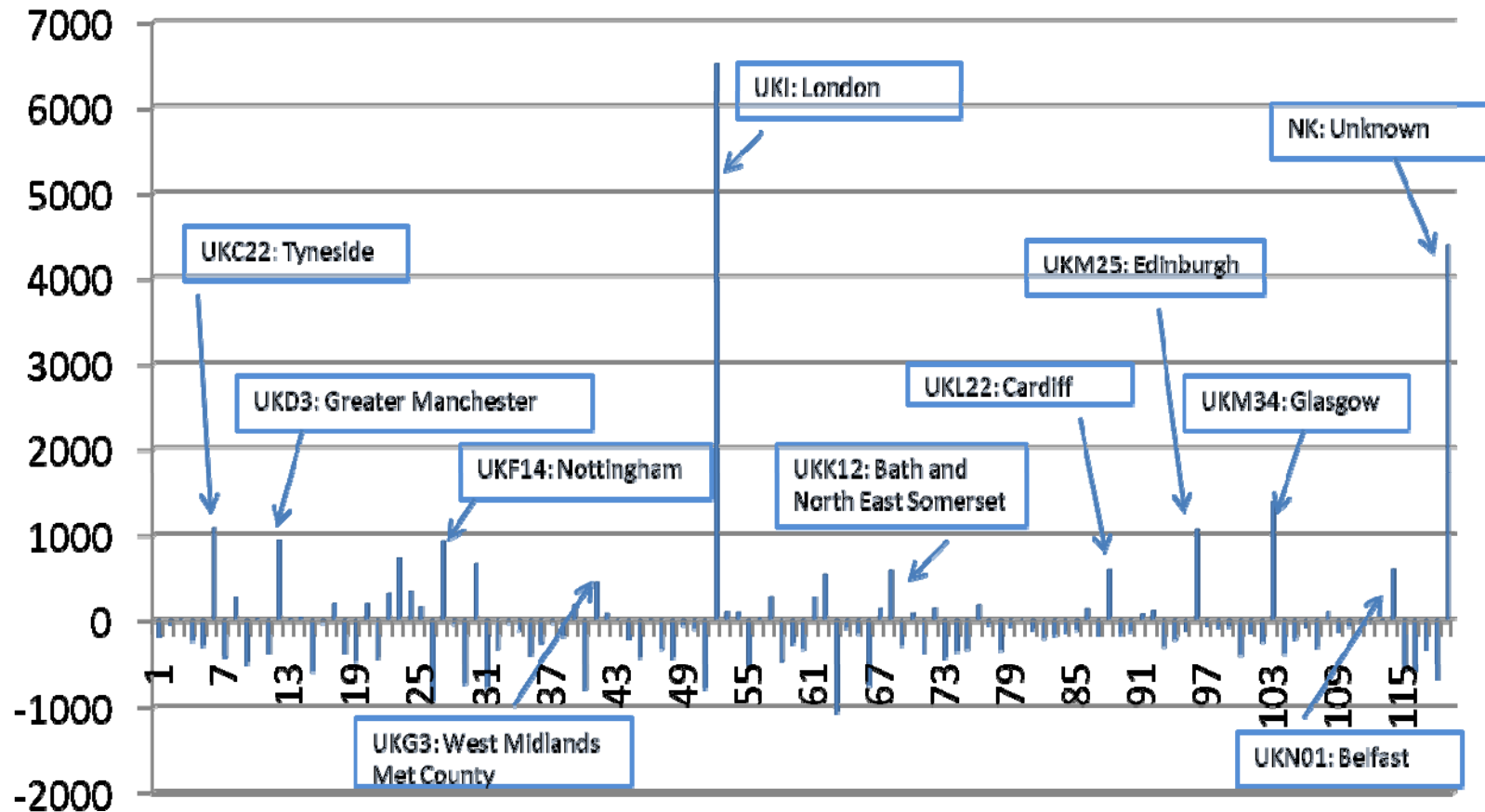


Number of graduates employed in a region minus the number who studied in the region

End destination flows



Net destination flows



Empirical model

- Our focus is on factors that attract talent into a region
- We therefore consider three categories:

Y=1	Employed in region of domicile
Y=2	Employed in region of university (different from domicile)
Y=3	Employed in third region (different from university and domicile)

Empirical model

- Our categories relate to those in Faggian et al. (2006, 2007) as follows:
 - $Y=1$ includes both “non-migrants” and “return migrants”
 - $Y=2$ is equivalent to “university stayers”
 - $Y=3$ includes “late migrants” and “repeat migrants”

Results – I

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Male	1.075	0.130	1.164	0.000
Black	0.688	0.062	1.089	0.636
Asian	0.632	0.000	0.833	0.044
Other	0.620	0.008	0.689	0.015
Unknown	1.127	0.418	0.987	0.912
Age	0.949	0.000	0.990	0.005

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Results – II

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Medicine	9.669	0.000	6.017	0.000
Medicine Related	0.949	0.595	1.386	0.000
Veterinary	1.274	0.259	2.913	0.000
Physics	0.972	0.827	1.500	0.000
Mathematics	1.105	0.353	1.629	0.000
Engineering	1.308	0.026	1.987	0.000

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Results – III

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Mineral Technology	1.576	0.075	1.706	0.007
Archaeology	1.102	0.518	2.121	0.000
Social Sciences	1.033	0.758	1.052	0.548
Economics	0.913	0.646	1.151	0.393
Law	0.675	0.000	1.093	0.283
Business	0.817	0.065	1.166	0.080
Media Studies	0.742	0.039	1.118	0.337

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Results – IV

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Linguistics	0.821	0.139	0.892	0.299
European Languages	1.200	0.356	1.384	0.035
Other Languages	0.851	0.630	0.950	0.852
History	1.197	0.145	1.125	0.242
Arts	1.035	0.738	1.322	0.001
Education	0.500	0.000	0.904	0.286
Combined	1.771	0.013	1.234	0.170

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Results – V

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Parental Home	0.495	0.000	0.987	0.861
Own Home	1.548	0.526	0.977	0.803
Other	1.652	0.009	0.747	0.002
First Class	1.104	0.194	1.350	0.000
Upper Second	1.063	0.237	1.159	0.000
Third	1.088	0.390	0.934	0.404
Unclassified	0.922	0.494	1.259	0.010

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Results – VI

Variable	Y=2 (employed in region of university)		Y=3 (employed in third region)	
	Odds Ratio	P-value for Wald test	Odds Ratio	P-value for Wald test
Population density	1.000	0.000	1.000	0.000
Young people	3.190	0.000	5.260	0.000
Pensioners	0.585	0.000	0.690	0.000
Economic activity rate	102.239	0.000	57.510	0.000
Level of education	24.382	0.000	25.379	0.000
Rental cost	1.348	0.000	1.325	0.000
Ln GVA per capita	2.118	0.000	2.072	0.000

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Summary

- Personal characteristics, such as gender and ethnic group influence migration flows
- The subject studied is an important determinant of migration patterns (e.g., medicine, education, arts)
- High performers are more likely to move
- Mature students are less likely to migrate
- Migration is predominantly towards richer, more highly skilled, urban areas with a high concentration of younger people

Implications

- Increasing focus on the role of universities in regional innovation systems
- Until recently a narrow focus on technology transfer
- Universities do not move
- But graduates do move
- And people are the most effective and extensive means of knowledge exchange
- Knowledge based economic growth is likely to lead to continual divergences in economic growth
 - Talent magnets
 - Talent drains

The challenges for 'talent drains'

- Importance of acting on the demand side
 - Creating appropriate job opportunities
- Importance of critical mass
 - Attracting talented people - including those from abroad?
- Importance of residential preference
 - But should the focus be student retention or attracting and retaining more experienced workers?