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The 10th Royal Economic Society Women's Committee Survey: The Gender Balance of Academic Economics in the UK

M. Mitka, K. Mumford and C. Sechel

Department of Economics and Related Studies
University of York
Heslington
York, YO10 5DD

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Executive Summary

This report covers the tenth (2014) survey of gender balance amongst academic economists in CHUDE membership departments, as well as non-CHUDE departments and research institutions in UK universities. The main findings are:

- the overall survey response rate is reasonable at 84%
- women constitute some 27% of all academic staff in UK economics
- women are under-represented among Professors, one in three men are Professors compared to one in six women
- the proportion of women is substantially higher in research jobs than in standard academic jobs
- some 15% of males and females have part-time employment in the sector, these males are more often found in senior positions than the females
- men and women share similar research disciplines, the most popular research discipline for both is Microeconomics
- male and female student enrolments in economics have risen over the last decade. The relative number of female UK (domicile) PhD students in economics has stayed relative stable at around 30%, however amongst the undergraduates female representation has declined considerably (from 30.6% to 27.4% of the full-time and 41.2% to 28.4% of the part-time UK students).

It is also of interest to compare the results from the 2014 survey with that from 2012. Balanced sample comparison is less than perfect, nevertheless, the overall impression is:

- the proportion of women among academic economists increased from 24% to 27%
- the representation of women in each grade rank shows small increases
- female Professors are more commonly promoted within their department rather than hired into the grade from outside
- job separations are rarer for more senior females
- changes that are observed over the two years are not generally significantly different from zero making it hard to make any definite statement about short-term movements.

Comparing the 2014 balanced sample results to those from earlier surveys:

- in aggregate, the proportion of the workforce that is female has increased substantially over the eighteen years of surveys (in 1996 women made up 17.5% of the workforce, by 2014 this has risen to 27%)
- the numbers of Professors amongst all staff has doubled over the time period (from 14% of all staff to 28%)

- women are roughly twice as common in the standard academic grades in 2014 than they were in 1996; in 1996 women made up approximately 15% of the Lecturers (31% in 2014), 10% of the Readers/Senior Lecturers (27% in 2014) and 5% of the Professors (14% in 2014).

For the first time, the Women's Committee survey has been able to track the submission of individuals in the Research Excellence Framework (REF) exercise, the preliminary results are:

- less than half (46.8%) of the total academic economic workforce were submitted; some two thirds of the professors and one third of the lecturers.
- women were considerably less likely to be submitted, 50% of the male academic economists in the CHUDE departments were submitted and 38% of the females.
- there is little difference in the gender of those submitted at the higher grade ranks with two thirds of the Professors and Readers being submitted, however, 31% of the female lectures were submitted compared to 39% of the males.
- departments with higher REF GPA scores submitted a greater proportion of their staff, however they also had a lower proportion of female staff.
- the long run implications of so few staff being submitted, especially the female Lecturers, is very concerning and will be explored more fully by the Women's Committee.

1. Introduction to the 2014 survey

This report covers the tenth survey of gender balance in academic employment in economics in Britain in a series started in 1996 by the Royal Economic Society (RES) Women's Committee and repeated bi-annually thereafter.[1]

The web pages of ninety two CHUDE (Conference of Heads of University Departments of Economics) departments, seven non-CHUDE departments[2], and fifteen leading research institutes were surveyed in November 2014 by the Women's Committee. The survey collected information on academic staff (full-time and part-time) by grade of employment, gender, and research discipline. It also collects information on promotions, new hires and job leavers. These survey entries were then emailed to respective institutions for verification in February 2015. The overall verified survey response rate from the 114 institutions is reasonable at 84% (88% or 81 responses from the 92 CHUDE departments, 57% or 4 responses from the 7 non-CHUDE departments, and 73% or 11 responses from the 15 research institutes).[3]

Multiple attempts to obtain a return from each of the non-responding departments were made, nevertheless, there were some that did not participate perhaps reflecting a weakness in survey design or apathy on the part of departments (Georgiadis and Manning, 2007; page 3). Section 2 of the report presents results from the verified returns, which is referred to as the "Respondents Survey". Results from analyzing the full web based survey (verified and non-verified data) are discussed in section 3 of the report. Section 4 of the report compares findings across the Women's Committee surveys using balanced and unbalanced analyses and presents evidence of staff changes over time. Data on student enrolments were collected from the Higher Education Statistical Agency (HESA) and are analyzed in section 5 of the report. Section 6 concludes.

[1] Mumford 1997; Booth and Burton with Mumford, 2000; Burton with Joshi and Rowlatt, 2002; Burton and Joshi, 2004, Burton with Humphries, 2006; Azariadis and Manning, 2008; Mumford, 2009; Blanco and Mumford, 2011; Blanco, Mitka, Mumford and Roman, 2013.

[2] Three of these non-CHUDE departments are newly established and the other four are business/finance departments at universities which have CHUDE representatives from economics departments. Tables A8 and A9 of the Appendix list all departments and research institutes surveyed.

[3] There are major difficulties in covering economists working outside conventional economics or business departments. The failure to identify economists working in policy studies or inter-disciplinary settings in the surveys is an on-going concern to the Women's Committee.

2. Overview of the findings for the Respondents Survey, November 2014

Table 1 reports the numbers of economists employed in academia in the UK from the total verified web survey returns, including CHUDE and non-CHUDE departments, and research institutions. In aggregate, information is available for 2,862 people who work as economists in academic appointments in the UK, 767 (or 26.8%) of whom are women.

Table 1. Primary employment function: All academic staff in economics departments and research institutes (responding sample, 2014).

	2014 respondent's survey			
Primary Employment Function	**Female**	**Male**	**Total**	**% Fem**
All Staff: full time				
Professors	90	540	630	14.3%
Readers	58	212	270	21.5%
Senior Lecturers	133	309	442	30.1%
Lecturers - permanent	230	488	718	32.0%
Lecturers - fixed term	5	13	18	27.8%
Senior Researchers	64	90	154	41.6%
Researchers - permanent	38	45	83	45.8%
Researchers - fixed term	37	73	110	33.6%
Totals	655	1770	2425	27.0%
All Staff: part time				
Professors	18	151	169	10.7%
Readers	4	14	18	22.2%
Senior Lecturers	5	16	21	23.8%
Lecturers - permanent	9	13	22	40.9%
Lecturers - fixed term	7	35	42	16.7%
Senior Researchers	42	66	108	38.9%
Researchers - permanent	11	1	12	91.7%
Researchers - fixed term	16	29	45	35.6%
Totals	112	325	437	25.6%
Grand Total	767	2095	2862	26.8%

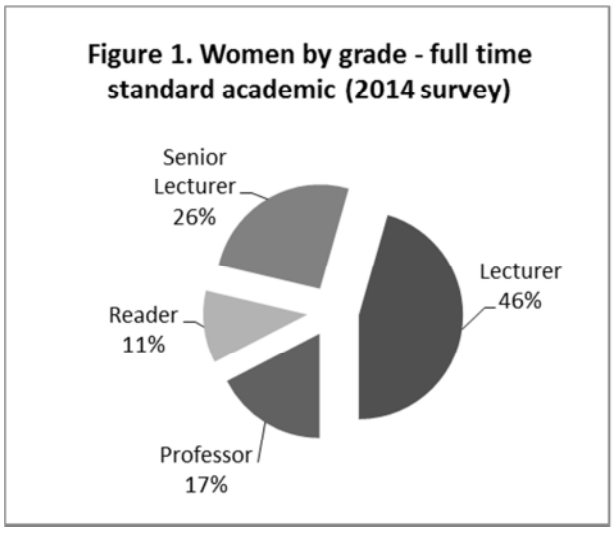
Source: RES Women's Committee Survey 2014.

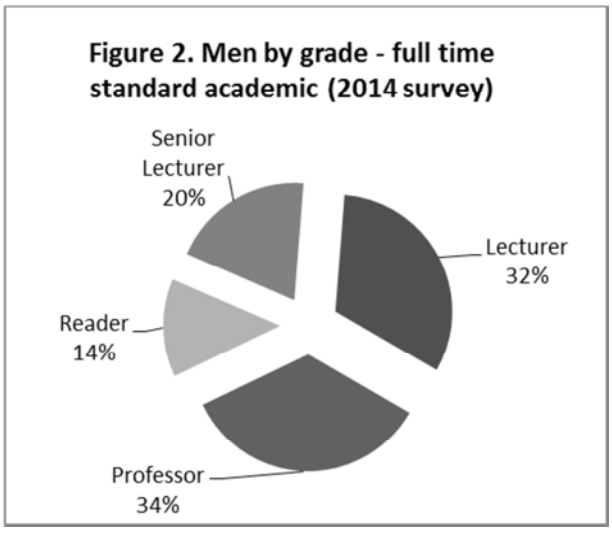
The vast majority of these economists (82%) are working in standard academic appointments (i.e., mixed teaching and research jobs as opposed to research-only appointments); this figure is

lower for women than for men (72.9% and 85.5%, respectively). If the research-only categories are excluded from the calculation, women make up 24.8% of the standard full-time academic workforce (or 516 out of 2,078 employees).

Women are substantially more likely to be employed at lower academic grade levels, as is clearly seen in the final column of Table 1. For example, amongst full time staff, the proportion female decreases from 32% of the Permanent Lecturers, to 21.5% of the Readers and 14.3% of the Professors.

Of all the women employed full time in standard academic appointments (see Figure 1), 17% are Professors and a further 37% are Readers or Senior Lecturers. Slightly less than one in every two of the women is a Lecturer and about one in six is a Professor. Carrying out a similar exercise for the men (Figure 2) reveals that 34% of the males are in the Professorial grade with another 34% in the Reader/Senior Lecturer grades. Males are twice as likely to be Professors, and are substantially less likely to be Lecturers, than are females.



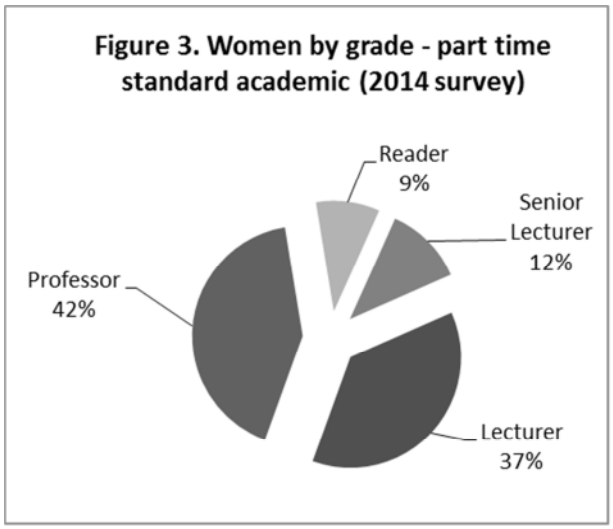


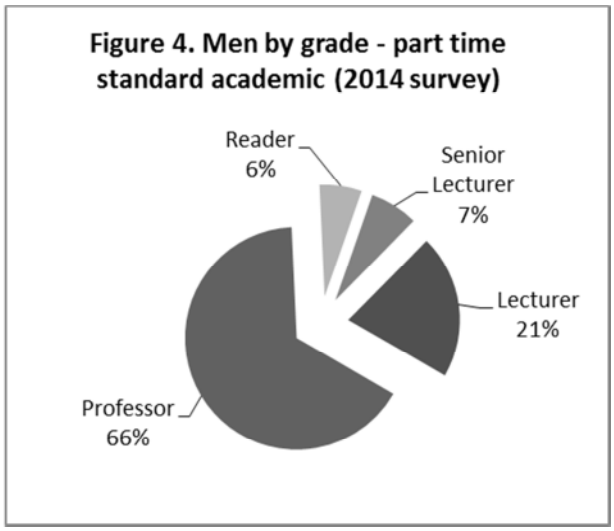
1.2 *Part-time employment*

The number of men working part-time is considerably larger than the number of women (see the lower panel of Table 1); although, their numbers relative to the total pool of male employees are similar to the share of females working part-time: some 14.6% of female and 15.5% of male economists in academia are working part-time. Men working part-time are more likely to have a

standard academic job whereas part-time employment is more common for women in research only positions. Of the economists in standard academic jobs, 7.7% of the women work part-time whilst 12.8% of the males do. Women are particularly prevalent amongst the Researchers and Lecturers with permanent part-time contracts.

Considering the relatively few women employed part-time in standard academic appointments, 42% are Professors and 37% are Lecturers (see Figure 3). Carrying out a similar exercise for the men (Figure 4) reveals that 66% are in the Professorial grade with 21% in the Lecturer grade. In other words, in accordance with full-time staff ratios, amongst part-time employees males are considerably more likely to be Professors and less likely to be Lecturers.





1.3 Temporary employment

Temporary employment contracts are unsurprisingly most commonly found amongst the Research grades (see Appendix Table A1). Table 2 presents data for all staff (full-time and part-time, permanent and fixed term) in panel 1; panel 2 lists those staff who are on fixed term contacts; and panel 3 lists those fixed term employees who are also employed part-time.

Much of the information in Table 2 has already been presented and discussed above, for example, the fixed term and part-time status for Lecturers and Researchers is presented in Table 1. However, Table 2 also presents this information for Professors and Senior Researchers. Combining part-time and full-time staff, temporary and permanent staff, women constitute:

31.4% of Lecturers, 29.8% of Senior Lecturers, 21.5% of Readers, and 13.5% of Professors (see panel 1 of Table 2).

Table 2. Primary employment function: All academic staff, fixed term staff, fixed term and part-time staff (responding sample, 2014).

Primary employment function	Female	Male	Total	% Fem	% of all staff in the rank	% of fixed term staff in the rank
	(1)	(2)	(3)	(4)	(5)	(6)
All staff						
Professor	108	691	799	13.5%	27.9%	
Reader	62	226	288	21.5%	10.1%	
Senior Lecturer	138	325	463	29.8%	16.2%	
Lecturer	251	549	800	31.4%	28.0%	
Senior Researcher	106	156	262	40.5%	9.2%	
Researcher	102	148	250	40.8%	8.7%	
Total	767	2095	2862	26.8%	100.0%	
Fixed term staff						
Professor	13	110	123	10.6%	15.4%	26.9%
Reader	2	7	9	22.2%	3.1%	2.0%
Senior Lecturer	3	5	8	37.5%	1.7%	1.8%
Lecturer	12	48	60	20.0%	7.5%	13.1%
Senior Researcher	37	65	102	36.3%	38.9%	22.3%
Researcher	53	102	155	34.2%	62.0%	33.9%
Total	120	337	457	26.3%	16.0%	100.0%
Fixed term and part-time staff						
Professor	13	104	117	11.1%	14.6%	95.1%
Reader	2	6	8	25.0%	2.8%	88.9%
Senior Lecturer	1	4	5	20.0%	1.1%	62.5%
Lecturer	7	35	42	16.7%	5.3%	70.0%
Senior Researcher	34	55	89	38.2%	34.0%	87.3%
Researcher	16	29	45	35.6%	18.0%	29.0%
Total	73	233	306	23.9%	10.7%	67.0%

Source: RES Women's Committee Survey 2014.

Reading across the columns in panel 1 of Table 2 reveals that, in total, there are 799 Professors, 108 of whom (13.5%) are female. The Professors constitute 27.9% of all academic staff (column 5). Of these Professors, 123 are working on a fixed term contract (see panel 2), 13 of whom (or 10.6%) are female. Only 15.4% of the Professors are on a fixed term contract (column 5) whilst 26.9% of all the fixed term staff are Professors (column 6).

Panel 3 reveals that the vast majority of the Professors working on a fixed term contract are also working part-time (117 out of the 123 or 95.1%, see column 6), as are all of the 13 female Professors working on a fixed term contract (reading down column 1). In contrast, 38.9% of the Senior Researchers are employed on a fixed term basis and 87.3% of these are also working part-time[4]. Researchers are particularly prone to be on a fixed term contract (62%) and 29% of these academics are working part-time. Researchers are disproportionately more likely to be female, and males working on fixed term and part-time appointments are more likely to be at the senior ranks than are the females.

1.4 Considering a role model effect

It may be that departments with female Professors find it easier to recruit, promote and/or retain other women (a role model effect). Table 3 reports for all academic staff (in the verified web survey) the proportion of Readers, Senior Lecturers and Lecturers who are female in departments with and without a female Professor. The first four rows of the first column of Table 3 provide alternative ranges of the percentage of staff below the grade of Professor that are female. The second column relates specifically to departments with at least one female Professor, and the third column to those departments with no female Professors. For example, considering the first row of Table 3, there are 14 departments where less than 10% of their non-professorial staff is female. Of these 14 departments, 8 of them have a female Professor. Similarly, row four reveals that there were also 14 departments (17% of the sample) with more than 30% of their Reader, Senior Lecturer or Lecturer posts held by women: 10 of these departments lack a female Professor. Considering the final rows of Table 3, in aggregate, departments with a female Professor had an average of 17.81% of female staff in non-professorial job ranks, in departments

[4] The majority (61.8%) of the Senior Researchers working on part-time fixed-term contracts are found in the Research Institutes (55 Senior Researchers and 33 Researchers on fixed-term and part-time contracts work in the research institutes; 42% of these Senior Researchers and 61% of the Researchers are female).

with no female professor this proportion was 25.77%. Additionally, departments with at least one female Professor are larger in size, as measured by the number of staff below Professor (21.23 relative to 15.58). There is little indication that the presence of at least one Professorial woman in a department enhances the representation of women more generally in that department. Taken in combination, the simple evidence presented in Table 3 does not provide compelling support for the role model hypothesis (a similar conclusion was reached for the 2006, 2008, 2010, and 2012 surveys, see Georgiadis and Manning, 2007; Mumford, 2009; Blanco and Mumford, 2011; Blanco, Mitka, Mumford and Roman, 2013).

Table 3. Proportion of female academic staff below Professor, CHUDE departments only (responding sample, 2014 survey)

	Number of departments with a female Professor	Number of departments with no female Professor	Number of departments
Proportion of female staff below Professorial rank			
0<=pr<=10%	8	6	14
10% < pr<=20%	20	8	28
20% <pr<=30%	12	13	25
pr>30% +	4	10	14
Average number of staff below Professorial rank	21.23	15.58	
Average proportion of female staff below Professorial rank	17.81%	25.77%	
Number of departments	*n=44*	*n=37*	*n=81*

Source: RES Women's Committee Survey 2014.

1.5 Analysis by REF results

During the 2014 Research Excellence Framework (REF) exercise individual academic staff members within the CHUDE departments responding to our survey could be submitted to and rated under different Units of Assessment (UoA). We traced individuals for six of these UoA (Economics and Econometrics; Business and Management; Health Services; History; Geography; and Area Studies). Figure 5a shows the proportion of staff submitted to any of these six UoA. In total, less than half (46.8%) of the academic workforce were submitted; some two thirds of the Professors and one third of the Lecturers.

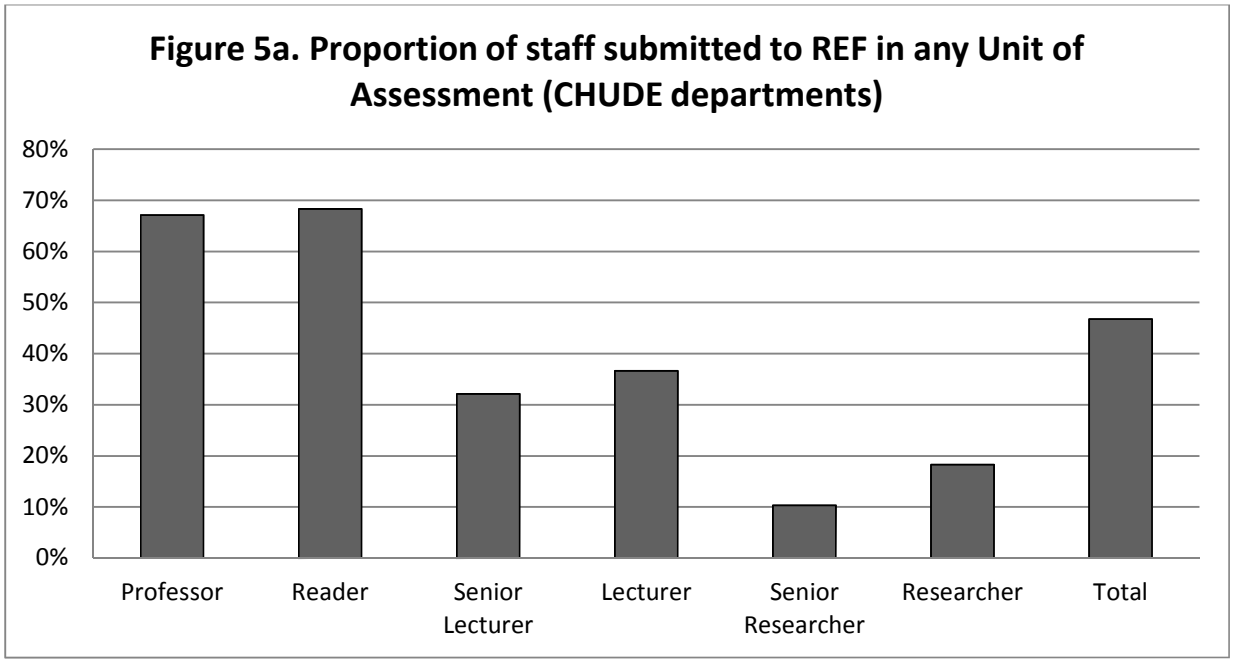
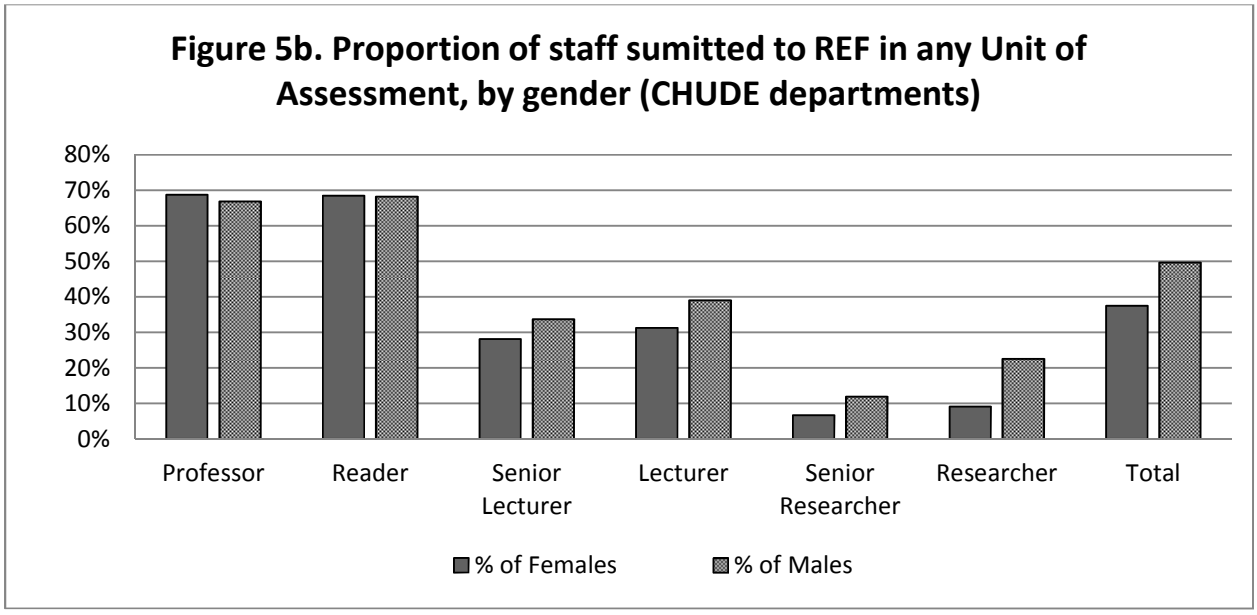
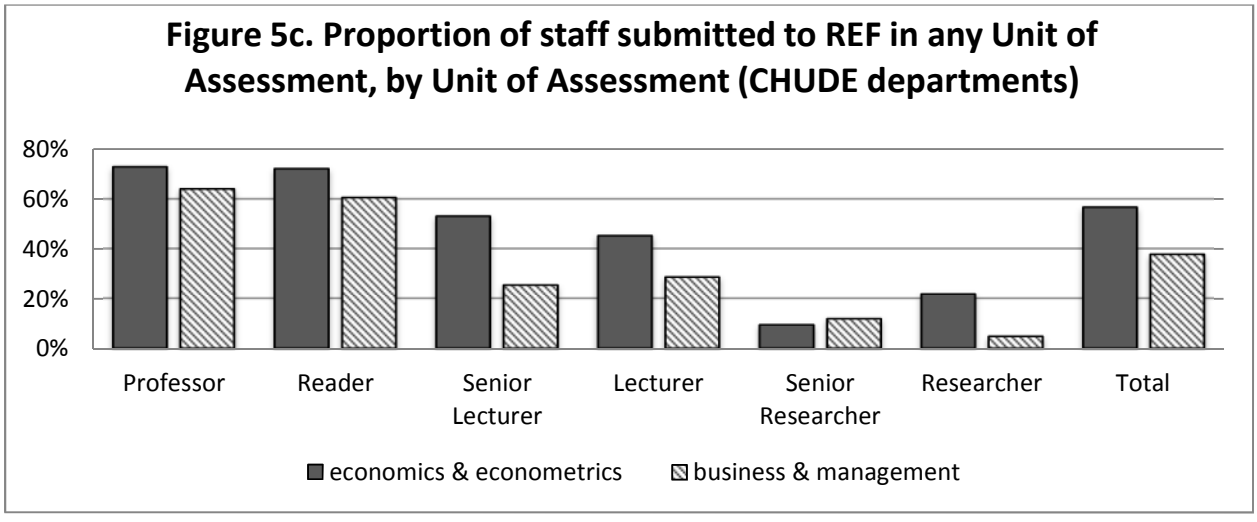


Figure 5b shows the submission rate by gender, comparison of the total columns reveals a striking gender differential; 49.7% of the males and only 37.5% of the females submitted. This gender gap varies substantially as we move down the academic ranks; there is negligible difference for Professors or Readers being submitted with some two thirds of both having an entry, however, there is an increasing tendency for males to be submitted as the grade levels lower.



There may be a pattern between the gender ratio of submissions and the UoA chosen. Departments could submit to multiple Units of Assessment (UoA) and many did (28 of the responding CHUDE departments submitted to Economics and Econometrics; 51 to Business Management; 1 to Health Services; 3 to History; 3 to Geography; 3 to Area Studies; and 10 did not have REF entries)[5]. Our REF categorization for departments submitting to more than one Unit of Assessment was determined on the majority of submissions. Departments with more submissions to one of these six Units of Assessment were categorized in that Unit. This resulted in all CHUDE departments responding to our survey being categorized either in Economics and Econometrics or in Business Management. For these responding CHUDE departments, the average REF scores were 2.94 for Economics and Econometrics and 2.70 for Business Management.

Figure 5c reveals that the Economics and Econometrics dominated departments typically submitted a higher proportion of their department's staff to any of these six UoA in the REF exercise (56.7% compared to 37.8% for those dominating in Business and Management, see totals columns). This pattern is seen across all the standard academic ranks reported in Figure 5c (except for the few Senior Researchers), with the gaps being larger for Senior Lecturers and for Lecturers.



[5] Of the 28 departments classified as Economics and Econometrics, 16 submitted staff only to Economics and Econometrics; of the 51 Business and Management departments, 39 submitted only to Business and Management.

Figure 5d (and 5e) presents the proportion of female (male) staff in each job rank, by UoA. The patterns are similar across the figures with some tendency for departments dominating in Business and Management entries to submit fewer men at the higher job ranks. It can also be seen that the Business and Management departments submit a lower proportion of the staff (male or female) than the departments dominating in Economics and Econometrics. In total, men are more than 25% more likely to be submitted in the Economic and Econometrics departments and 30% more likely to be submitted in the Business and Management departments than are women.

Figure 5d. Proportion of female staff submitted to REF in any Unit of Assessment, by Unit of Assessment (CHUDE departments)

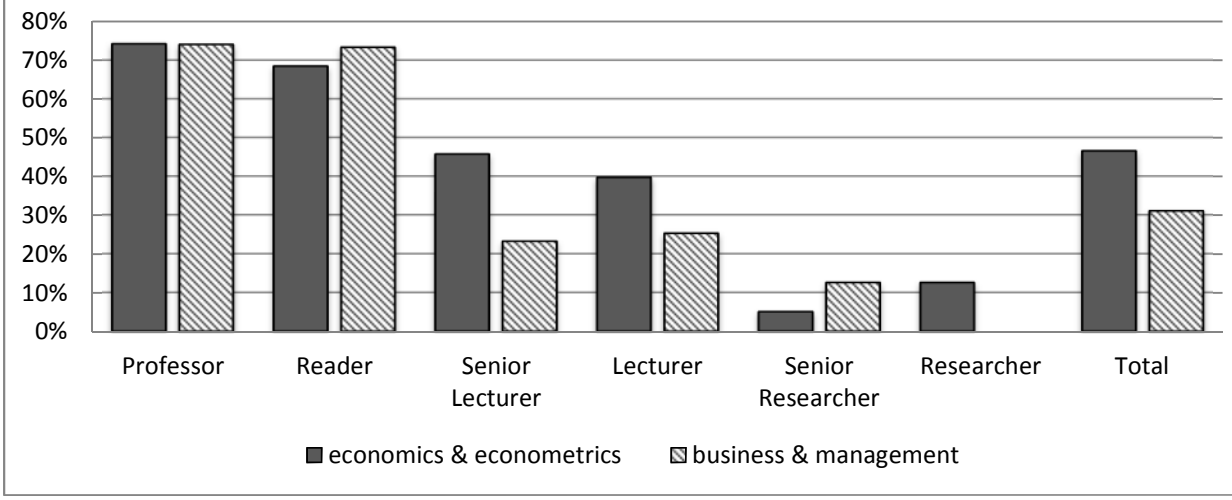
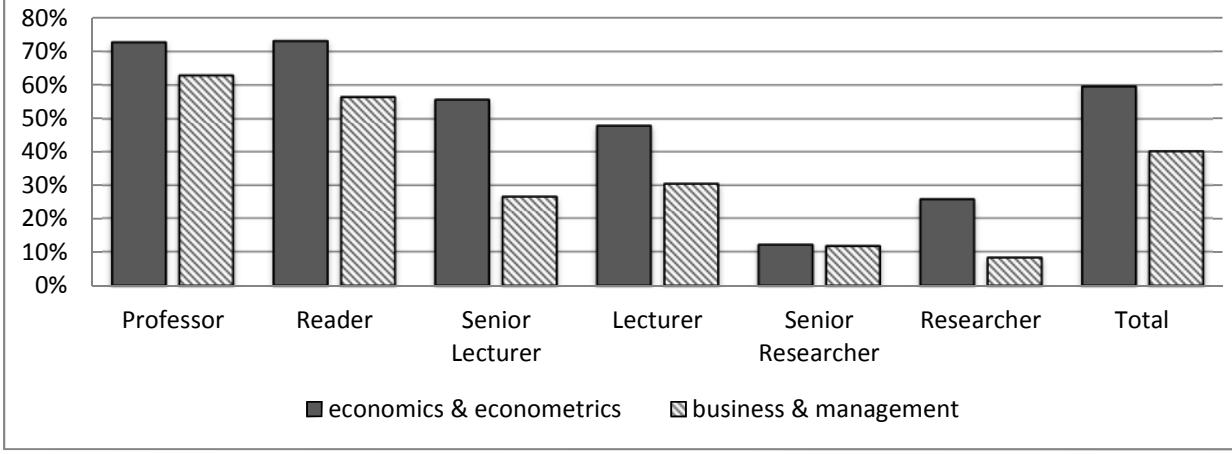


Figure 5e. Proportion of male staff submitted to REF in any Unit of Assessment, by Unit of Assessment (CHUDE departments)



It may also be argued that there is a relationship between the presentation of women in a department and the department's success in the Research Excellence Framework (REF). This is another issue that has been explored in previous Women's Committee reports, without convincing results supporting the hypothesis. The data are accordingly analyzed to see whether there are differences between those departments with a higher score in the 2014 REF or not. For those departments submitting to more than one Unit of Assessment the same categorization process described above was again applied, so that our departments are listed as dominating their submissions in either Economics and Econometrics or Business and Management; we used the "overall published grade point average" for the institution for that UoA accordingly. The departments were divided into those who scored (i) low (below 2.5); (ii) middle (2.5 or above but below 3); and (iii) high (3 or above).

Of the 71 responding departments that entered the REF exercise, 18 departments scored above 3 (1,091 staff members employed), 30 departments scored above 2.5 but equal to or below 3 (938 staff), and 23 departments scored 2.5 or below (338 staff) [6].

Figure 6a shows the proportion of the department's staff submitted to REF by these REF overall GPA score bands. In total, departments with a high REF GPA submitted a higher proportion of staff to the REF (53.3%), followed by departments with a middle GPA (47.3%), and lastly departments with a low GPA (37.9%). Departments with a low GPA, however, submitted the highest proportion of the Readers to REF, and only a slightly lower proportion of the Professors.

[6] Ten CHUDE departments included in the Respondents (verified) Survey did not submit to the 2014 REF.

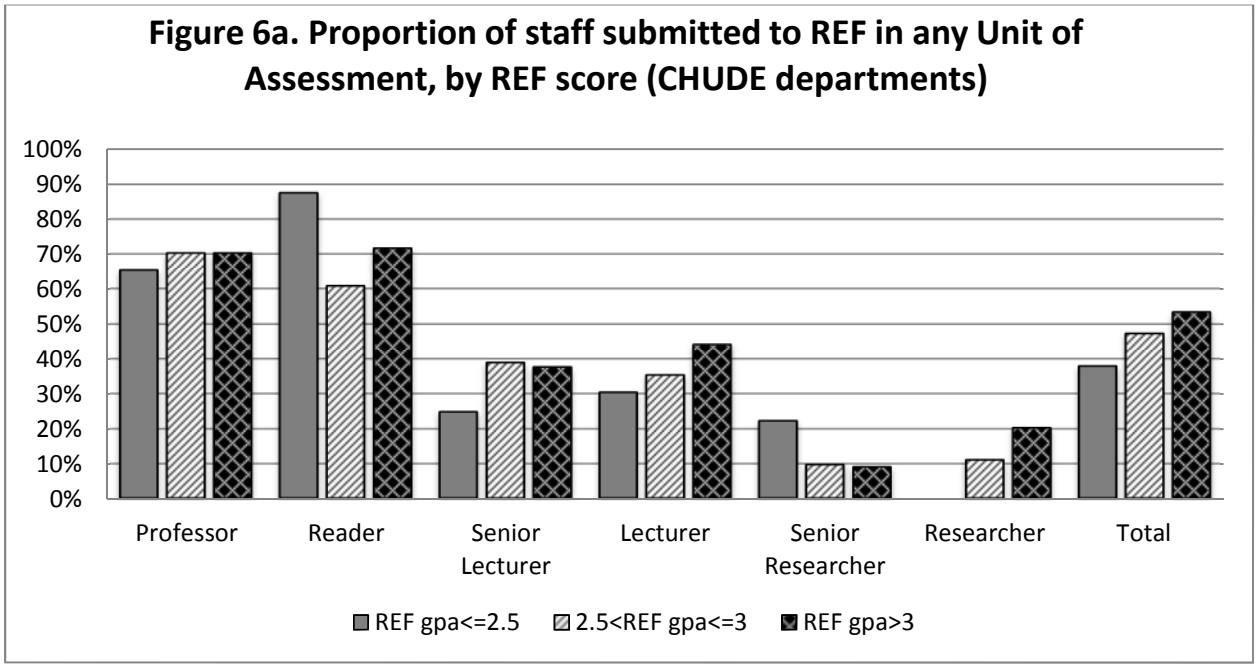


Figure 6b shows the proportion of the employed staff that is female in each grade rank by the REF score of the department. On average, departments with lower REF scores have relatively more posts held by women, as can be seen in the total columns (29.9%, 23.9% and 22.1%, respectively).

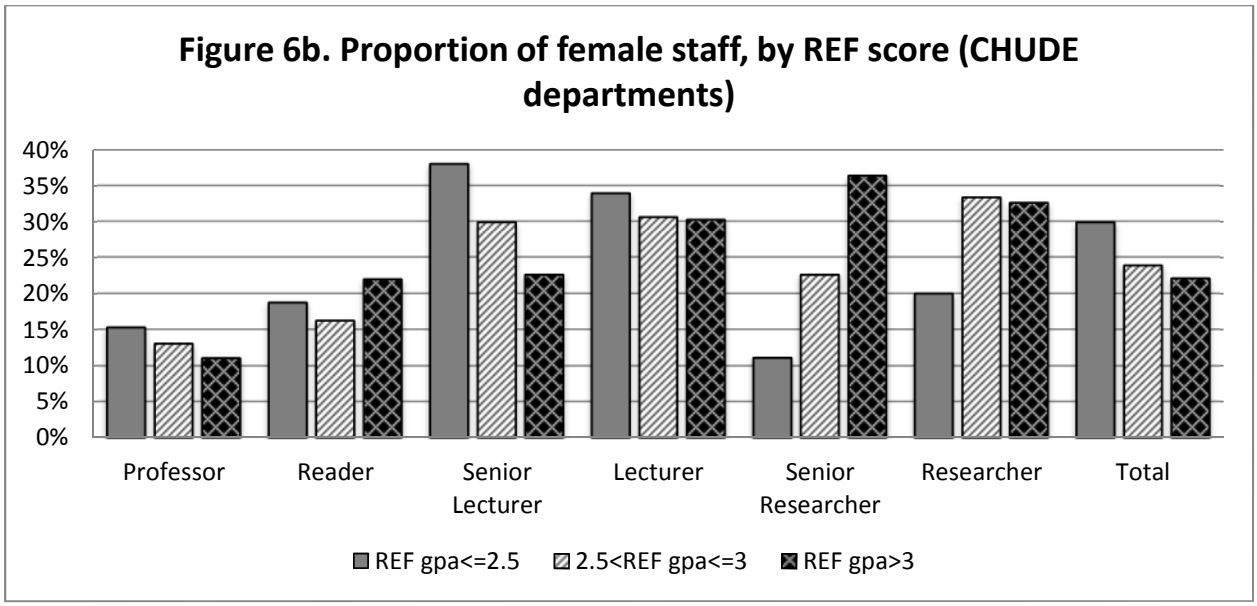
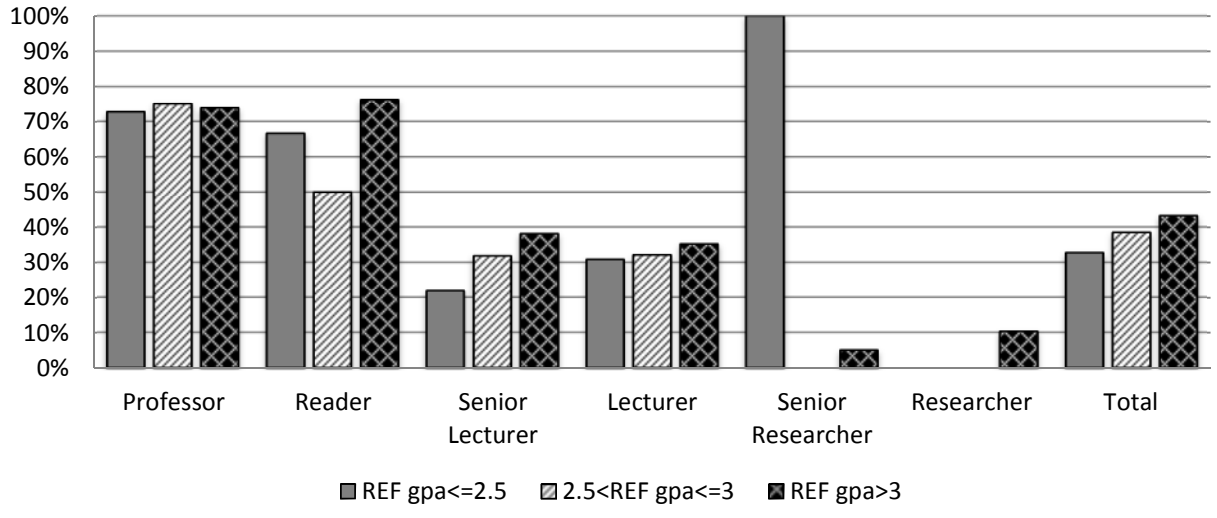
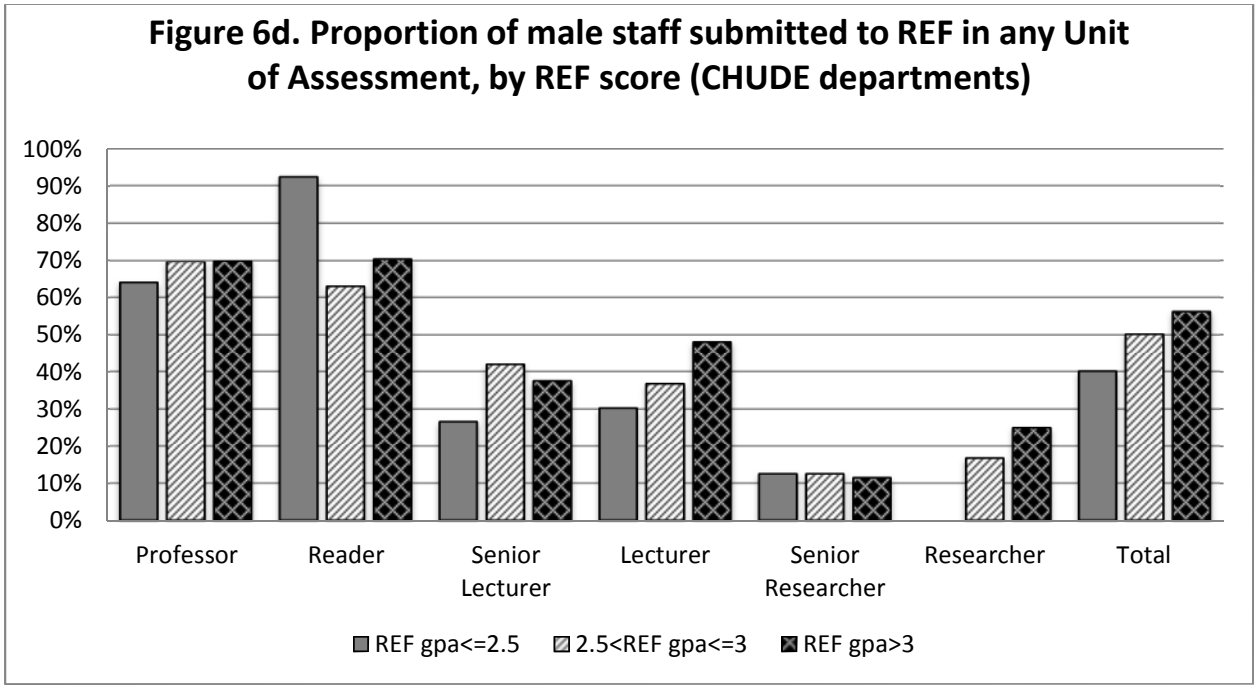


Figure 6c (and 6d) plots the proportion of female (male) staff in each grade rank submitted to the REF exercise (in any of the six UoA we consider) by the overall REF GPA score band of the department. There are noticeable differences revealed by contrasting Figures 6c and 6d, in particular:

- a greater proportion of female than male Professors were submitted (although this gender difference is small in higher GPA departments);
- female Lecturers are considerably less likely to be submitted in the midle and higher GPA bands than are male Lecturers;
- female Lecturers in the highest GPA band departments are 14.3% more likely to be submitted than are female Lecturers in the lowest GPA band departments, for male Lecturers the corresponding difference is 52.4%;
- In total, women are considerably less likely to have been submitted to the REF exercise, across all the three REF overall GPA bands; men are some 25% more likely to be submitted (22.6% in the lowest band, 30.5% in the middle band, and 23.4% in the top band).

Figure 6c. Proportion of female staff submitted to REF in any Unit of Assessment, by REF score (CHUDE departments)





There are clearly potentially confounding factors at play with gender, rank and REF submission. However, the substantial difference in REF submission rates across the genders, especially prevalent amongst Lecturers, is an obvious area of concern not least because of the potential long-term career implications for those left out of the REF. This is an issue the Women's Committee will be further investigating.

1.6 *Research discipline*

Information was harvested on the research discipline of academic staff from the web pages[7] and was sent for verification with the survey returns. Table 4 presents results for economists in standard academic appointments (full or part-time) in CHUDE departments from the verified survey (additional information including discipline breakdown by rank and within research institutions is provided in Tables A3 and A4 of the Appendix). Column 4 shows that the most popular research disciplines are unsurprisingly the core areas of Microeconomics (14% of all staff); Macroeconomics and Monetary Economics (12.9%); Mathematical and Quantitative

[7] This information was gathered by Malgorzata Mitka.

Methods (12.3%), and Financial Economics (11.7%).[8] These are also the research areas which are the most common amongst the Professors (see column 7 of Table 4), although the ordering is slightly different with more Professors working in Mathematical and Quantitative Methods (13.3%); followed by Microeconomics (12.6%); and then Macro and Monetary Economics (12.4%) and Financial Economics (12.1%).

The four core research disciplines are also the four most popular research areas for women (see column 6). There are some differences in the ordering between men and women, however, (as can be seen by comparing columns 5 and 6 of Table 4). Men and women both chose the most popular Microeconomics (14.2% of the men and 13.3% of the women). The second most popular choice for both women and men differs: men favor Macroeconomics and Monetary Policy and women favor Financial Economics (at 13.9% and 11.9%, respectively). Women then opt for Macroeconomics and Monetary Policy (10%) and men opt for Mathematical and Quantitative Methods (13%). For their fourth choice women favor Mathematical and Quantitative Methods whilst men choose Financial Economics. In contrast to popular perception, Health, Education and Welfare is only the equal seventh most popular research discipline chosen for women, it is the tenth most popular choice for men.

Column 8 of Table 4 provides the percentage of all those choosing that research discipline who work in a department ranked above 3 in the last REF exercise. Of the 2358 standard academic appointments, 1072 or 45.5% worked in these higher ranked departments. In row one of Table 4, we can see that of the 47 staff choosing General Economics and Teaching, 7 (or 14.9%) of these staff members worked in a department ranked above 3 (see also Table A4). There are some small number issues (reading across columns 3, 4 and 8) suggesting caution when interpreting the percentages in column 8. Nevertheless, it becomes clear that departments with higher REF scores have a greater proportion of staff specializing in the four core research discipline areas.[9]

[8] In contrast, within the Research Institutions (see Appendix Table A3) the most popular research area is Health, Education and Welfare (half the staff in research institutions work in this discipline area). Labor and Demographic Economics is the second most relevant research area in these institutions with 12.6% of the staff employed by these research institutions.

[9] Departments with REF scores above 3 have a greater proportion of staff specializing in the core research discipline areas (53% of their staff) in comparison to the departments with a REF score below 2.5 (37.4%).

Table 4. Main research discipline, by gender and REF score (responding sample 2014, CHUDE depts only).

JEL research discipline	Female	Male	Total	% All	% Male	% Fem	% All Profs	% Total in REF>3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A - General Economics and Teaching	15	32	47	1.9%	1.7%	2.6%	0.5%	14.9%
B - History of Economic Thought, Methodology, and Heterodox Approaches	6	25	31	1.3%	1.4%	1.0%	1.2%	12.9%
C - Mathematical and Quantitative Methods	56	243	299	12.3%	13.1%	9.7%	13.2%	44.1%
D - Microeconomics	77	263	340	14.0%	14.2%	13.3%	12.9%	51.2%
E - Macroeconomics and Monetary Economics	58	256	314	12.9%	13.9%	10.0%	12.1%	45.2%
F - International Economics	43	99	142	5.8%	5.4%	7.4%	5.3%	40.1%
G - Financial Economics	69	215	284	11.7%	11.6%	11.9%	12.1%	42.3%
H - Public Economics	11	54	65	2.7%	2.9%	1.9%	3.4%	53.8%
I - Health, Education, and Welfare	43	64	107	4.4%	3.5%	7.4%	5.2%	43.9%
J - Labor and Demographic Economics	47	127	174	7.2%	6.9%	8.1%	8.3%	51.1%
K - Law and Economics	2	7	9	0.4%	0.4%	0.3%	0.4%	11.1%
L - Industrial Organization	21	114	135	5.6%	6.2%	3.6%	5.4%	48.9%
M - Business Administration and Business Economics; Marketing; Accounting	22	35	57	2.3%	1.9%	3.8%	1.9%	19.3%
N - Economic History	10	41	51	2.1%	2.2%	1.7%	2.3%	51.0%
O - Economic Development, Technological Change, and Growth	50	127	177	7.3%	6.9%	8.6%	7.6%	40.7%
P - Economic Systems	9	33	42	1.7%	1.8%	1.6%	1.2%	47.6%
Q - Agricultural and Natural Resource Economics; Environmental and Ecological	22	72	94	3.9%	3.9%	3.8%	4.1%	42.6%
R - Urban, Rural, Regional, Real Estate, and Transportation Economics	15	31	46	1.9%	1.7%	2.6%	2.0%	58.7%
Y - Miscellaneous Categories	2	1	3	0.1%	0.1%	0.3%	0.1%	33.3%
Z - Other Special Topics	2	9	11	0.5%	0.5%	0.3%	0.7%	9.1%
Total	580	1848	2428	100%	76.1%	23.9%	736	44.2%

Source: RES Women's Committee Survey 2014.

1.7 *Flows into and out of standard academic positions in the previous year*

Changes in the stock of individuals in any job rank due to inflows from new hires, job separations (resignations and retirements), and promotions (within and across departments) can also be addressed from the data set. As the web based surveys are tracking individuals, we can calculate movements more accurately (for example, tracking those who left one department but were hired into another, and if they received a promotion in this move). Before 2010, the Women's Committee data on promotions only included promotions that were internal to departments and total staff movements were essentially gross rather than net. (For comparison sake, full and balanced sample (from the 2014 and 2012 surveys) analysis using the previous gross sample measures is provided in Appendix tables A5 to A7.)

Table 5 presents staff movements in the 2013/14 academic year from the 2014 respondents survey (i.e. the verified returns). Columns 1 to 4 are those promotions internal to the department, columns 5 to 8 are those promoted from other UK departments. These numbers of promotions are obviously small so we should be cautious about how valid the implications of these flows for changes in relative employment stocks actually are. Nevertheless, Comparing columns 4 and 8 (showing the percentage female by rank amongst the flows) with columns 21 (showing the percentage females amongst the stock by rank), suggests very small gains were made in the 2013/14 time period via promotions, especially amongst Professors and Readers.[10]

Panel two of Table 5 provides information on hiring in the 2013/14 academic year: columns 9 to 12 present information on new staff hired in the last year, this is staff entering the sector; and columns 13 to 16 are hires across UK departments. We can see that there were 45 Professors hired from outside of the UK academic sector (column 11) in the 2013/14 academic year, and a further 12 Professors hired from other UK departments (column 15). Hires from outside of the sector are relatively less likely to be female than are either hires from within the sector (comparing columns 12 and 16), or internal promotions into the grade rank (column 4). Comparing columns 9 to 12 in Table 5 with columns 1 to 4 in Table 2, suggests that these external hires are typically lowering the proportion female in each rank in contrast to the small

[10] Comparing balanced samples (see Appendix Table A6) promotions increased between the 2012 and 2014 surveys, from 84 promotions in the 2012 to 119 in the 2014, and women made up more of these promotions in 2014 than in 2012. The relative promotion of female Readers and Lecturers decreased in 2014, while women represent a higher percentage of those promoted to Professors, Senior Lecturers, and Senior Researchers in 2014 than in 2012.

numbers of across department hires and internal promotions. In aggregate, the representation of women amongst the hiring inflow will do little to improve the overall representation of women in the stock by rank (column 21); with a very slight increase in the percentage of Professors who are female but a larger fall amongst the Readers.

The third flow affecting the stock of academic economists is, of course, leavers (see panel 3 of Table 6). In aggregate, women make up a similar proportion of these separations as they do of the total pool of academic economists (30% relative to 26.8%, columns 20 and 21).

Information on the job leaver's destination was also gathered (see Table 6).[11] The most common destination employment for the job leavers is to another academic appointment (204 out of 349 leavers or 58% of all job leavers) followed by 'unknown job' (23%), implying considerable churning within the sector, with non-employment taking up a further 5%. The proportion of female economists across job leavers (29.8%) is similar to the female share of the total workforce. A high proportion of leavers go on to other academic appointments (60 out of 104 female leavers or 58%, and 59% of male leavers) or to unknown jobs (29% of the female leavers, and 20% of the males). The relative findings for the UK and EU destinations suggest an international marketplace exists for academic economists, both male and female, and that females move in a similar proportion to their presence in the workforce.

The 2014 survey also asks departments about the reasons for these separations (see Table 7), the responses were not overly informative (in 60% of the cases, there are "other", "unknown" or "missing" responses). Of the remaining 138 cases, roughly one in four leavers moved for a promotion (34% of the female leavers, 25% of the males); 19% retired (0% of females leavers, 19% of the males); about 9% cited family reasons for quitting their jobs; and 44% reported that they had reached the end of their contract. Of those who left their job due to family reasons, 41.7% are women and women are 1.6 times more likely than men to do so, which might indicate ineffective implementation of family friendly work practices in departments. In summary, women are slightly more likely than men to move for a promotion and they are more likely to be left without a job because they reached the end of their contract.

[11] Note there are 29 missing observations for sector destination (Table 6); 28 for geographic destination (Table 6) and 24 for reasons for leaving (Table 7).

Table 5. Staff movements 2013/2014 (responding sample 2014)

	Internal promotions				Promotions from other UK depts.			
	Female	Male	Total	%Fem	Female	Male	Total	%Fem
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Professor	7	12	19	36.8%	0	0	0	-
Reader	9	36	45	20.0%	1	0	1	100.0%
Senior Lecturer	12	26	38	31.6%	0	0	0	-
Lecturer	9	13	22	40.9%	0	2	2	0.0%
Senior Researcher	13	5	18	72.2%	0	0	0	-
Researcher	8	7	15	53.3%	0	0	0	-
Total	58	99	157	36.9%	1	2	3	33.3%

	Hires from outside sector				Hires from other UK depts.			
	Female	Male	Total	%Fem	Female	Male	Total	%Fem
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Professor	6	39	45	13.3%	2	10	12	17%
Reader	1	9	10	10.0%	1	4	5	20%
Senior Lecturer	12	33	45	26.7%	4	6	10	40%
Lecturer	47	99	146	32.2%	10	19	29	34%
Senior Researcher	7	28	35	20.0%	1	0	1	100%
Researcher	32	51	83	38.6%	0	3	3	0%
Total	105	259	364	28.8%	18	42	60	30%

	Separations					
	Female	Male	Total	%Fem	% Fem in grade	% Fem in grade below
	(17)	(18)	(19)	(20)	(21)	(22)
Professor	10	68	78	13%	13.5%	21.5%
Reader	5	17	22	23%	21.5%	29.8%
Senior Lecturer	4	33	37	11%	29.8%	31.4%
Lecturer	25	51	76	33%	31.4%	40.5%
Senior Researcher	25	38	63	40%	40.5%	40.8%
Researcher	35	38	73	48%	40.8%	
Total	104	245	349	30%	26.8%	

Source: RES Women's Committee Survey 2014.

Table 6. Job leaver's destinations

	Leavers sector destination					Leavers geographic destination			
	Female	Male	Total	%Fem		Female	Male	Total	%Fem
Sector	(1)	(2)	(3)	(4)	**Location**	(5)	(6)	(7)	(8)
Academic	60	144	204	29.4%	United Kingdom	53	117	170	31.2%
GES/BofEngland	2	2	4	50.0%	European Union	8	20	28	28.6%
Non-Employed	2	14	16	12.5%	Other	14	42	56	25.0%
Other Govt/NGO	3	5	8	37.5%	Unknown	25	42	67	37.3%
Private Sector	2	7	9	22.2%	Missing	4	24	28	0.1428571
Unknown Job	30	49	79						
Missing	5	24	29						
Total	104	245	349	29.8%	**Total**	104	245	349	29.8%

Source: RES Women's Committee Survey 2014.

Table 7. Reasons for leaving

	Female	Male	Total	%Fem
Sector	(1)	(2)	(3)	(4)
Promotion	13	25	38	34.2%
End of contract	20	41	61	32.8%
Retired	0	26	26	0.0%
Resignation, family reasons	5	7	12	41.7%
Death	0	1	1	0.0%
Other	18	28	46	39.1%
Unknown	43	98	141	30.5%
Missing	5	19	24	20.8%
Total	104	245	349	29.8%

Source: RES Women's Committee Survey 2014.

3. Overview of the findings for the full web-based survey, 2014.

Table 8 provides the results from the full 2014 web-based survey compared to the 2014 respondents' survey (the verified subset of the full web based survey). It should be noted that there is obviously a limit to the information that can be reliably collected from web pages. For example, information concerning full-time or part-time status, permanent or temporary employment contracts is often ambiguous hence the fundamental need to seek verification from the relevant institutions.

A striking difference in the results from the full web-based survey and the respondents' verified survey is the number of extra research staff members listed on the web pages but not included in the department verified responses, this is especially true for Senior Researchers and Professors. Comparing the total staff by rank in the balanced samples (column 7 with column 3 of Table 8) reveals 378 Senior Researchers relative to 262 in the verified survey; and 940 Professors relative to 799 in the verified survey. These are identified as not economists, or otherwise Emeritus, Visiting or Honorary positions not considered to be "salaried members of academic and research staff" as required for inclusion in the respondents survey of departments. Considering columns 12 and 4 of Table 8, however, suggests that these extras are making negligible differences to the gender balance amongst the standard academic ranks.

The second major finding from comparing the 2014 data sources is that including information from the web pages of the non-responding departments into the totals (see columns 9 to 12) does not suggest that the departments choosing not to participate in the 2014 email survey were less likely to contain women. This was also true in 2012 (see Table 9) and is consistent with earlier findings (Georgiadis and Manning, 2007, page 3; Mumford, 2009, page 20; Blanco and Mumford, 2011, page 23; and Blanco, Mitka, Mumford and Roman, 2013, page 18).

Table 8. Primary employment function: Academic staff in economics departments and research institutes (balanced and unbalanced samples from the 2014 email and web based surveys)

Primary Employment Function	unbalanced 2014 respondents' survey				2014 web balanced sample to match the respondents survey				unbalanced 2014 full web survey			
	Female	Male	Total	% Fem	Female	Male	Total	% Fem	Female	Male	Total	% Fem
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All Staff												
Professors	108	691	799	13.5%	122	818	940	13.0%	132	852	984	13.4%
Readers	62	226	288	21.5%	68	238	306	22.2%	72	247	319	22.6%
Senior Lecturers	138	325	463	29.8%	143	351	494	28.9%	167	403	570	29.3%
Lecturers	251	549	800	31.4%	272	594	866	31.4%	302	629	931	32.4%
Senior Researchers	106	156	262	40.5%	153	225	378	40.5%	272	276	548	49.6%
Researchers	102	148	250	40.8%	118	170	288	41.0%	128	174	302	42.4%
Total	767	2095	2862	26.8%	876	2396	3272	26.8%	1073	2581	3654	29.4%
Number of institutions	96				96				114			

Sources: RES Women's Committee Survey 2014, web based; RES Women's Committee Survey 2014, email based

Table 9. Primary employment function: Academic staff in economics departments and research institutes (balanced samples for the 2012 and 2014 responding samples).

Primary Employment Function	2014 respondents' sample				2014 respondents' balanced sample				2012 email survey balanced sample				2012 email survey			
	Female	Male	Total	% Fem	Female	Male	Total	% Fem	Female	Male	Total	% Fem	Female	Male	Total	% Fem
All Staff: full time																
Professors	90	540	630	14.3%	70	413	483	14.5%	54	414	468	11.5%	54	418	472	11.4%
Readers	58	212	270	21.5%	41	169	210	19.5%	30	130	160	18.8%	30	131	161	18.6%
Senior Lecturers	133	309	442	30.1%	87	208	295	29.5%	74	190	264	28.0%	81	197	278	29.1%
Lecturers - permanent	230	488	718	32.0%	176	387	563	31.3%	154	381	535	28.8%	160	392	552	29.0%
Lecturers - fixed term	5	13	18	27.8%	5	11	16	31.3%	7	19	26	26.9%	7	19	26	26.9%
Senior Researchers	64	90	154	41.6%	30	48	78	38.5%	28	50	78	35.9%	29	54	83	34.9%
Researchers - permanent	38	45	83	45.8%	27	34	61	44.3%	21	22	43	48.8%	24	25	49	49.0%
Researchers - fixed term	37	73	110	33.6%	32	71	103	31.1%	19	44	63	30.2%	19	44	63	30.2%
Totals	**655**	**1770**	**2425**	**27.0%**	**468**	**1341**	**1809**	**25.9%**	**387**	**1250**	**1637**	**23.6%**	**404**	**1280**	**1684**	**24.0%**
All Staff: part time																
Professors	18	151	169	10.7%	8	114	122	6.6%	5	59	64	7.8%	5	59	64	7.8%
Readers	4	14	18	22.2%	3	10	13	23.1%	0	3	3	0.0%	1	3	4	25.0%
Senior Lecturers	5	16	21	23.8%	2	11	13	15.4%	1	13	14	7.1%	1	14	15	6.7%
Lecturers - permanent	9	13	22	40.9%	7	9	16	43.8%	2	6	8	25.0%	4	9	13	30.8%
Lecturers - fixed term	7	35	42	16.7%	5	23	28	17.9%	6	13	19	31.6%	6	13	19	31.6%
Senior Researchers	42	66	108	38.9%	20	31	51	39.2%	19	38	57	33.3%	20	38	58	34.5%
Researchers - permanent	11	1	12	91.7%	9	0	9	-	0	0	0	-	0	0	0	-
Researchers - fixed term	16	29	45	35.6%	14	21	35	40.0%	8	12	20	40.0%	8	12	20	40.0%
Totals	**112**	**325**	**437**	**25.6%**	**68**	**219**	**287**	**23.7%**	**41**	**144**	**185**	**22.2%**	**45**	**148**	**193**	**23.3%**
Grand Total	767	2095	2862	26.8%	536	1560	2096	25.6%	428	1394	1822	23.5%	449	1428	1877	23.9%

Source: RES Women's Committee Survey 2012 and 2014.

4. Staff changes over time.

A fundamental role for the newly established Royal Economic Society Women's Committee[12] in 1996 was to monitor and, where necessary, collect data on the position of female economists in academic appointments in the UK. In response to a shortage of available data suitable to its needs, the Committee Chairs have carried out a series of biennial questionnaires to all Heads of Departments listed as members of CHUDE (and to a selection of research institutions) since December 1996[13]. As discussed in the Introduction, this report covers the tenth of these surveys.[14]

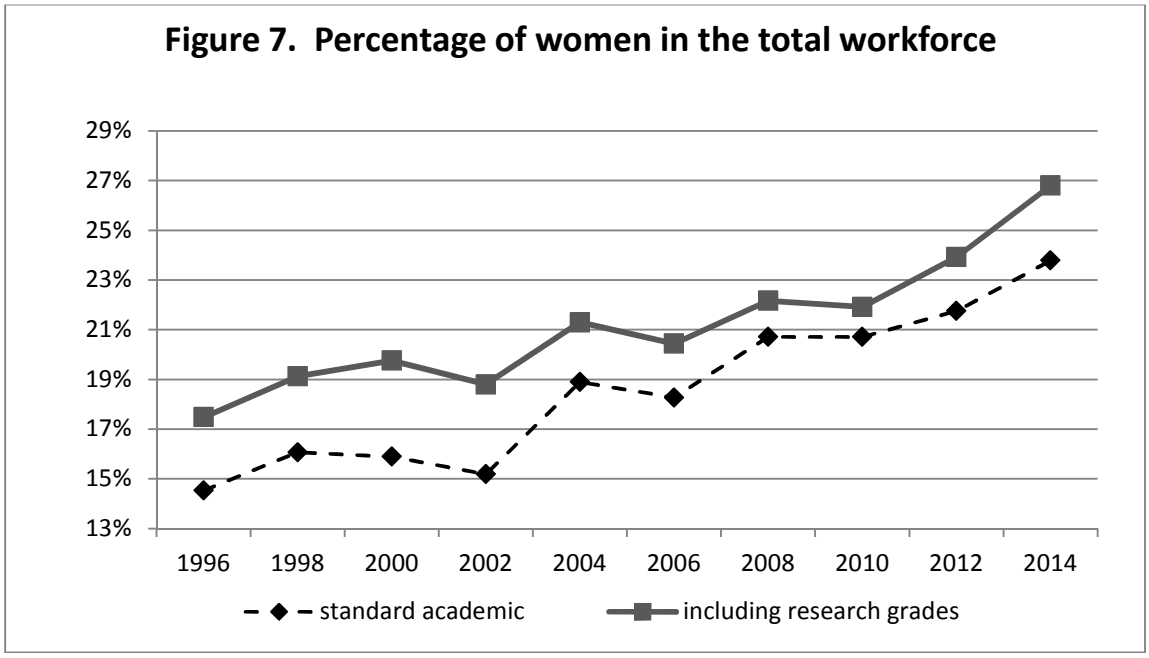
Figure 7 plots the percentage of women amongst the total academic economics workforce (including research grades) and amongst the standard academic workforce for each of the Women's Committee surveys using unbalanced samples (reflecting the fullest sample information for each of the surveys).[15] An overall growth trend in the percentage of women in the workforce can clearly be seen in Figure 7 (with or without the inclusion of the research grades).

[12] At its meeting in November 1996, the Council of the Royal Economic Society established a Women's Committee to promote the role of women in the UK economics profession. The founding membership of the Women's Committee was Denise Osborn (Chair), Tony Atkinson, Stephen Hall, David Hendry, Karen Mumford, Carol Propper, Maureen Pike and Amanda Rowlatt.

[13] The current survey also includes a small number of non-CHUDE university departments (as discussed in the Introduction).

[14] Results from previous surveys are found in Mumford 1997; Booth and Burton with Mumford, 2000; Burton with Joshi and Rowlatt, 2002; Burton and Joshi, 2004, Burton with Humphries, 2006; Azariadis and Manning, 2008; Mumford, 2009; Blanco and Mumford, 2011; Blanco, Mitka, Mumford and Roman, 2013).

[15] The samples changed quite dramatically in 2002 and 2006. In 2006 there were only 45 responding departments from the CHUDE membership list (in contrast to the 79 in 2004 and the 93 included in the web survey of 2008). In 2002 the survey was sent to many more groups beside just those departments listed as CHUDE members (to 192 institutions of which 55 were economics departments and a further 74 were business and management centres, Burton and Joshi, 2002; page 4). Constructing a genuinely balanced sample from 1996 to 2012 is not trivial, for example, some of the departments and research institutions present in 1996 have merged and/or disappeared over the time period. Furthermore, many institutions present a single return which appears to include economists working in different research clusters within their institution. The web-based surveys reveal that many of individuals associated with research institutions are also employed on standard academic appointments in departments; this is especially true for more senior ranked economists. (For more discussion of the matching of the samples over time see Mumford, 2009).

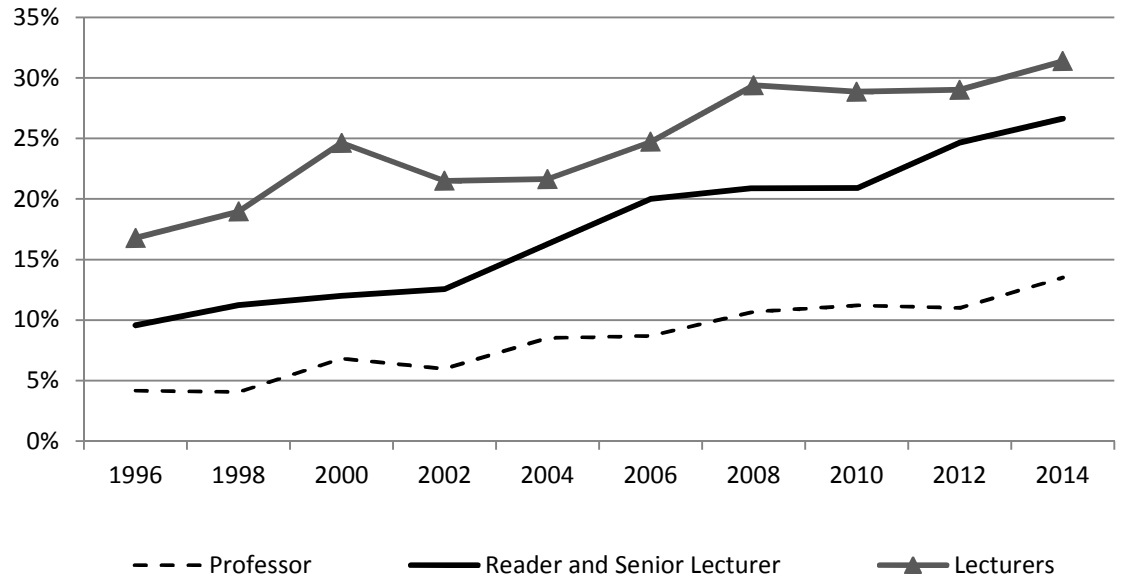


The percentage of the women working in full-time standard academics jobs in CHUDE departments by rank (using unbalanced samples from the bicentennial surveys) is shown in Figure 8. In 1996, approximately 5% of the Professors were female, 10% of the Senior Lecturer/Readers and 15% of the Lecturers. By 2014, these ratios have essentially tripled for Professors and Senior Lecturer/Readers, and doubled for Lecturers.

Comparing the results from the first of the Women's Committee's surveys (a postal survey for 1996) with the verified survey of the web pages from 2014 in more detail (see Appendix Table A2) supports the conclusion that the grade rank composition of the total workforce has changed dramatically over the 18 year period: the proportion of Professors has increased by 97% (from 14.2% to 27.9% of the total workforce); the proportion of Readers and Senior Lecturers has increased by 61%; whilst Lecturers are about 30% less prevalent. Strikingly, there are slightly fewer Lecturers and Researchers in 2014 in absolute terms relative to 1996, despite the strong growth in the total workforce. Considering the women, in 1996, 17.5% of academic economists were female: 16.8% of Lecturers, 9.6% of Senior Lecturers and Readers, and 4.2% of Professors. In the aggregate 2014 verified sample, 26.8% of academic economists were female: 31.4% of Lecturers, 26.6% of Senior Lecturers and Readers, and 13.5% of Professors. Women are roughly two times more likely to be amongst the Lecturers, 2.5 times

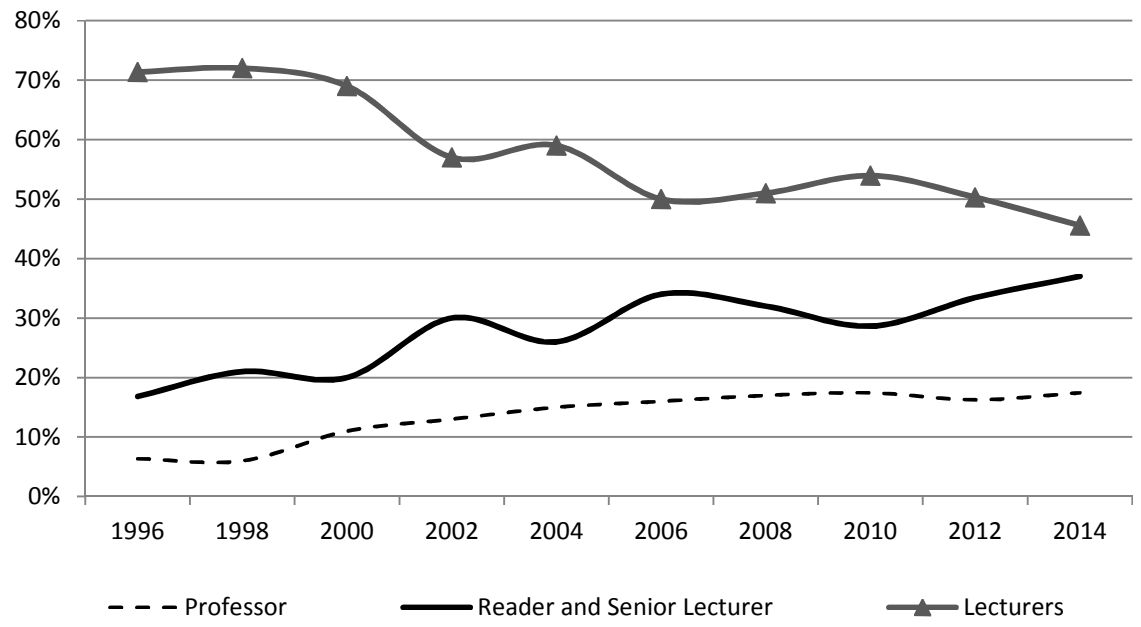
amongst the Reader/Senior Lecturers and three times more likely to be amongst the Professors in 2014 than they were in 1996.

Figure 8. Percentage of academics female, by rank



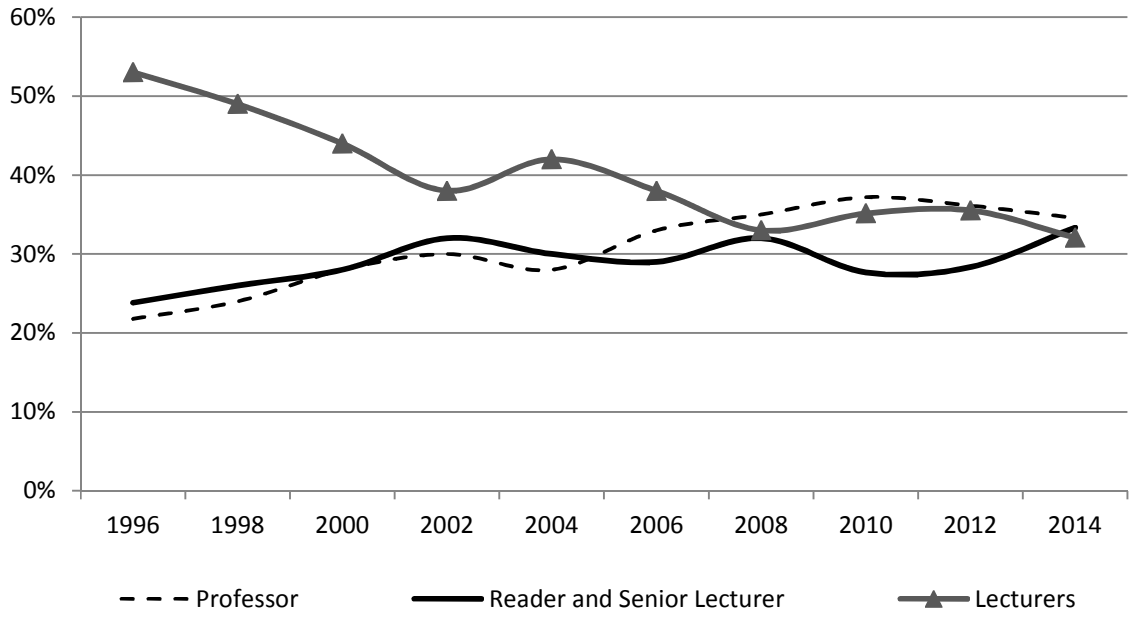
These intertemporal changes are more clearly seen in Figures 9 (and 10) which show the percentage of full-time female (male) UK academics by rank over time, using the unbalanced samples from each of the biennial surveys. (This is directly comparable information to that presented in Figures 1 (and 2) for the longer time period.) In 1996, roughly one in every two males was a Lecturer and one in four males a Professor or Senior Lecturer/Reader. By 2014, these proportions have changed dramatically with roughly one in three men a Lecturer, and two thirds of men a Professor or Senior Lecturer/Reader (see Figure 2). The 1996 position for women was vastly different to the males, with almost three quarters of female staff members being a Lecturer and only one in sixteen a Professor. These gaps have closed substantially for women over the years. Nevertheless, women finished the eighteen year time period much less favorably than did the males, with a roughly one in two chance of being a Lecturer, one in three a Senior Lecturer/Reader and only one in six of being a Professor.

Figure 9. Female academics by rank, as percentage of full time female academics



It is not obvious how the relative position of women in UK academia will change over the next few years. Figure 10 clearly reveals that the pool of men in each of the grade ranks is not in steady state over the time period. Consider the Professors; it is exceptionally rare for Professors to be demoted and so they typically maintain this job rank until retirement. Increasing the pool of male Professors (these have more than doubled in numbers between 1996 and 2014, see Appendix Table A2) will obviously result in a fall in the proportion of the job rank who are female, ceteris paribus. The number of female Professors has increased almost six fold over the time period but they are still only making up some 14% of the total number of full-time Professors. The major source of growth in the pool of Professors in the last two decades is due to higher inflows in which women have had an increasing presence. However, changing the retirement legislation so that the exit rate (into retirement) falls would be expected to raise the average duration of those in the Professorial pool. As we might reasonably expect more elder male cohorts than female amongst the Professors, this may result in lower relative numbers of women amongst the Professors in the next few years.

Figure 10. Male academics by rank, as percentage of full time male academics

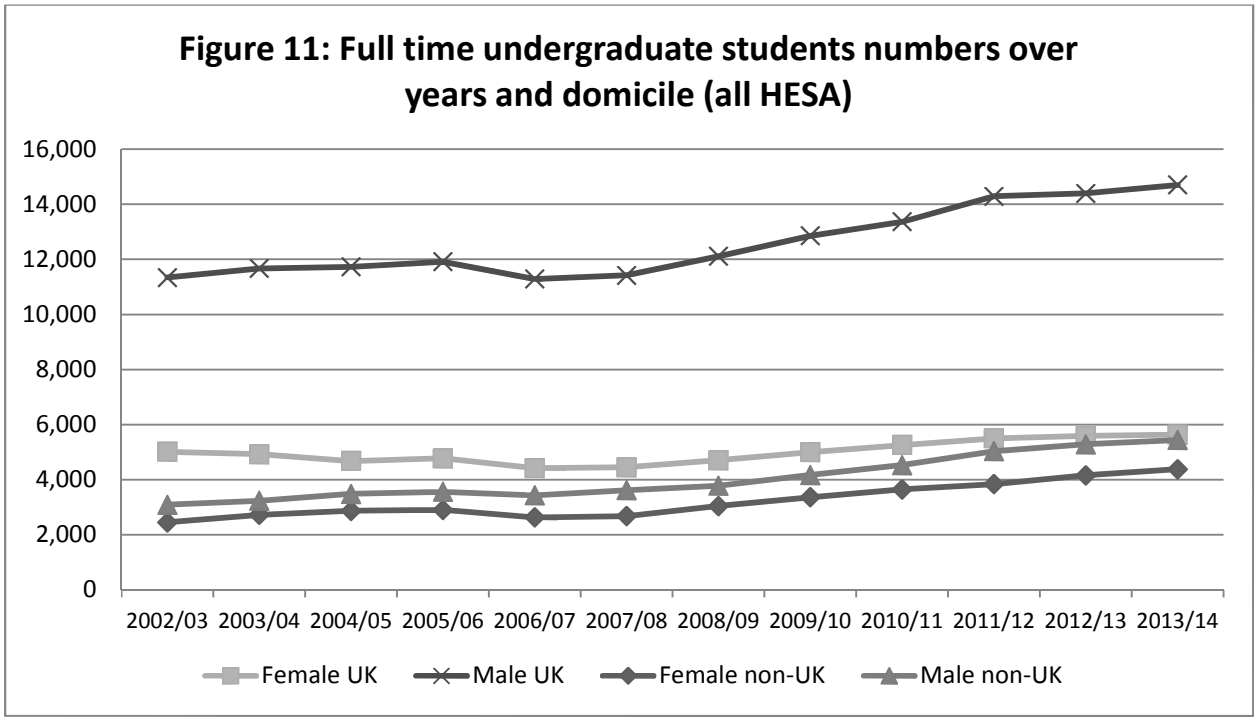


5. Students.

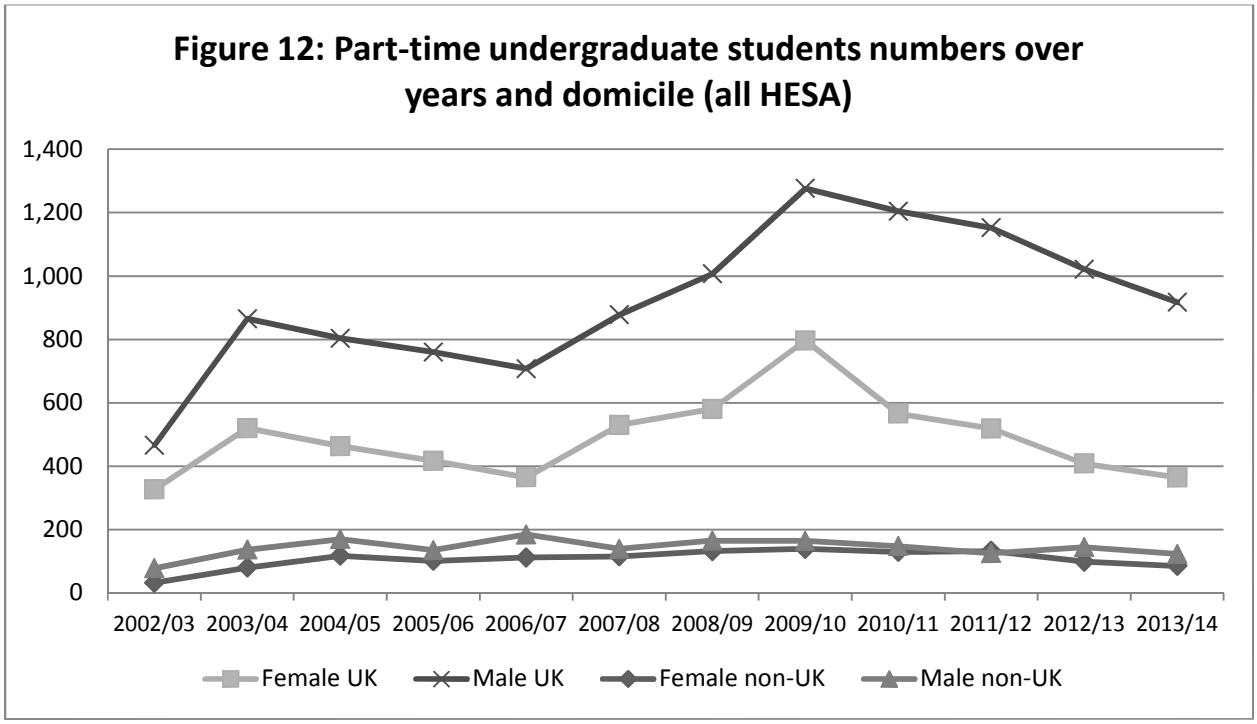
The Women's Committee surveys stopped asking departments for information on student enrolment in 2006 as a reaction to a low response rate in the 2004. The data presented below have been obtained from the Higher Education Statistical Association (HESA) for the time period 2002/3 to 2013/14. (Data for the current academic year, 2014/15, was not available from HESA when this report was being completed.) Earlier data are available from HESA (indeed the 1996 report included HESA data for 1994), however, a break in the series prior to the 2002/3 academic year limits comparability.

Figure 11 presents full time undergraduate students numbers in the UK by gender and nationality. The number of male UK (domicile) students has increased substantially over the last 7 years resulting in a considerably rise over the time period considered (from 11,341 students in 2002 to 14,705 students in 2013, or a 23% increase). In contrast, the growth in the numbers of

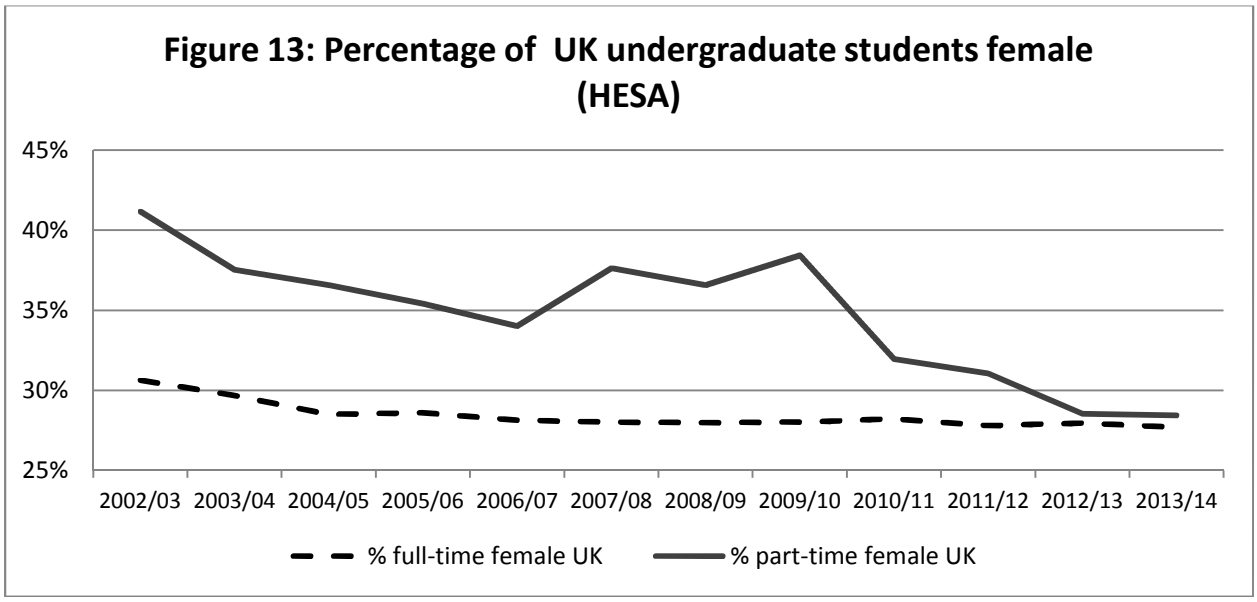
female UK students has been more moderate (from 5,010 students in 2002 to 5,631 students in 2013) resulting in an 11% increase over the eleven years.



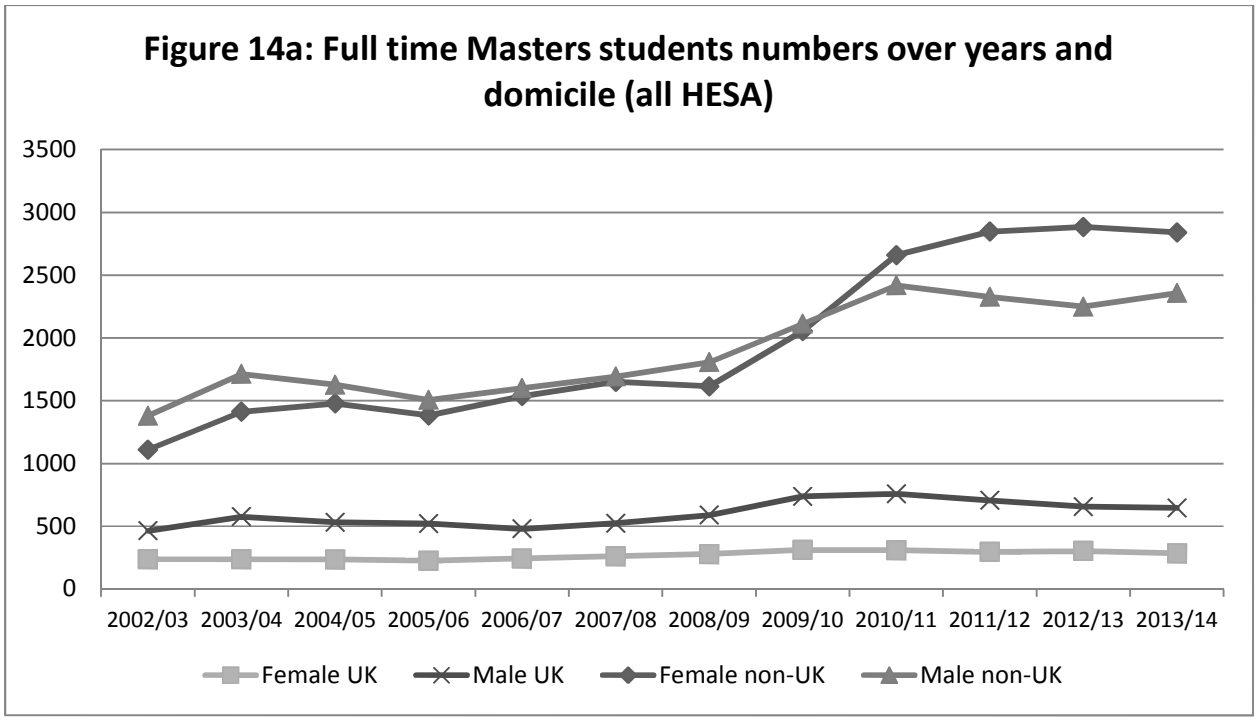
An increasing gender gap is also apparent amongst the increasingly rare UK part-time students in economics (see Figures 12). The non-UK part-time students are, in contrast, comparatively equally distributed across the genders

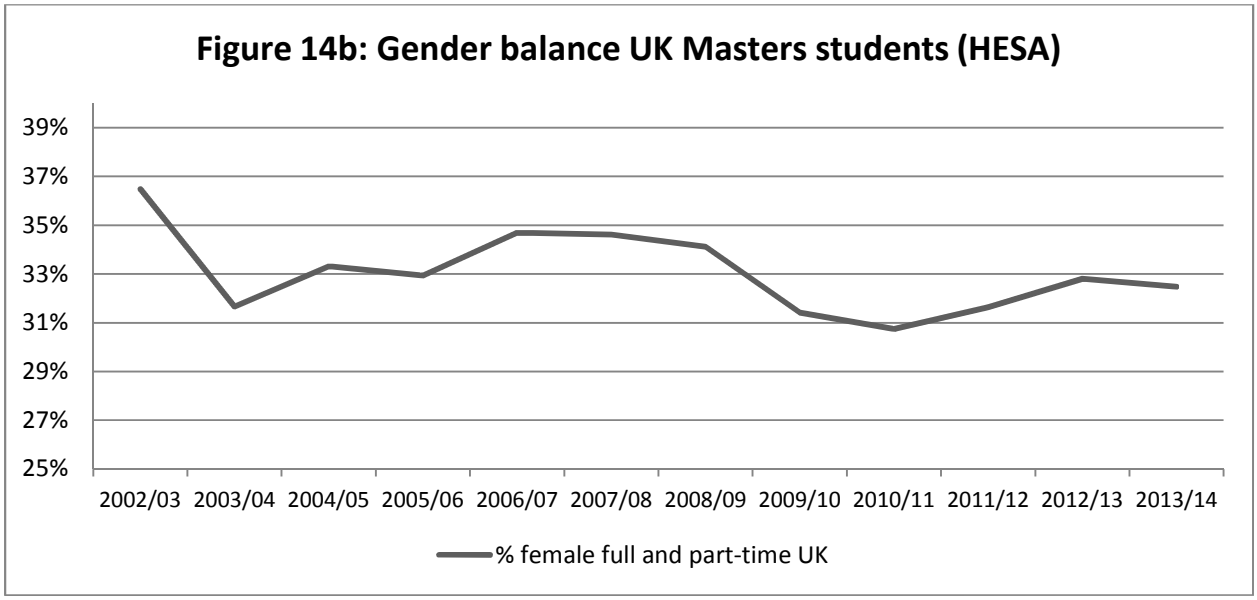


The relative decline in the female undergraduate enrolments in Figures 11 and 12 is obvious in Figure 13 which plots the percentage of the student body female; declining from some 30.6% to 27.7% of the full-time, and 41.2% to 28.4% of the part-time, UK domiciled students.

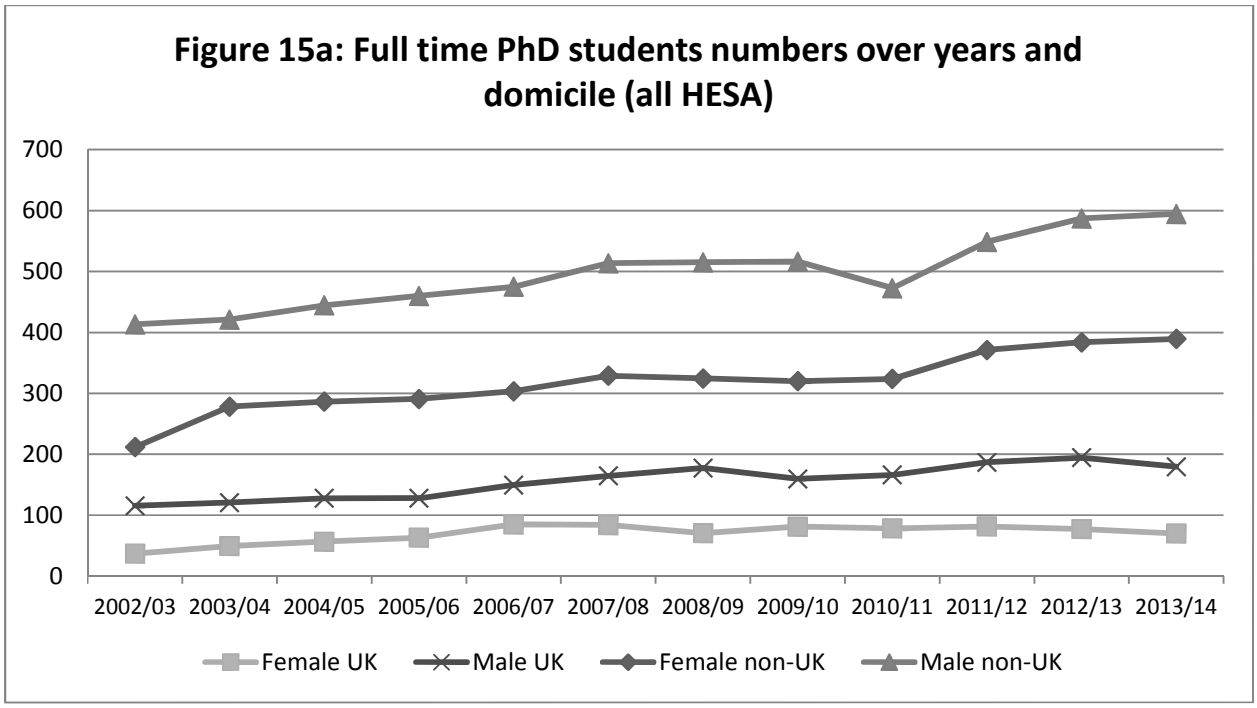


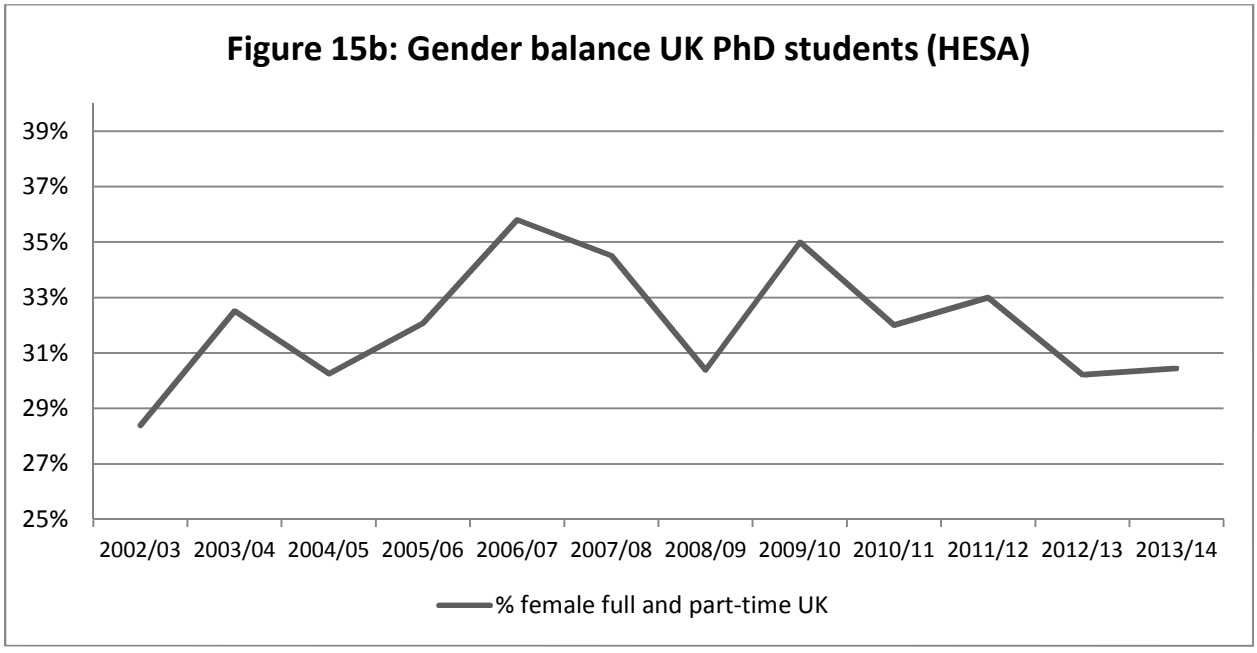
Figures 14a (and 15a) present similar information for Masters (and PhD) students in economics in the UK. Amongst graduate students, UK students are clearly in the minority although they have increased their numbers over the decade. Males are typically more common amongst the graduate student body; however, since the 2009/10 academic year females have become more prevalent amongst the non-UK Masters students.



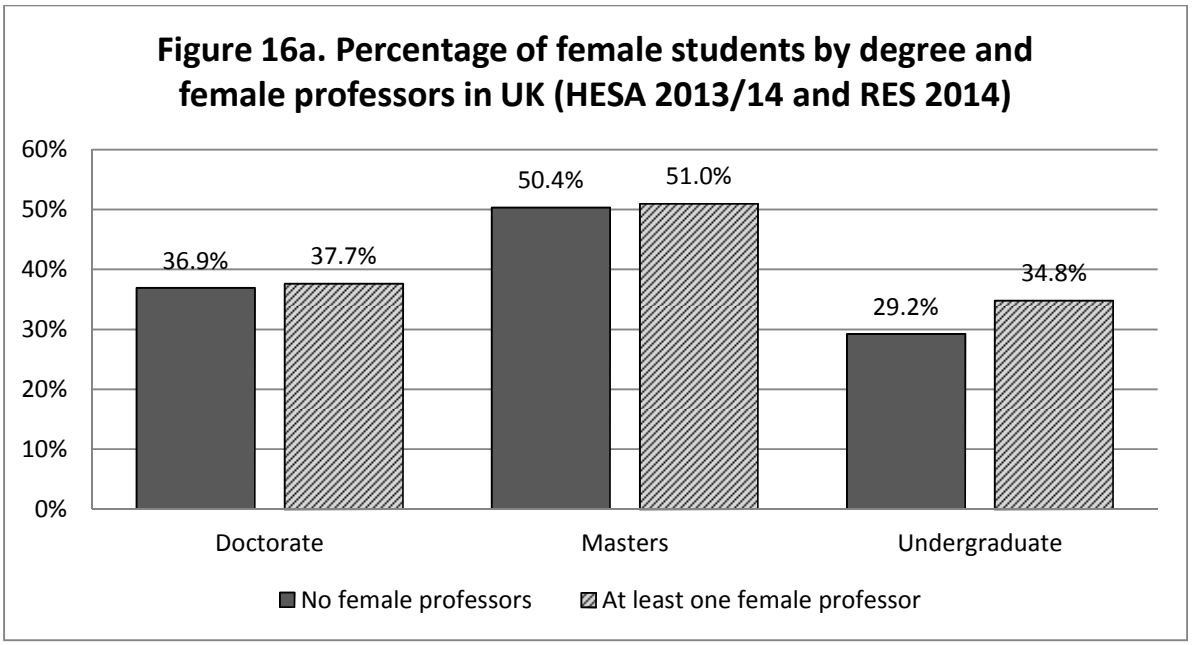


The gender enrolment gap amongst the UK Masters students (Figure 14b) shows some fluctuation with women falling from being a little below 37% of this student body in 2002 to less than 33% of it in 2013. The relative representation of women amongst the increasing numbers of UK PhD students also fluctuates a little but has risen slightly over the time period (from 28% to 30%) as shown in Figure 15b; however, this gender gap has been declining in since 2009.

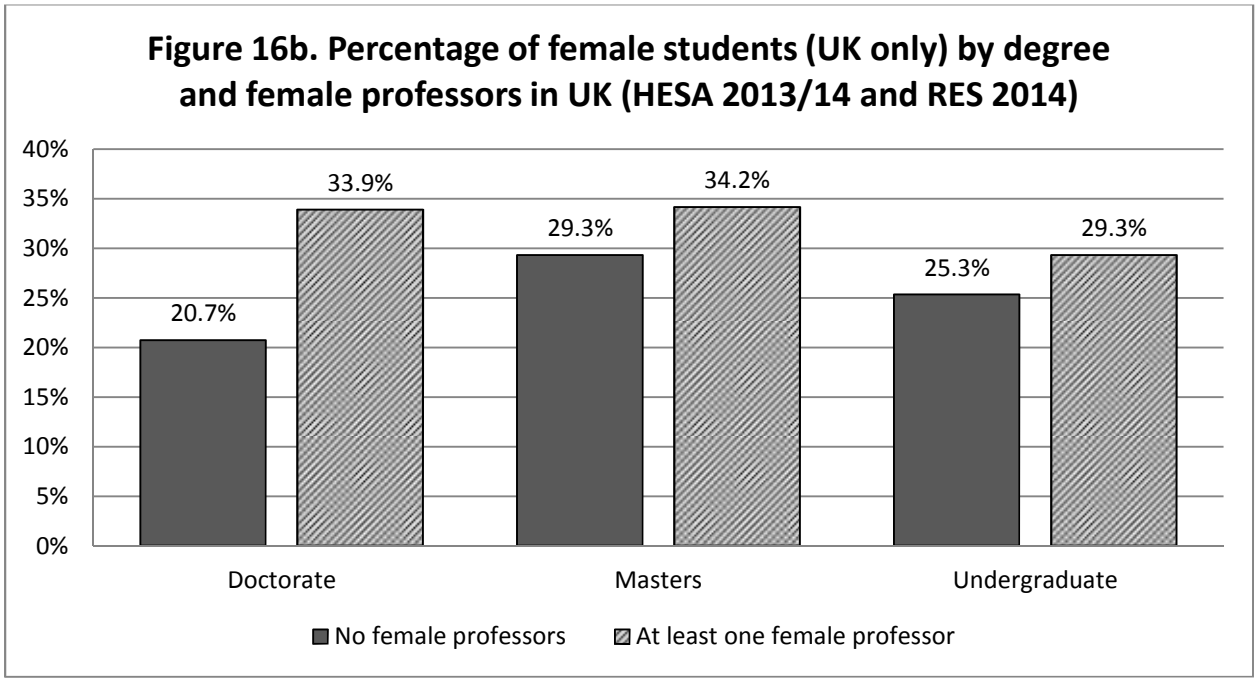




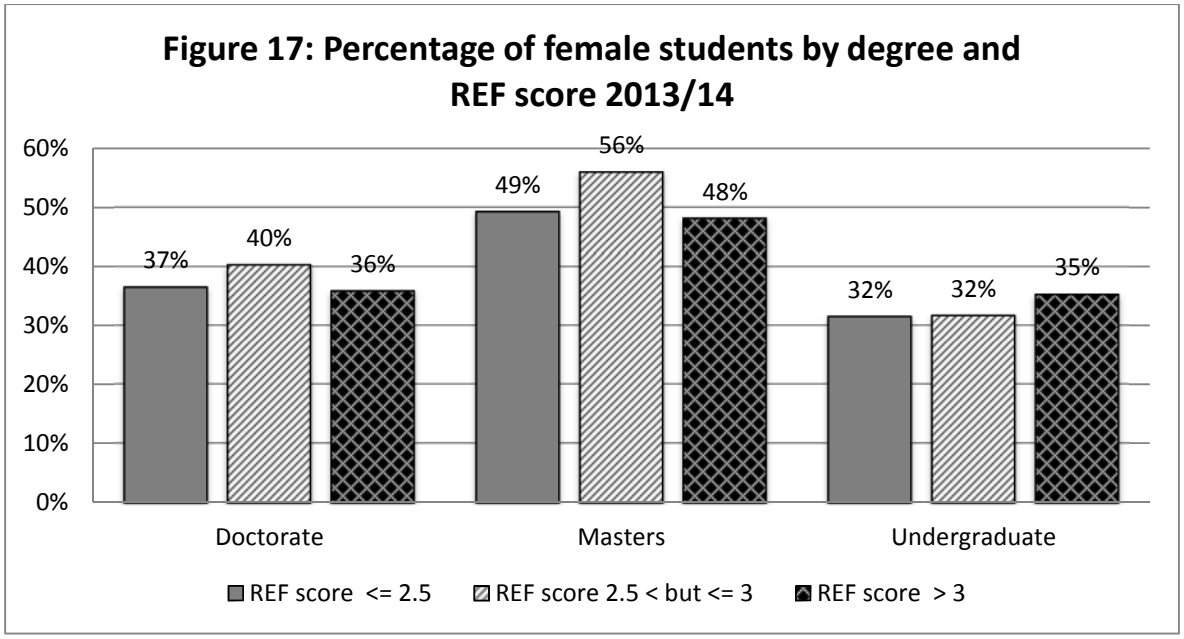
We can also consider the association between female student enrolment and having a female Professor in the department (see Figure 16a). This relationship is not strong at the graduate level, however, higher female representation amongst undergraduate students appears to be associated with the presence of a female professor in the department.



Focusing on the subsample of UK students (Figure 16b), the association between female professors and the proportion of female students persists at the undergraduate level, and is now visible at the graduate level. It may be that UK domiciled students are more familiar with departmental staff constitution, or reputation. Or this apparent association may simply be a spurious correlation, for example, these departments may simply be more effective at winning research scholarships for students.



Perhaps unsurprisingly, given the discussion above, this higher female enrolment at the undergraduate level shows some minor association with departments that are ranked higher in the last REF exercise (see Figure 17). However, there is little apparent relationship between female graduate student enrolment and REF ranking.



6. Conclusions

Much of the conclusion has been presented in brief in the executive summary above. At the risk of being repetitive, the major findings generated from analysis of the 2014 survey data are that the great majority of economists working in academia in the UK have standard academic (teaching and research as opposed to research-only) jobs which are full-time and permanent. Using evidence from the 2014 respondents' survey, women make up some 27% of the total academic economics workforce: 31% of Lecturers, 27% of Readers/Senior Lecturers, and 14% of Professors. In 1996 women constituted 17% of this workforce: 15% of the Lecturers, 10% of the Readers/Senior Lecturers and 5% of the Professors.

Recent changes in the stock of individuals in any job rank due to inflows from new hires, job separations (resignations and retirements), and promotions (within departments) were addressed via tracking individuals' movements and balanced sample comparisons across the surveys. The findings indicate that, in contrast to males, female Professors are considerably more likely to be promoted in their own department rather than hired from another department within the UK. Furthermore, hires from outside the UK academic sector are less likely to female. In aggregate, the relative numbers of women are increasing in the higher grade ranks but the rate of change is slow. Recent changes in retirement legislation may result in a decline in male exit rates and soften the relative growth in female representation.

The UK has seen increases in the numbers of students studying economics at all levels (undergraduate and graduate) over the last decade. Amongst UK (domiciled) undergraduate students, enrolments have risen faster for males than females leading to considerable increases in the male relative to the female participation rates at the undergraduate level. In total, women make up less than a third of the students studying economics.

For the first time, the Women's Committee survey has been able to track individuals in the REF submission exercise. In total, less than half (46.8%) of the academic economic workforce were submitted to REF; some two thirds of the professors and one third of the lecturers. Women were considerably less likely to be submitted, 50% of the male academic economists in the CHUDE departments responding to the survey were submitted and 38% of the females There was limited gender differential at the higher grades with two thirds of the

Professors and Readers being submitted, however, 31% of the female lectures were submitted compared to 39% of the males. Departments with higher REF GPA scores submitted a greater proportion of their staff; however they had a lower proportion of female staff. There are clearly potentially confounding factors at play with gender, rank and REF submission. The substantial difference in REF submission rates across the genders, especially prevalent amongst Lecturers, is an obvious area of concern not least because of the potential long-term career implications for those left out of the REF. This is an issue the Women's Committee will be further investigating in the immediate future.

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Appendix

Table A1. Primary employment function: All academic staff in economics departments and research institutes (responding sample, 2014).

	2014 respondents' survey			
Primary Employment Function	**Female**	**Male**	**Total**	**% Fem**
All Staff: full time				
Professors - permanent	90	534	624	14.4%
Professors - fixed term	0	6	6	0%
Readers - permanent	58	211	269	21.6%
Readers - fixed term	0	1	1	0%
Senior Lecturers - permanent	131	308	439	29.8%
Senior Lecturers - fixed term	2	1	3	67%
Lecturers - permanent	230	488	718	32.0%
Lecturers - fixed term	5	13	18	27.8%
Senior Researchers - permanent	61	80	141	43.3%
Senior Researchers - fixed term	3	10	13	23.1%
Researchers - permanent	38	45	83	45.8%
Researchers - fixed term	37	73	110	33.6%
Totals	**655**	**1770**	**2425**	**27.0%**
All Staff: part time				
Professors - permanent	5	47	52	9.6%
Professors - fixed term	13	104	117	11.1%
Readers - permanent	2	8	10	20.0%
Readers - fixed term	2	6	8	25.0%
Senior Lecturers - permanent	4	12	16	25.0%
Senior Lecturers - fixed term	1	4	5	20.0%
Lecturers - permanent	9	13	22	40.9%
Lecturers - fixed term	7	35	42	16.7%
Senior Researchers - permanent	8	11	19	42.1%
Senior Researchers - fixed term	34	55	89	38.2%
Researchers - permanent	11	1	12	-
Researchers - fixed term	16	29	45	35.6%
Totals	112	325	437	25.6%
Grand Total	767	2095	2862	26.8%

Source: RES Women's Committee Survey 2014

Table A2. Primary employment function: Academic staff in economics departments and research institutes (1996 postal and 2014 respondent surveys).

Primary Employment Function	1996 postal survey							2014 respondent survey						
All Staff	Female (1)	Male (2)	Total (3)	% Fem (4)	% Total Staff (5)	% of all Females (6)	% of all Males (7)	Female (8)	Male (9)	Total (10)	% Fem (11)	% Total Staff (12)	% of all Females (13)	% of all Males (14)
Professors	14	320	334	4.2%	14.2%	3.4%	16.5%	108	691	799	13.5%	27.9%	14.1%	33.0%
Readers and Senior Lecturers	37	350	387	9.6%	16.5%	9.0%	18.1%	200	551	751	26.6%	26.2%	26.1%	26.3%
Lecturers	157	779	936	16.8%	39.9%	38.3%	40.2%	251	549	800	31.4%	28.0%	32.7%	26.2%
Senior Researchers	11	47	58	19.0%	2.5%	2.7%	2.4%	106	156	262	40.5%	9.2%	13.8%	7.4%
Researchers	107	171	278	38.5%	11.9%	26.1%	8.8%	102	148	250	40.8%	8.7%	13.3%	7.1%
Other	84	269	353	25.2%	15.1%	20.5%	13.9%							
Total	**410**	**1936**	**2346**	**17.5%**				**767**	**2095**	**2862**	**26.8%**			
Number of Departments	**83**							**96**						
Response rate	**92%**							**84%**						

Sources: RES Women's Committee Survey 2014, RES Women's Committee Postal Survey 1996

Table A3. Main research discipline, by academic ranking (responding sample 2014).

JEL research discipline	Professor	Reader	Senior Lecturer	Lecturer	Senior Researcher	Researcher	Total	% All	% Prof
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CHUDE departments									
A - General Economics and Teaching	4	2	17	18	5	1	47	1.9%	0.5%
B - History of Economic Thought, Methodology, and Heterodox Approaches	9	4	16	2	0	0	31	1.3%	1.2%
C - Mathematical and Quantitative Methods	100	32	51	97	7	12	299	12.3%	13.3%
D - Microeconomics	95	55	46	106	9	29	340	14.0%	12.6%
E - Macroeconomics and Monetary Economics	93	28	53	121	9	10	314	12.9%	12.4%
F - International Economics	40	14	29	52	3	4	142	5.8%	5.3%
G - Financial Economics	91	28	47	103	9	6	284	11.7%	12.1%
H - Public Economics	25	4	12	20	4	0	65	2.7%	3.3%
I - Health, Education, and Welfare	38	9	14	32	10	4	107	4.4%	5.1%
J - Labor and Demographic Economics	62	23	26	45	9	9	174	7.2%	8.3%
K - Law and Economics	5	1	1	1	1	0	9	0.4%	0.7%
L - Industrial Organization	40	13	26	48	2	6	135	5.6%	5.3%
M - Business Administration and Business Economics; Marketing; Accounting	14	0	30	11	1	1	57	2.3%	1.9%
N - Economic History	17	7	8	16	0	3	51	2.1%	2.3%
O - Economic Development, Technological Change, and Growth	58	21	41	45	6	6	177	7.3%	7.7%
P - Economic Systems	9	11	10	10	2	0	42	1.7%	1.2%
Q - Agricultural and Natural Resource Economics; Environmental and Ecological	30	8	16	24	12	4	94	3.9%	4.0%
R - Urban, Rural, Regional, Real Estate, and Transportation Economics	15	8	7	8	3	5	46	1.9%	2.0%
Y - Miscellaneous Categories	1	0	0	1	0	1	3	0.1%	0.1%
Z - Other Special Topics	5	0	4	2	0	0	11	0.5%	0.7%
Total	751	268	454	762	92	101	2428	100%	100%
Research groups and non-CHUDE departments									
A - General Economics and Teaching	0	0	0	0	0	1	1	0.3%	0.0%
B - History of Economic Thought, Methodology, and Heterodox Approaches	0	0	0	0	0	0	0	0.0%	0.0%
C - Mathematical and Quantitative Methods	0	0	0	0	5	3	8	2.0%	0.0%
D - Microeconomics	4	2	1	1	12	18	38	9.6%	9.5%
E - Macroeconomics and Monetary Economics	0	0	1	0	9	2	12	3.0%	0.0%
F - International Economics	0	0	0	0	0	3	3	0.8%	0.0%
G - Financial Economics	2	3	0	7	2	1	15	3.8%	4.8%
H - Public Economics	2	3	0	3	14	6	28	7.1%	4.8%
I - Health, Education, and Welfare	17	5	0	0	38	71	131	33.2%	40.5%
J - Labor and Demographic Economics	8	0	1	1	45	13	68	17.3%	19.0%
K - Law and Economics	1	0	0	1	0	0	2	0.5%	2.4%
L - Industrial Organization	4	6	2	3	4	1	20	5.1%	9.5%
M - Business Administration and Business Economics; Marketing; Accounting	0	0	0	0	0	0	0	0.0%	0.0%
N - Economic History	0	0	0	0	0	0	0	0.0%	0.0%
O - Economic Development, Technological Change, and Growth	1	0	0	0	9	15	25	6.3%	2.4%
P - Economic Systems	0	0	0	0	1	0	1	0.3%	0.0%
Q - Agricultural and Natural Resource Economics; Environmental and Ecological	0	1	0	0	22	7	30	7.6%	0.0%
R - Urban, Rural, Regional, Real Estate, and Transportation Economics	3	0	0	0	4	5	12	3.0%	7.1%
Y - Miscellaneous Categories	0	0	0	0	0	0	0	0.0%	0.0%
Z - Other Special Topics	0	0	0	0	0	0	0	0.0%	0.0%
Total	42	20	5	16	165	146	394	100%	100%

Source: RES Women's Committee Survey 2014.

Table A4. Main research discipline, by gender and REF score (responding sample 2014, CHUDE depts only).

	Female	Male	Total	% Fem	REF gpa<=2.5	2.5<REF gpa<=3	REF gpa>3	% Total in REF>3
JEL research discipline								
A - General Economics and Teaching	15	32	47	2.6%	20	13	7	14.9%
B - History of Economic Thought, Methodology, and Heterodox Approaches	6	25	31	1.0%	11	14	4	12.9%
C - Mathematical and Quantitative Methods	56	243	299	9.7%	32	132	132	44.1%
D - Microeconomics	77	263	340	13.3%	21	135	174	51.2%
E - Macroeconomics and Monetary Economics	58	256	314	10.0%	34	124	141	44.9%
F - International Economics	43	99	142	7.4%	24	55	57	40.1%
G - Financial Economics	69	215	284	11.9%	38	120	120	42.3%
H - Public Economics	11	54	65	1.9%	9	19	35	53.8%
I - Health, Education, and Welfare	43	64	107	7.4%	17	39	47	43.9%
J - Labor and Demographic Economics	47	127	174	8.1%	22	58	89	51.1%
K - Law and Economics	2	7	9	0.3%	0	7	1	11.1%
L - Industrial Organization	21	114	135	3.6%	21	45	66	48.9%
M - Business Administration and Business Economics; Marketing; Accounting	22	35	57	3.8%	26	15	11	19.3%
N - Economic History	10	41	51	1.7%	5	13	26	51.0%
O - Economic Development, Technological Change, and Growth	50	127	177	8.6%	22	71	72	40.7%
P - Economic Systems	9	33	42	1.6%	2	17	20	47.6%
Q - Agricultural and Natural Resource Economics; Environmental and Ecological	22	72	94	3.8%	19	32	41	43.6%
R - Urban, Rural, Regional, Real Estate, and Transportation Economics	15	31	46	2.6%	9	10	27	58.7%
Y - Miscellaneous Categories	2	1	3	0.3%	1	1	1	33.3%
Z - Other Special Topics	2	9	11	0.3%	2	3	1	9.1%
Total	580	1848	2428	23.9%	335	923	1072	44.2%

Source: RES Women's Committee Survey 2014.

Table A5 presents information on new staff hired in the academic year prior to the survey year: columns 1 to 4 for the 2014 respondents' sample; columns 5 and 6 are the 2014 survey balanced sample results for those departments responding to both the 2014 and the 2012 surveys; columns 7 and 8 are the 2012 survey balanced sample and columns 9 and 10 are the full 2012 email survey results. The numbers involved are small and implications are accordingly far from confident.

Comparing the balanced samples in columns 5 through 8, hiring in 2013/14 (the 2014 survey) can be seen to be lower than it was in 2011/12 (the 2012 survey). The balanced samples also show a decrease in the percentage of women being hired in Professorial and Reading positions and an increase in the percentage of Lecturers and Researchers who are female. Returning to the full respondents survey for 2014 (columns 1 to 4) clearly reveals that the percentage of women amongst those hired as Researchers or Lecturers is considerably higher than that observed for Professors and Readers.

Table A5. New hires.

	2014 respondents' survey				2014 balanced sample		2012 balanced sample		2012 email survey	
	Female	Male	Total	%Fem	Total	%Fem	Total	%Fem	Total	%Fem
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Professor	8	49	57	14.0%	40	15.0%	65	13.8%	65	13.8%
Reader	2	13	15	13.3%	9	22.2%	27	11.1%	27	11.1%
Senior Lecturer	16	39	55	29.1%	29	34.5%	38	26.3%	42	28.6%
Lecturer	57	118	175	32.6%	136	32.4%	128	22.7%	133	22.6%
Senior Researcher	8	28	36	22.2%	18	27.8%	26	19.2%	26	19.2%
Researcher	32	54	86	37.2%	76	35.5%	59	32.2%	61	32.8%
Total	123	301	424	29.0%	308	30.5%	343	21.9%	354	22.3%

Source: RES Women's Committee Surveys 2014 and 2012.

Comparing columns 4 and 10, the proportion of females amongst professorial grade hires rose only marginally (from 13.8% to 14%) but increased amongst Readers (from 11.1% to 13.3%). In aggregate, women make up a slightly higher proportion (29%) of the new hires than they do of the total pool of academic economists (26.8% - see Table 1), however, the majority of these hires are concentrated in the lower academic grade ranks (especially Lecturer and Researcher).

The majority of inflows into the senior academic grades (Professorial, Reader or Senior Lecturer) may be due to promotion rather than new hires. Table A6 presents information on promotions in the previous year and follows the same structure as Table A5: columns 1 to 4 are for the full 2014 respondents' sample; columns 5 and 6 are the 2014 balanced sample survey results for those departments

responding to both the 2014 and the 2012 surveys; columns 7 and 8 are the 2012 balanced sample; and columns 7 and 8 are the 2012 survey results.

Table A6. Promotions.

	2014 respondents' survey				2014 balanced sample		2012 balanced sample		2012 email survey	
	Female	Male	Total	%Fem	Total	%Fem	Total	%Fem	Total	%Fem
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Professor	7	12	19	36.8%	16	43.8%	20	20.0%	20	20.0%
Reader	9	36	45	20.0%	37	18.9%	22	27.3%	22	27.3%
Senior Lecturer	12	26	38	31.6%	27	25.9%	23	13.0%	23	13.0%
Lecturer	9	13	22	40.9%	8	37.5%	11	54.5%	12	50.0%
Senior Researcher	13	5	18	72.2%	18	72.2%	6	16.7%	8	25.0%
Researcher	8	7	15	53.3%	13	53.8%	2	50.0%	3	66.7%
Total	58	99	157	36.9%	119	37.0%	84	25.0%	88	26.1%

Source: RES Women's Committee Surveys 2014 and 2012.

These numbers of promotions are also obviously small so we should again be cautious about how valid the implications of these flows for changes in relative employment actually are. Comparing the balanced samples, internal promotions increased between 2012 and 2014, from 84 promotions in 2012 to 119 in 2014, and women made up a higher proportion of these promotions in 2014 (37% than in 2012 (25%). The relative promotion of female Readers and Lecturers decreased in 2014, while women represent a higher percentage of those promoted as Professors, Senior Lecturers, and Senior Researchers in 2014 than in 2012

The third flow affecting the stock of academic economists is, of course, leavers (see Table A7). In aggregate, women make up a slightly higher proportion of these separations than they do of the total pool of academic economists (29.8% relative to 26.8%) and such separations are rare for the most senior women (Professors and Readers).

Table A7. Separations.

	2014 respondents' survey				2014 balanced sample		2012 balanced sample		2012 email survey	
	Female	Male	Total	%Fem	Total	%Fem	Total	%Fem	Total	%Fem
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(7)	(8)
Professor	10	68	78	12.8%	49	16.3%	63	7.9%	72	6.9%
Reader	5	17	22	22.7%	17	23.5%	14	21.4%	16	18.8%
Senior Lecturer	4	33	37	10.8%	17	11.8%	26	23.1%	32	28.1%
Lecturer	25	51	76	32.9%	48	35.4%	61	37.7%	74	35.1%
Senior Researcher	25	38	63	39.7%	21	33.3%	112	21.4%	115	23.5%
Researcher	35	38	73	47.9%	52	51.9%	48	-	52	38.5%
Total	104	245	349	29.8%	204	31.9%	324	24.4%	361	24.9%

Source: RES Women's Committee Surveys 2014 and 2012.

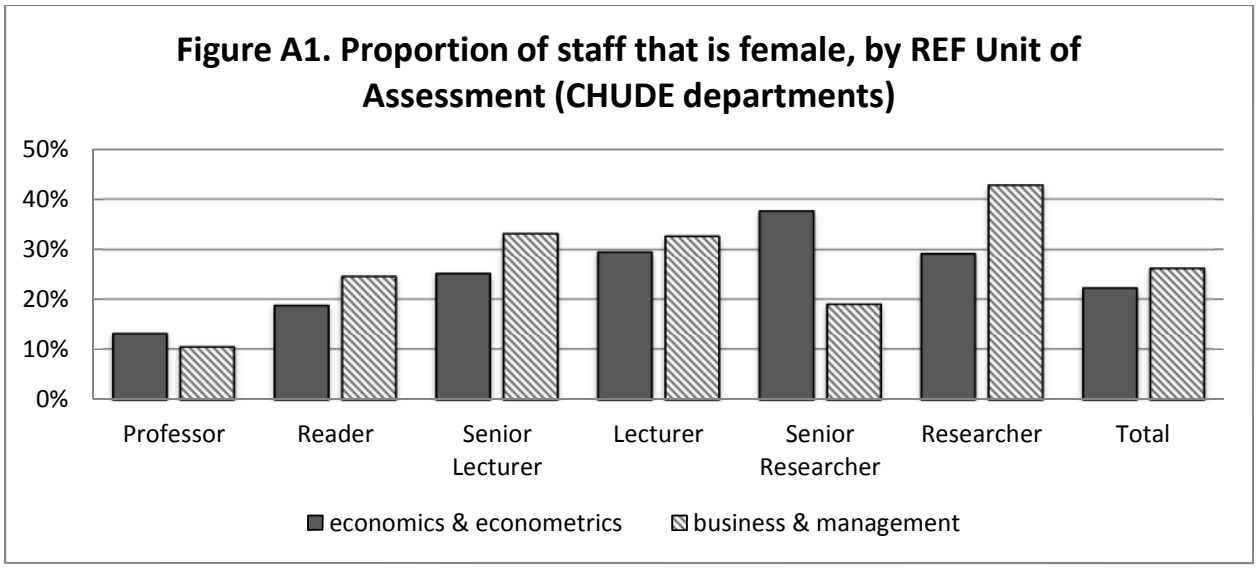

Figure A2. Proportion of staff submitted to REF in departmental Unit of Assessment, by Unit of Assessment (CHUDE departments)

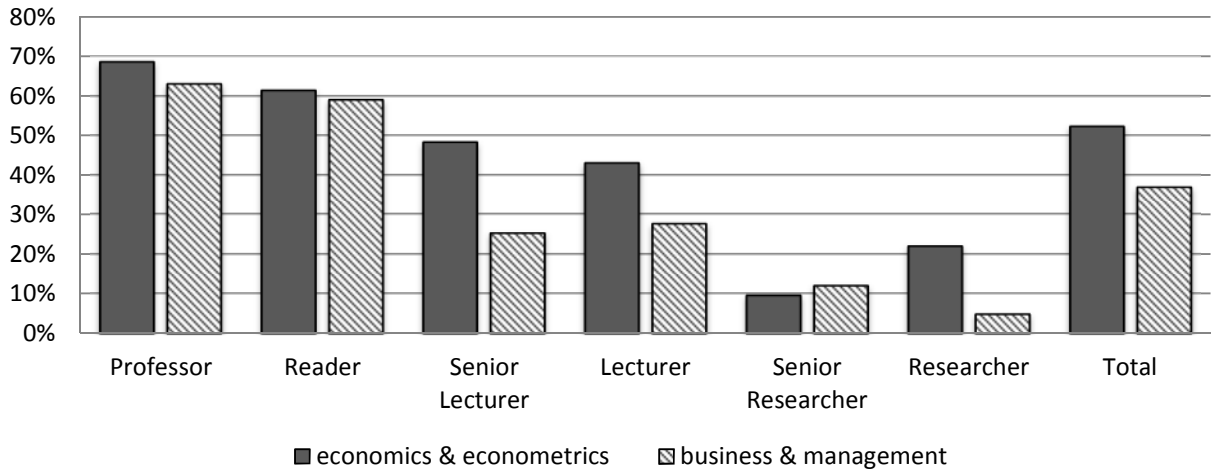

Table A8. CHUDE Departments, by responding statuts

Respondents		
Aberystwyth University	Oxford Brookes University	University of Kent
Anglia Ruskin University	Queen Mary University of London	University of Leeds
Aston University Birmingham	Queens University Belfast	University of Leicester
Brunel University	Royal Holloway University of London	University of Liverpool
Cardiff University	School of Oriental and African Studies (SOAS)	University of London Birkbeck
City University London	Swansea University	University of Manchester
Coventry University	University College London	University of Nottingham
Cranfield University	University of Aberdeen	University of Oxford
De Montfort University	University of Bangor	University of Plymouth
Durham University	University of Bath	University of Portsmouth
Heriot-Watt University	University of Birmingham	University of Reading
Imperial College London	University of Bristol	University of Salford
Keele University	University of Buckingham	University of Sheffield
King's College London	University of Cambridge	University of Southampton
Kingston University	University of Central Lancashire	University of St Andrews
Lancaster University	University of Derby	University of Stirling
Liverpool John Moores University	University of Dundee	University of Strathclyde
London Business School	University of East Anglia	University of Surrey
London Metropolitan University	University of East London	University of Sussex
London School of Economics and Political Science	University of Edinburgh	University of Teesside
Loughborough University	University of Essex	University of the West of England Bristol
Manchester Metropolitan University	University of Exeter	University of the West of Scotland
Middlesex University	University of Glamorgan	University of Ulster
Napier University	University of Glasgow	University of Wales Institute Cardiff
Newcastle University	University of Hertfordshire	University of Warwick
Nottingham Trent University	University of Huddersfield	University of Westminster
Open University	University of Hull	University of York
Non-respondents		
Glasgow Caledonian University		
Leeds Beckett University		
London South Bank University		
Manchester Business School		
Northumbria University		
Robert Gordon University		
Staffordshire University		
University of Abertay Dundee		
University of Bradford		
University of Greenwich		
University of Wolverhampton		

Source: RES Women's Committee Survey 2014.

Table A9. Non-CHUDE Departments and Research Institutes, by responding statuts

non-CHUDE departments	Research Institutes
Respondents	*Respondents*
Queen Margaret University Edinburgh	Centre for Economic Performance (LSE)
University of Nottingham BS	Centre for Health Economics (York)
University of St Andrews (Business School)	Centre for Longitudinal Studies
University of York BS	Centre for Market and Public Organisation (Bristol)
Non-respondents	Centre for Social and Economic Research on Global Environment
New College of the Humanities	Health Economics Research Unit (Aberdeen)
Regent's University London	Institute for Employment Research (Warwick)
University of Exeter (Finance)	Institute for Fiscal Studies
	Institute for Social & Economic Research (Essex)
	National Institute of Economic and Social Research
	Policy Studies Institute (Westminster)
	Non-respondents
	Institute for Employment Studies
	National Centre for Social Research
	Policy Research Institute (Leeds Met)
	University of Glamorgan (HEPRU)

Source: RES Women's Committee Survey 2014.