

## PhD Scholarships Scheme – Impact Report

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### 1. Background and funding

The prestigious Carnegie PhD Scholarship scheme supports a limited number of graduates, with first class Honours degrees from a Scottish university, who wish to pursue three years of postgraduate research leading to a PhD at a university in Scotland. There is no restriction on the subject or field.

The Scholarships scheme has run for many years and has generated a significant number of very successful academics and researchers – many now in senior positions.

The budget (£911k in 2015/16) permits the award of typically 14 new Carnegie Scholarships each year. Thus, at any one time, the Trust is supporting around 42 Scholars. The grants students receive cover their tuition fees (£4.1k), living expenses (£15.9k) and minor research expenses (up to £1k).

The Trust also administers two further PhD Scholarships on behalf of the Royal Society of Edinburgh – the Caledonian Research Fund (CRF) and the Henry Dryerre Scholarships. These have been excluded from the data presented below on the grounds that they are not funded by the Trust.

### 2. Profile of the Scheme

#### 2.1 Applications and success rates

Fig.1 shows the total applications for Scholarships since 2011, plus the number of awards for each year.

In 2015, as a result of the large volume of Scholarship applications that the Trust was receiving, a limit was imposed on the number of nominations permitted to be submitted by each university – such that the total number would not exceed 60 (hence the lower applications over the most recent two years). Each university is allocated at least two nominations with the remaining 30 submission places then distributed formulaically. The latter distribution is based on the size of each university's doctoral programme (number of PhD degrees awarded), according to the *UKPIs: Research output (table R1)* published by the Higher Education Statistics Agency.

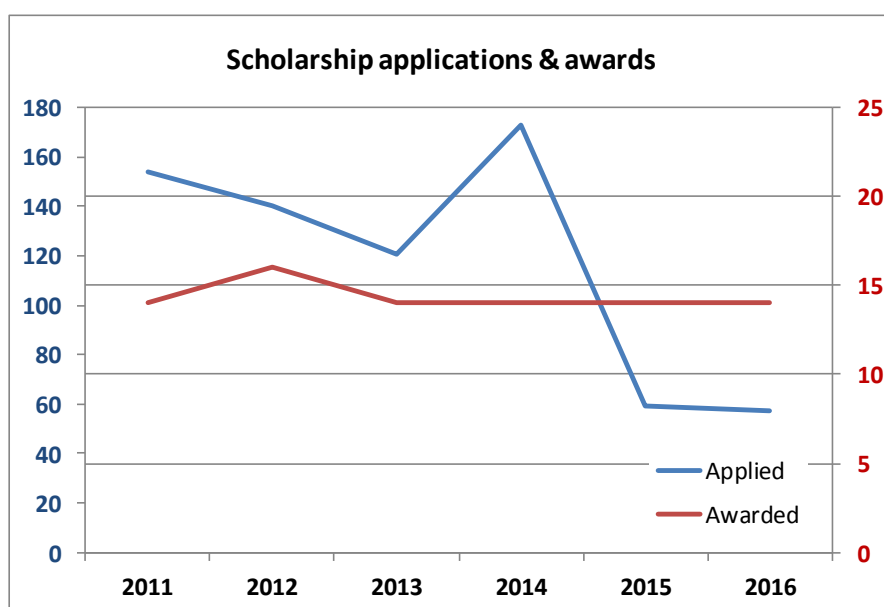


Fig.1 Scholarship applications and awards for the six years 2011 to 2016

## 2.2 University distribution

Up until the year 2013, the Carnegie PhD Scholarships could be held for tenure in any British university. From 2013 onwards, they have been restricted to students pursuing a PhD in one of the 15 Scottish universities. The distribution of awards across the universities at which the Scholars have studied from the year 2000 is summarised in Figs.2&3.

No. of Awards 2000 to 2016	
Aberdeen	16
Dundee	9
Edinburgh	45
Edinburgh Napier	1
Glasgow	54
Glasgow Caledonian	1
Heriot-Watt	3
St Andrews	47
Stirling	3
Strathclyde	24
Rest of the UK	18
<b>TOTAL</b>	<b>221</b>

Fig.2 Total Scholarship awards since 2000

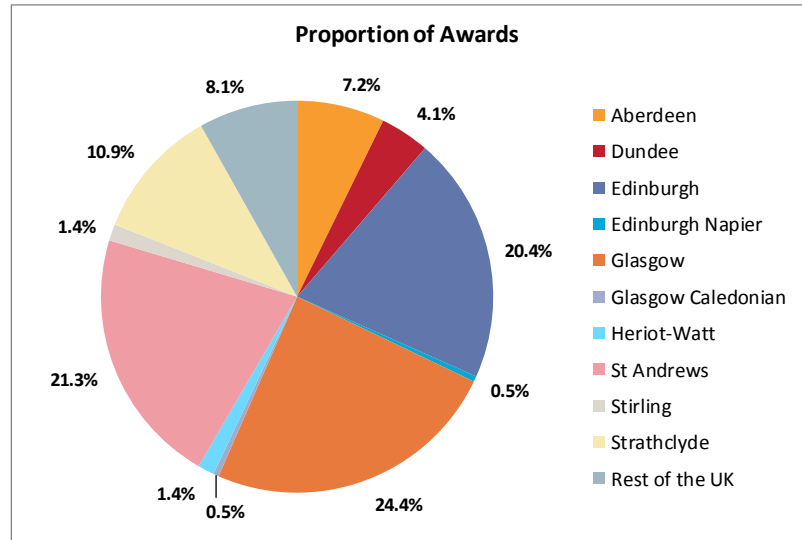


Fig.3 Distribution of total Scholarship awards since 2000

Fig.4 lists the universities receiving Carnegie Scholars into their PhD programmes across the six years 2011 to 2016.

University	2011	2012	2013	2014	2015	2016	Grand Total
Aberdeen		2	1	1	2	1	7
Dundee			1			1	2
Edinburgh	1	2	5	2	4	3	17
Glasgow	6	5	3	1	3	3	21
Heriot-Watt				1			1
Robert Gordon					1		1
St Andrews	3	4	2	4	3	4	20
Stirling				1		1	2
Strathclyde	1	2	1	3	2	1	10
Rest of the UK	3	1					4
<b>Grand Total</b>	<b>14</b>	<b>16</b>	<b>13</b>	<b>13</b>	<b>15</b>	<b>14</b>	<b>85</b>

Fig.4 Scholarship awards for the six years 2011 to 2016

### 2.3 Gender split

Fig.5 shows the gender split of awards made over the six years since 2011.

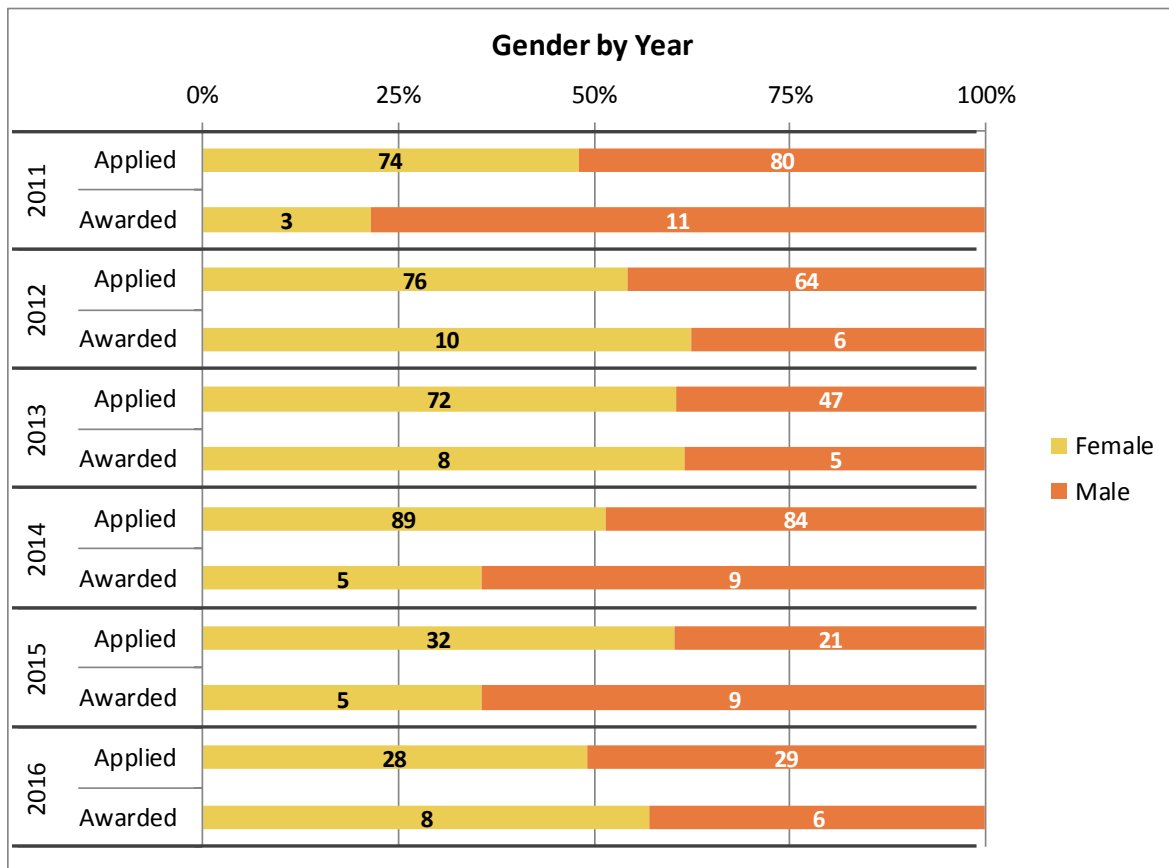


Fig.5 Gender of Carnegie Scholar applicants and awardees 2011 to 2016

During this period there were equal numbers of years in which female and male scholarship recipients were in the majority.

On average, over these six years, 53% of applications were from women. However, the record shows a lower success rate for female applicants – 10.5%, compared to 14% for men. As a result 46% of the awards overall went to women, 54% to men.

2.4 Academic field

Fig.6 shows the distribution of Scholarships across the various disciplines – averaged over the last six years. The most awards go (equally) to Arts & Humanities and Physical & Chemical Sciences (which includes Mathematics).

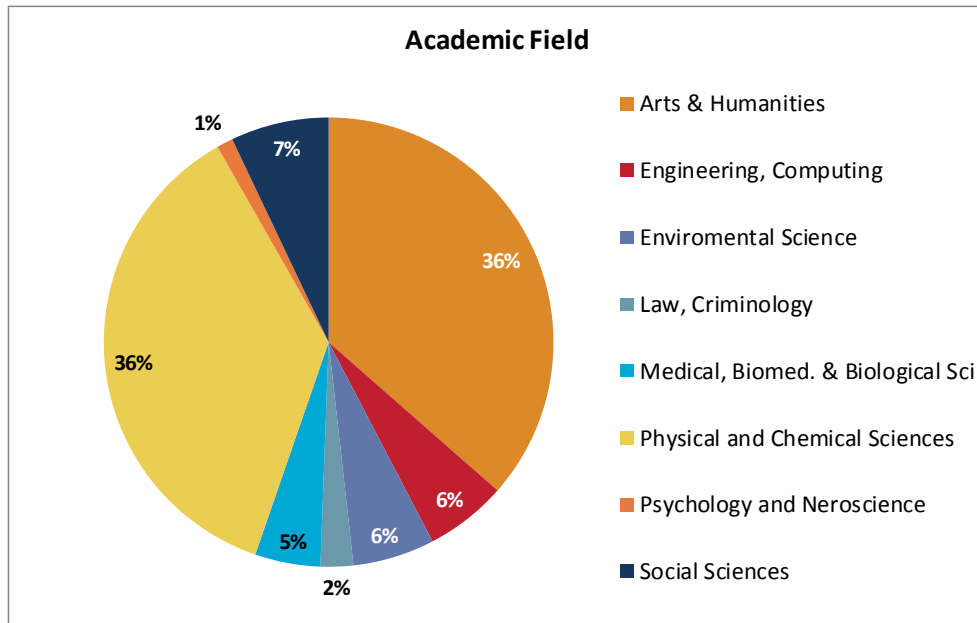


Fig.6 Academic fields of Carnegie Scholars receiving awards 2011 to 2016

There is considerable variation year to year as to the academic fields in which the successful recipients are studying, as illustrated in Fig.7.

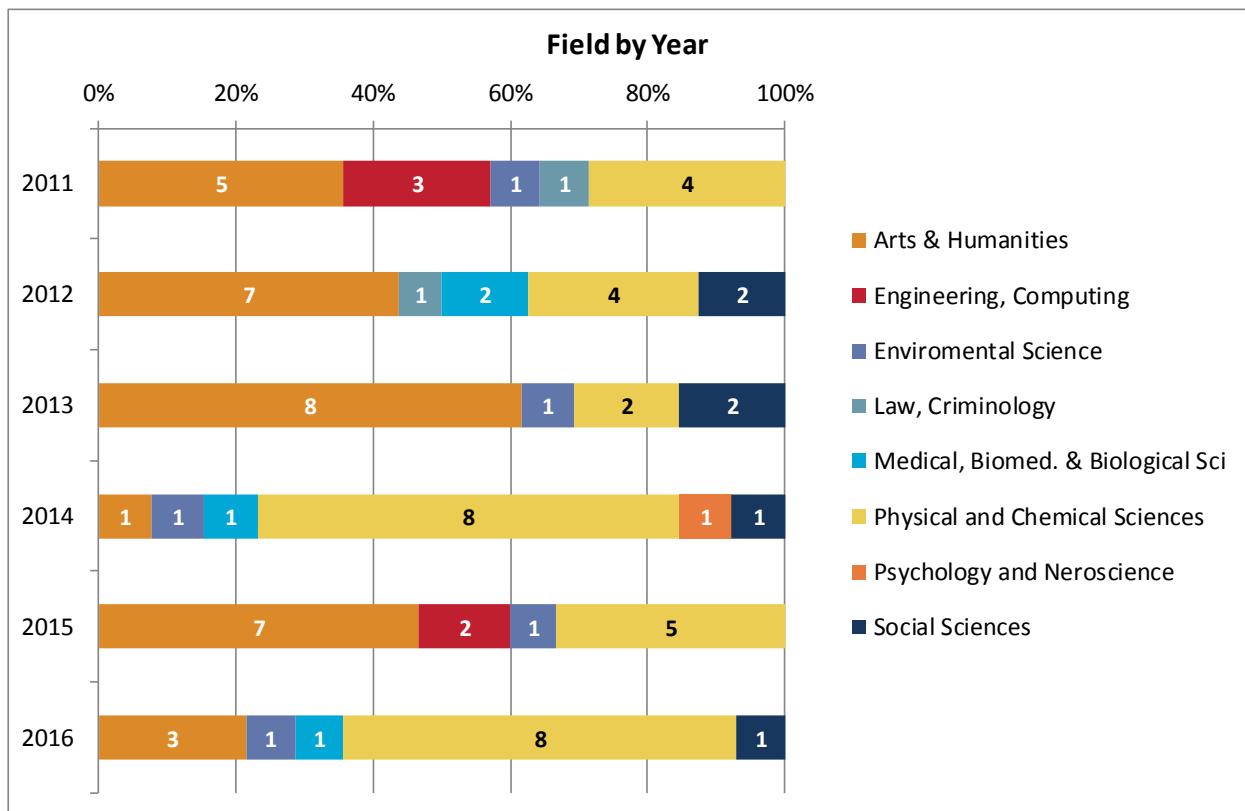


Fig.7 Annual distribution of Carnegie Scholarships according to academic field 2011 to 2016

Further detail, comparing the fields within which awards have been made with those from which the applications came, is shown in Fig.8.

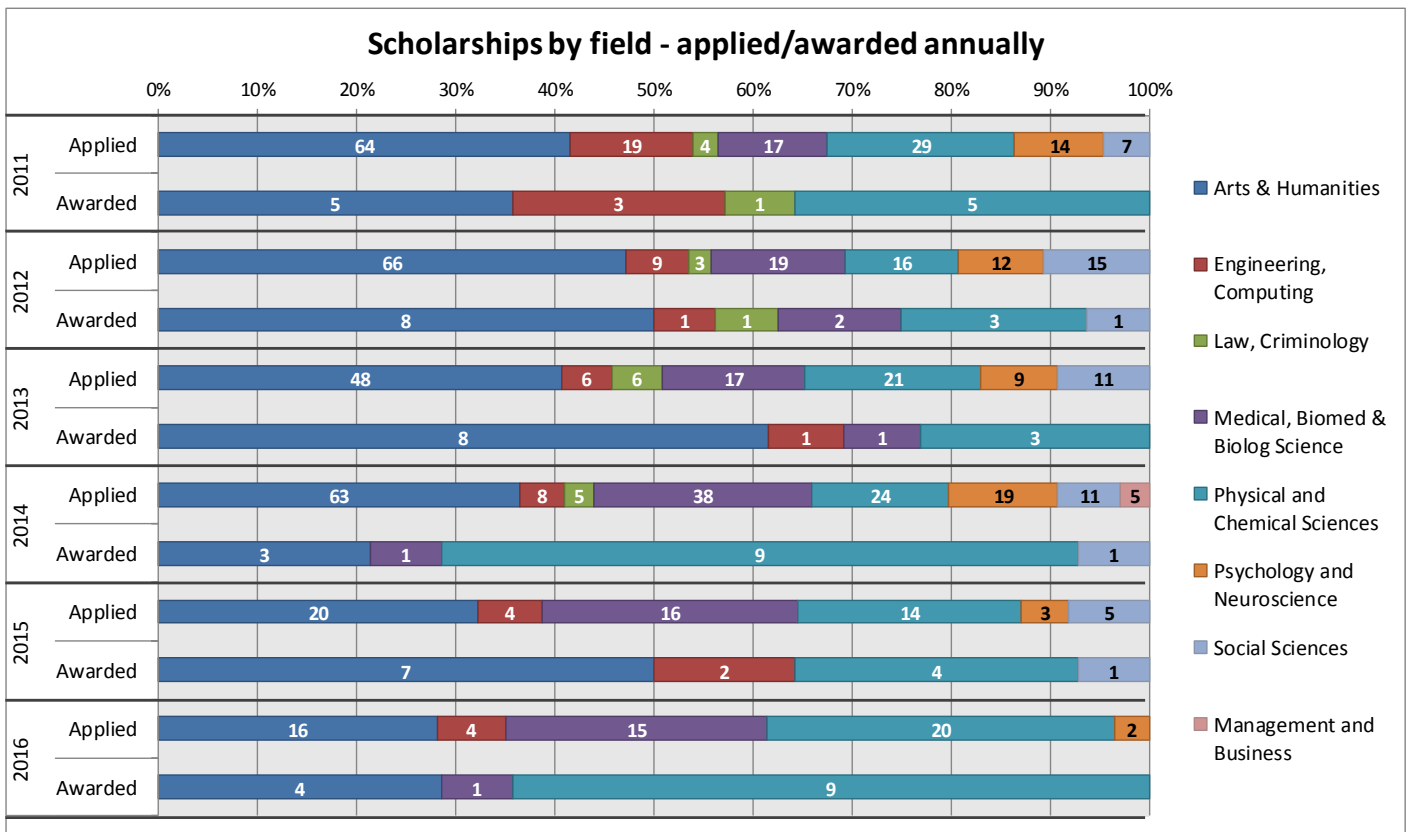


Fig.8 Annual pattern of applications and awards, according to academic field 2011 to 2016

## 2.5 Graduation statistics

Fig.9 summarises the timing of successful completion of studies for all students that received Scholarships from 2000 onwards. It can be seen that ~50% graduate with a PhD within 4 years and 73% within 5 years of starting. Of this particular set of 168 students, 81% have now graduated.

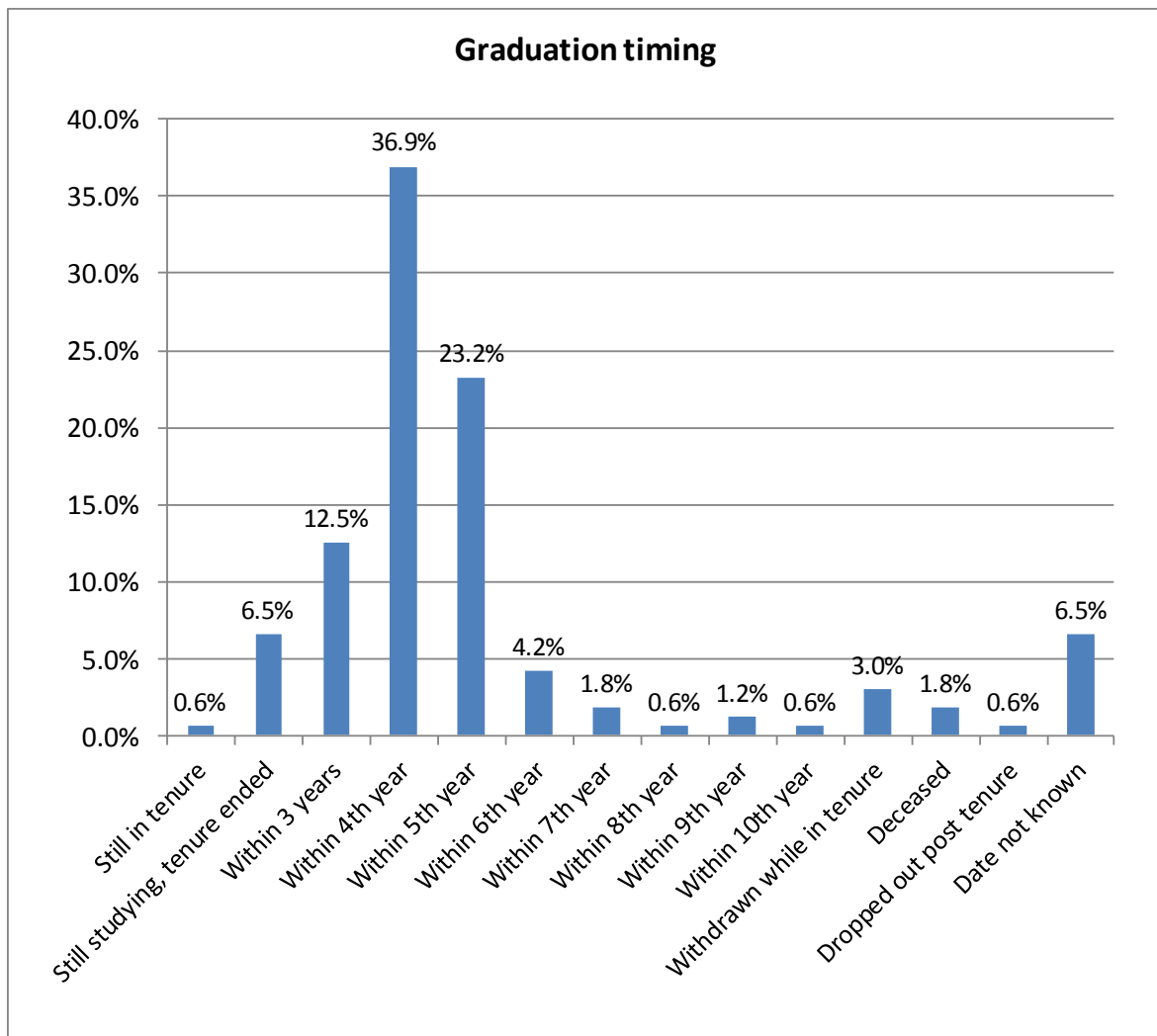


Fig.9 Percentages of students graduating within the specified number of years of starting their Scholarships (Data include all 168 students who commenced their studies between 2000 and 2012, inclusive)

The graphs presented in Fig.10 show that, whereas the proportion of Scholars completing within 4 years remains in a generally constant range, the trend for the 5 year completion data is an improving one. It should be noted that the significant fluctuations in these data reflect the relatively small numbers in each cohort of students.

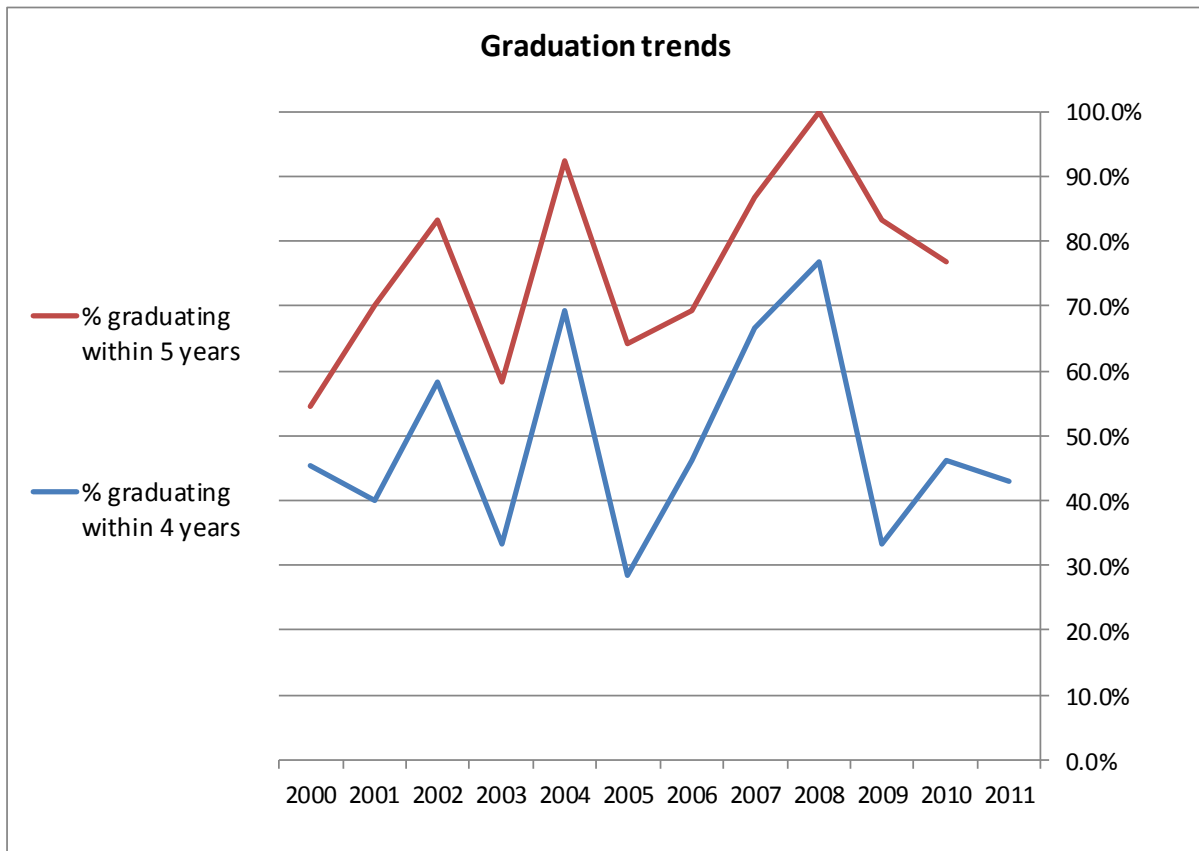


Fig.10 Percentages of students graduating within four or five years of starting their Scholarships, according to the year in which they commenced (2000 to 2010/2011, inclusive)

2.6 Destination statistics

Fig.11 charts the current employment for all students that received Scholarships from 2000 onwards. These data were gathered across 2015 and 2016 with respect to students who started their Scholarships over the 12 year period 2000 to 2012. It can be seen that the majority of Scholars go on to academic employment – illustrating the high academic achievement of students receiving awards under this scheme.

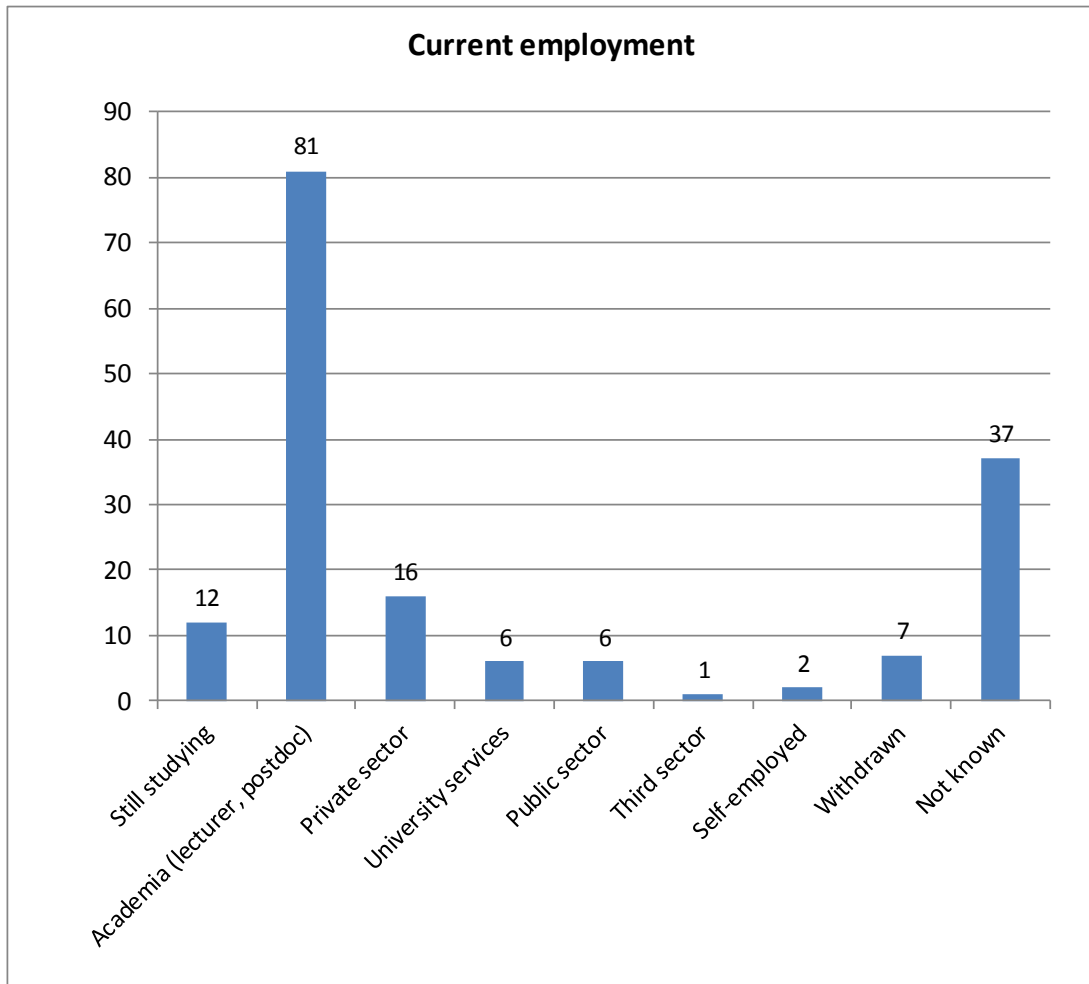


Fig.11 Numbers of former Scholars in specified areas of employment, as of 2015/16 (Data include all 168 students who commenced their studies between 2000 and 2012, inclusive)



### 3. Survey

There has been no general survey undertaken for the Scholarships. However, interviews have been held with relevant staff in a number of the Scottish universities to determine their views on the scheme.

#### 3.1 Numbers of candidates from which the university has to select the permitted number for nomination to the Trust, compared to other PhD funding available?

- Dundee: Typically 8 - 10 applications annually (for submission quota of 4). Across the university it is very popular but less so than research council schemes.
- Glasgow: Around 40 applications each year (for submission quota of 7). Difficult to compare with other, more specialist, funders.
- RGU: About 20 applications, filtered at faculty level by asking for an expression of interest then 5 or 6 full applications are considered by a university wide committee. (Submission quota is 2 per year.) The university has a number of scholarships, as well as some knowledge transfer funded PhDs.
- Strathclyde: Approximately 20 applications (for a submission quota of 5). Difficult to compare with other funders.
- Abertay: 4 applications in the past two years. (Submission quota is 2 per year.)
- QMU: 3 applications in 2016, and 7 the previous year. (Submission quota is 2 per year.) QMU has about 6 or 7 positions a year funded by external funders, about 25-30 international students with their own PhD funding as well as a small number of PhDs funded by specific charities such as Alzheimer UK.
- UHI: 4 applications in the past year. (Submission quota is 2 per year.) Difficult to compare with other funders. Most of the university's funding for PhDs comes from RCUK or the European Social Funds and are for specific subject areas so applications to the Trust are made in areas for which there is no other funder available. Very limited internal funds, some PhDs are part-funded internally on an ad-hoc basis.
- GCU: no applications were put forward in 2016-17 partly due to the fact that the university was restructuring and funding opportunities were not well publicised during that process. University needs to do more to recruit for this scheme as currently it depends on students expressing an interest. The university currently funds 20-25 PhD places each year and there is an increasing number of places funded by international funders. There are some funding opportunities through RCUK in areas where the university has a track record of excellence. There is also a growing community of students on professional doctorate programmes, especially health practitioners.

#### 3.2 Internal publicising and selection process?

- Dundee: E-mail / newsletter. Selection carried out by the Research Committee.
- Glasgow: E-mail plus web site. Eligible candidates are ranked according to marks (Grade Point Average) – top student from each of the four colleges selected and further places filled according to next highest marks.
- Strathclyde: first selection done at Faculty level before a cross-discipline panel meets to select the candidates. Advertising is done by email, grant portal.
- Abertay: uses internal social media and email targeting the Heads of School. Pre-assessment is done by the Head of Graduate School and the Head for each research theme. A selection is made and the full proposal is reviewed before submission.
- QMU: advertised throughout the university and to all research staff; uses the trust's guidance for selecting candidates.
- UHI: advertising is done through PhD supervisors, and students asked to provide a 2 page expression of interest. Two are selected by a panel including the Vice-Principal research, Head of research and the Graduate School manager, then invited to write the full proposal.

### 3.3 Selection factors?

- Dundee: Quality of proposed research and applicant's track record.
- Glasgow: The candidate's academic performance.
- Strathclyde: Match to the selection criteria of the Trust. In previous years it was felt that the academic performance of the student was the determining factor for the Trust but that the robustness of the project has become equally important.
- Abertay: fit between the student and the selection criteria of the scheme. Also the availability of other sources of funding in specific areas has an impact on who gets put forward.
- UHI: fit between the trust's assessment criteria and the students' performance and project, as well as the research area. UHI has some funding from NERC so students whose research fits the NERC studentships will be prioritised for the latter rather than Carnegie.
- RGU: look at the robustness of project and calibre of the student and how these fit with the Carnegie selection criteria.

### 3.4 Barriers / challenges

- Dundee: Sometimes best candidates are ineligible, having only done a Masters in Scotland.
- Glasgow: Emphasis on outstanding grades favours the hard sciences – steps are taken in course of internal selection to ensure arts and social sciences are not disadvantaged.
- Strathclyde: finding the right balance between the robustness of the project and the student's performance.
- UHI has a very small community of students but needs funding in order to grow its research. Timing is not always good as PhD students can start their studies at any time of year. UHI has also a high number of part-time students who just need tuition fee support which is not offered by Carnegie.
- QMU: Not always clear what is a suitable project for Carnegie; difficult to advertise the scheme to students outside QMU who might benefit from doing their PhD there.
- GCU: certain amount of disillusion about potential success among academics; the university's PhD student population does not necessarily fit with the Carnegie scheme (e.g. part-time students wishing to undertake a professional doctorate).
- RGU: social science candidates are often not of the right calibre compared to the hard science subjects, this is a challenge for the university given the importance of the social sciences at RGU. When selecting candidates it is difficult to find the right balance between the quality of the candidate and the quality of the project.

### 3.5 Support provided to PhD candidates by university?

- Dundee: Various: training career mentoring, supervision – access to world class research environment.
- Glasgow: High level doctoral training programme – as available to all PhD students.
- Strathclyde: all students participate in the training programme for researcher development and in graduate school activities.
- Abertay: Graduate school, strong interaction with other disciplines within the school and the university; mentoring programme, conference attendance funding.
- GCU: graduate school has been restructured and there is now a programme for researcher development and employment skills' training, open to all PhD candidates.
- UHI has a graduate school which delivers generic skills development training, there is also some funding for conference attendance and the university organises a research conference once a year for staff and postgraduates.

### 3.6 How does scheme compare to those of other funders?

- Dundee: Some offer more funding for research expenses and training [CTUS scheme offers £1k p.a.]
- Glasgow: Stipend is higher than that provided by the Research Councils.
- Strathclyde: Stipend is more generous than RCUK funding.
- Abertay: Breadth of research covered is appealing and the scheme is prestigious.
- UHI: CTUS package is generous and the scheme is seen as very prestigious.
- GCU: Good package and a good scheme.
- RGU: gGood package, well respected brand.

### 3.7 Fit with university's research strategy?

- Dundee: Scheme matches planned growth of PhD programmes well.
- Glasgow: Circumvents financial constraints when recruiting and retaining high calibre students.
- Strathclyde: Growing postgraduate numbers is a priority for the university so the scheme is attractive.
- Abertay: The university aims to increase its postgraduate population so the scheme aligns with its priorities.
- QMU: The type of research funded by the scheme does not appear to fit with the vocational or action research undertaken at QMU. Funding more traditional PhD topics may be a barrier for newer universities and the selection criteria should maybe be adapted to take into account different types of PhDs. The university's best candidates are not eligible as they may have only done a Masters at QMU but not an undergraduate degree.
- Shared desire to attract high quality applicants and keep Scottish candidates in Scotland.

### 3.8 Impact of introducing the quota on nominations

- Dundee: Quota makes sense. Some risk of good candidates not being put forward while weaker ones from another university do get submitted.
- Glasgow: Obviously a greater administrative burden but negligible in terms of benefit to students and the University.
- Strathclyde: Helps focus on selecting quality applications.
- Abertay: Quota helps focus minds when selecting candidates, imposes more rigour on the universities. The level of admin required is appropriate for this type of bid.
- RGU: Provides a target to aim for, focus on quality rather than quantity. Feedback should be given to nominees to help future submissions.
- UHI: It's a positive step, helps nominate the best student.

### 3.9 Retain payments to the student or channel through the university?

- Dundee: Payment to the university would match standard practice and would probably be more convenient.
- Glasgow: The Trust dealing directly with the student helps create a stronger link.
- RGU: Payments to the university equate to more research income for the department or school, also increases the visibility of the student and has a wider impact on the department or school.
- UHI: The trust may lose some contact with the student. It may give more control to the director of studies on how the research allowance is spent.

### 3.1 Other comments?

- Dundee: It would be helpful to check eligibility of nominees before the final decision on filling the university's submission quota.

- Glasgow: Decisions on awards in May is late compared to other scholarships and can lead to loss of strong candidates – consider moving earlier. Emphasis on UG (rather than PG) performance might disadvantage late developers.
- Strathclyde: Maybe allow for part-funding of PhDs so more awards can be made.
- Abertay: Provide more feedback to individuals about their application.
- UHI: Small university which needs support to grow its numbers. Suggest ring-fencing some funding for newer universities and/or for areas that do not get RCUK funding.

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