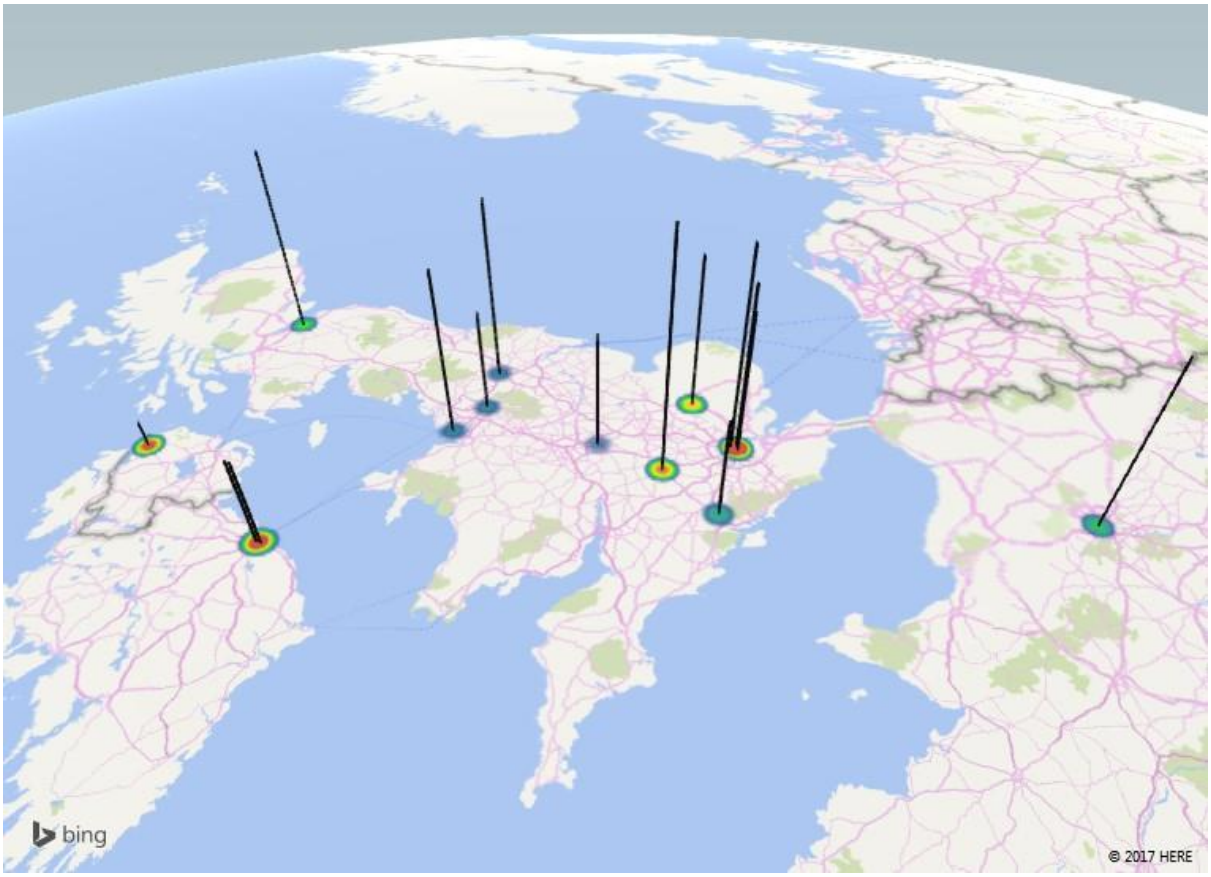
Queen's University Belfast

University Operating Board

13 March 2017



Top 15 collaborative institutions in UK and Europe by number of co-authored publications, 2013-2016 (heat map represents no of co-authored publications and size of columns represent Field-Weighted Citation Impact)

RESEARCH PERFORMANCE

Quarter 2, 2016-17

Finance and Research and Enterprise Directorates

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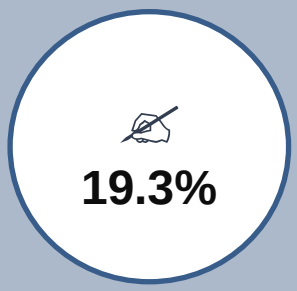
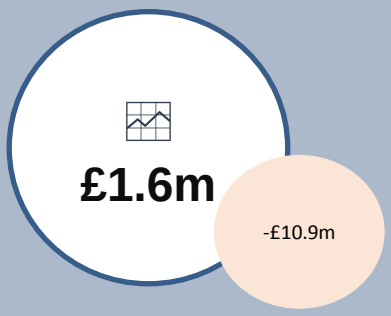
1. Research Highlights

Q2 2016-17



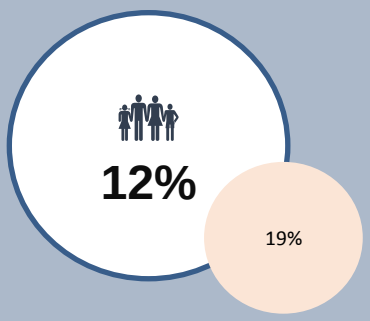
Application Growth %

The value of research applications in the first two quarters of 2016-17 increased by 19.3% compared to the equivalent three year average.



Awards Growth £

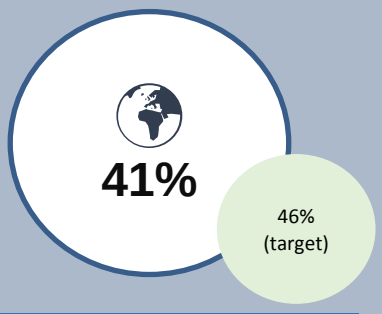
The total value of research awards increased by £1.6m in the first two quarters of 2016-17 compared to the equivalent three year average. However, this is a decrease of £10.9m on the 2015-16 first two quarters.



Award value per FTE

The award value per FTE increased by 12% in the first two quarters of 2016-17 compared to the equivalent three year average. But 19% of Academic staff have no active grants or pending applications.

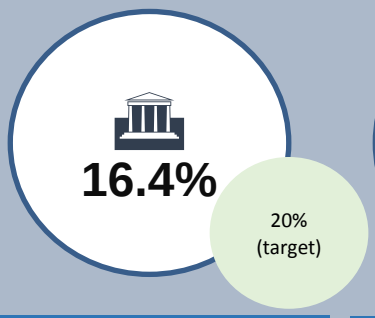
Research Strategy 2015-20



Income Source

Actual research income from RCUK and EU forms 45.9% in 2015-16 and 41% in the first two quarters of 2016-17.

Research Strategy 2015-20



Contribution %

Contribution at 17% in 2015-16 and estimated to decrease to 16.4% in 2016-17 against a peer group target of 20%.

FWCI

QUB's FWCI increased over the 2013-2016 period to 1.79, just below the RG8 average of 1.86. However, QUB outperforms only one RG8 institution.

2. The research pipeline

2.1 Grant applications

The charts in this section show the research grant application profile, for the full year and the six month period to the end of Q2, for each year from 2013-14.

The number of applications (Chart 1) to the end of Q2, 2016-17 is 5% lower than the six months to the end of Q2, 2015-16 (784-749).

The number of applications submitted by AHSS and EPS has increased, while this increase has been offset by a decrease in the number of applications submitted by MHLS.

For all three Faculties, the total value of grant applications to the end of Q2, 2016-17 is higher than the Q2 three year average.

If the application values for 2016-17 to date are maintained by MHLS and EPS for the remainder of the year, each Faculty is on course to exceed the Faculty three year (12 months) average.

However, if the application value to date for AHSS is extrapolated to estimate a full year position, the total value would be slightly lower than the AHSS three year average.

Chart 1 - Application Numbers

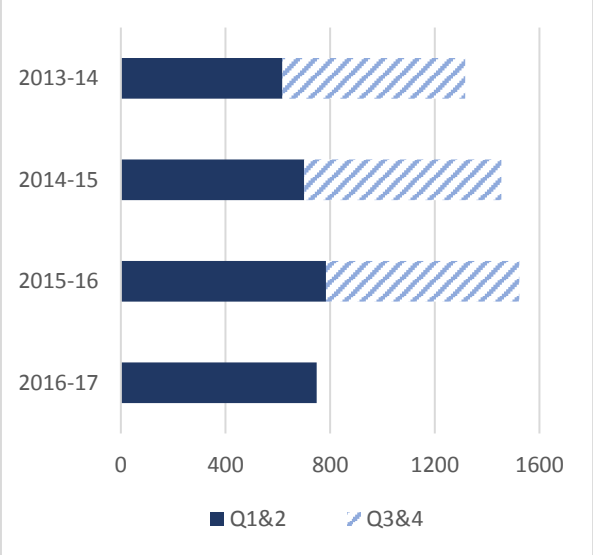
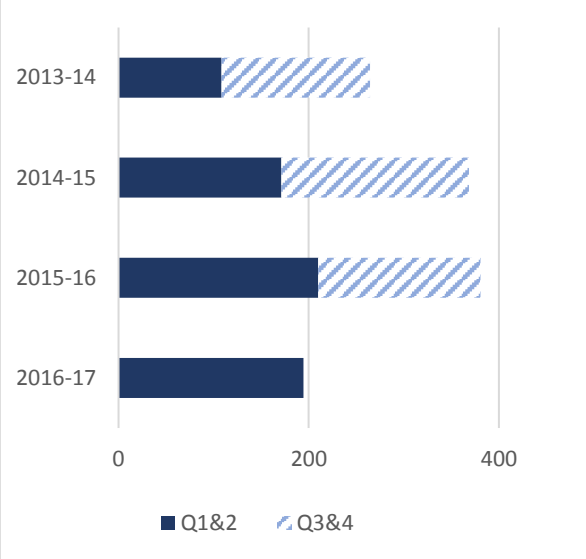


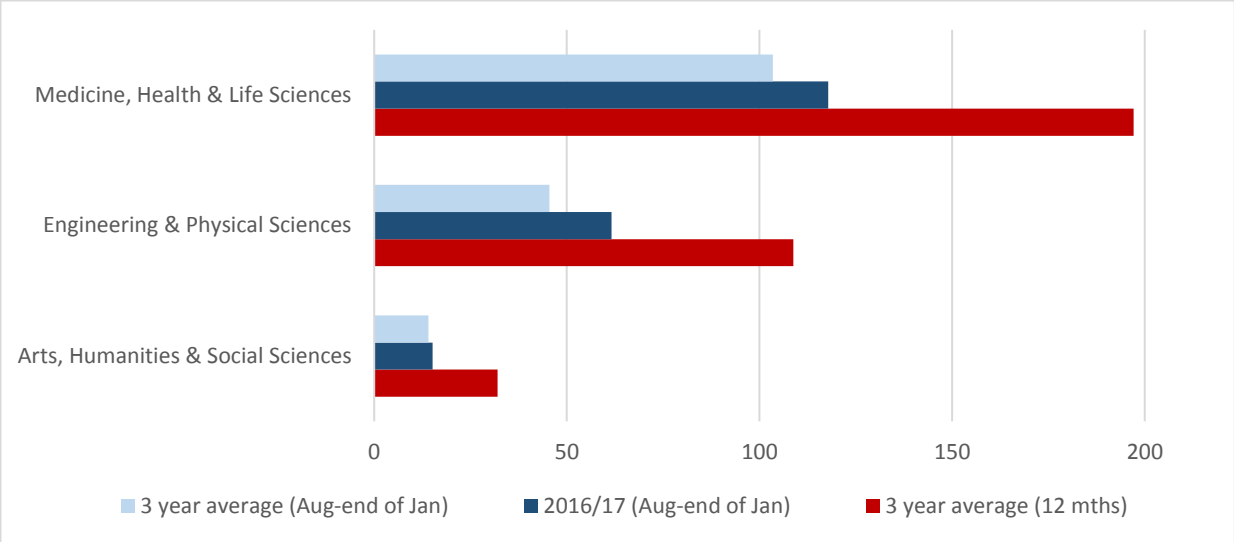
Chart 2 - Application Values (£m)



The total value of grant applications (Chart 2.) at Q2 has decreased between 2015-16 and 2016-17. For the six months to the end of Q2, 2015-16, the total value of applications is £209.9m, whilst the corresponding value to the end of Q2, 2016-17, is £194.5m. The difference of £15.4m corresponds closely to the £16.2m value of the IMI iABC grant application included in 2015-16.

Chart 3 provides information on the value of grant applications for each Faculty.

Chart 3 – Value of Applications (£m)



Additional charts providing more analysis for Faculties on applications is provided in Annex 1. Underlying data on grant applications for Faculties is provided in Annex 2.

2.2 Proposals in preparation

A sample of strategic research proposals currently in preparation in each Faculty is provided in the following infographic:

3. Grant success

3.1 Grants awarded

The charts in this section show the research grant award profile, for the full year and the six month period to the end of Q2, for each year from 2013-14.

Chart 4 shows the number of awards. There has been a decreasing trend in the total number of awards received over the past three years.

However, the total number of awards at the end of Q2, 2016-17 is higher than the corresponding period in all of the preceding years shown. Based on prior year trends, the total number of awards for the full 2016-17 year could be in excess of 600.

Chart 5 shows the total value of grants awarded to the University.

The chart illustrates the trend of an increased total value of grants awarded for each of the past three years.

The total award value to the end of Q2, 2016-17 is £38.1m, compared to £49.1m for the corresponding period in 2015-16. However, the award values in 2015-16 includes £16.2m in respect of the IMI iABC project with an award at an equivalent value not included in 2016-17.

If the iABC award is removed from the figures for 2015-16, the underlying total value of awards at the end of Q2, 2016-17 is £5.3m higher than the equivalent underlying value for 2015-16 (2015-16 - £32.8m; 2016-17 - £38.1m).

Chart 6 shows the total value of research awards for each Faculty for the six months to the end of Q2, 2016-17, the corresponding three year average to the end of Q2 and the three year average total application value.

Chart 4 – Award Numbers

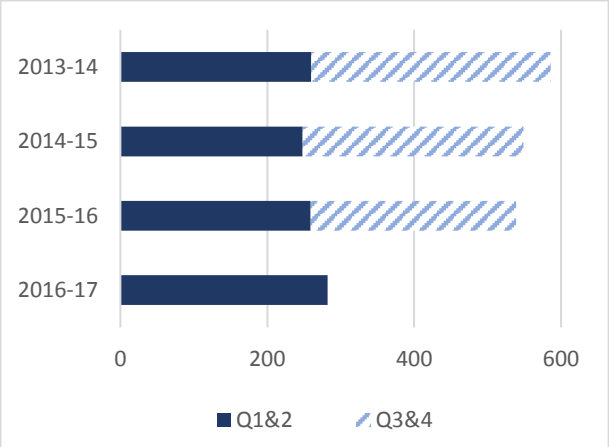
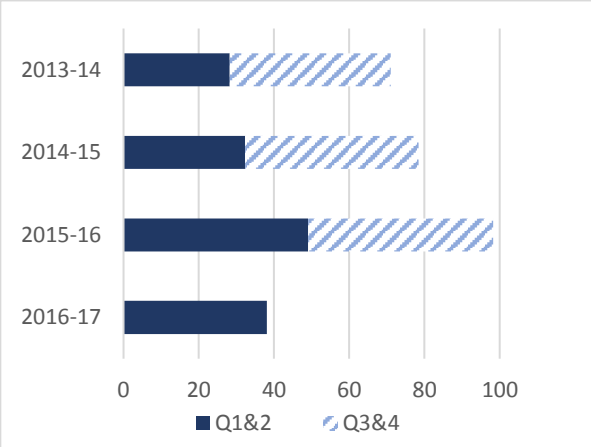


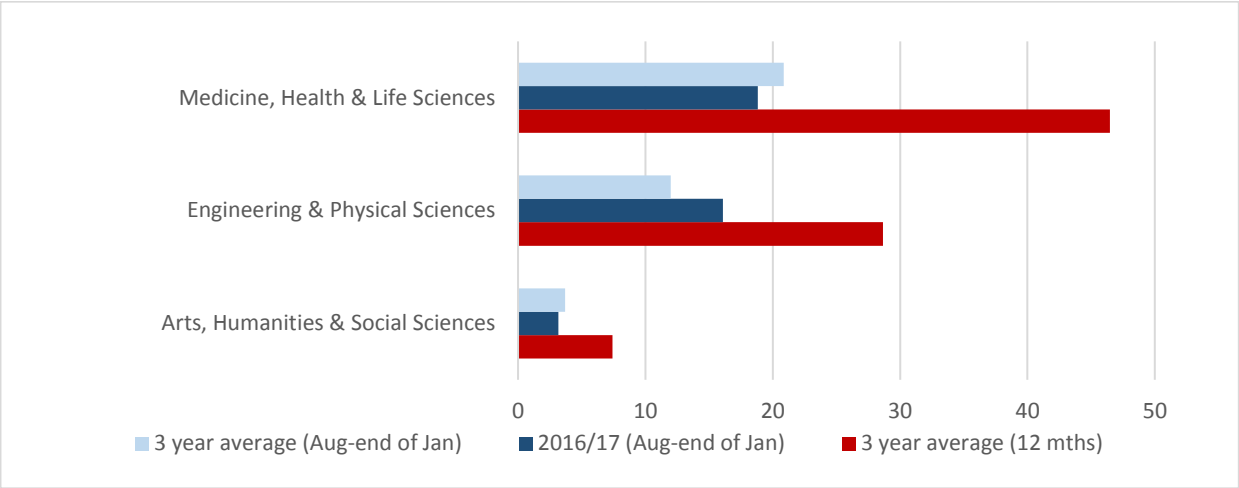
Chart 5 – Award Values £m



For MHLS, the total award value to the end of Q2, 2016-17 is lower than the Faculty three year average. This is again, as a result of the inclusion of the IMI iABC award in the three year average.

For EPS, the total award value at the end of Q2, 2016-17 is higher than the three year average for the Faculty. The School of Maths and Physics has already outstripped its three year (12 months) average, due for the most part to the two sizable consolidated grants from the STFC (£2.4m and £1.3m).

Chart 6 – Faculty Awards (£m)



Four of the five AHSS Schools have a higher award value at the end of Q2 2016-17 compared to their three year Q2 average. However, the total award value for the Faculty at the end of Q2, 2016-17 is lower than the three year Q2 average, due to a £1.9m decrease in award value for SSESW.

3.2 Source of funding

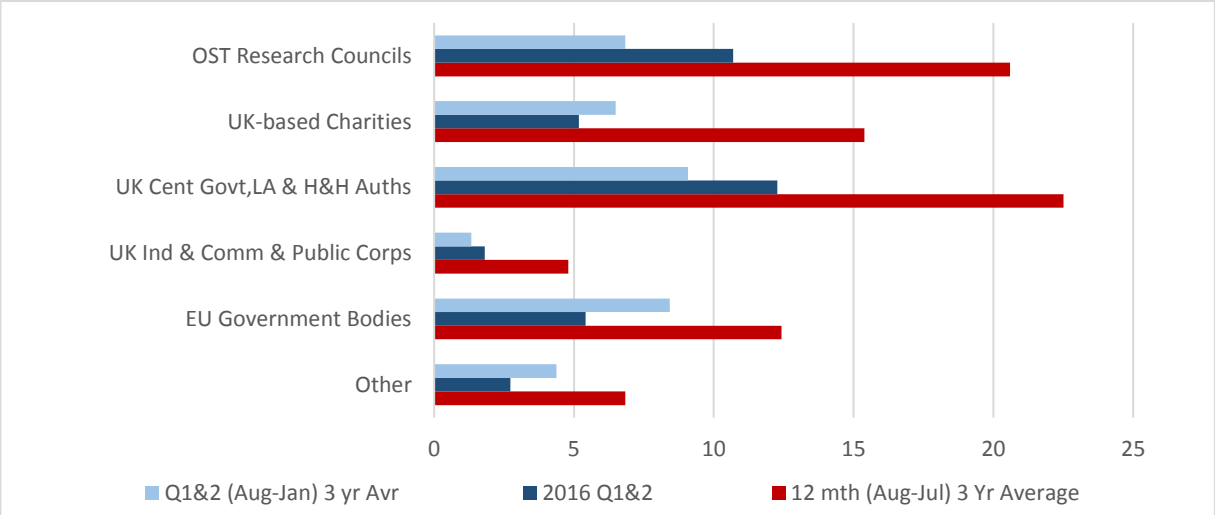
Chart 7 illustrates the value of research grants awarded on the basis of the source of funding.

This chart shows the award values to the end of Q2, 2016-17 compared to the three year Q2 average and full year award values, for the main source of funding groups.

The total award values for the RCUK, UK Government and UK Industry categories are higher at the end of Q2, 2016-17 than the corresponding three year Q2 average.

The award values to the end of Q2, 2016-17 for EU Government Bodies and Other categories is being impacted by the inclusion of the IMI iABC award in the average values (as funding is split-source between the EC and the commercial 'EFPIA' partners).

Chart 7 – Award Value by Source of Funding



3.3 Award profile by value

Charts 8 and 9 show the profile of research awards by value band.

The profile bands for the number of awards shown in Chart 8 highlights that the number of awards in the lowest value banding of <£0.1m, in the six months to the end of Q2, 2016-17, is equal to the lowest % for all years shown.

The percentage of awards with a value >£1m is 2% of the total number awards at the end of Q2, 2016-17. This is a marginally lower proportion than the full year 2015-16 but at a proportion that is equal to or higher than the other years shown.

The value of awards shown in Chart 9 highlights that the percentage value of awards in the lowest value band this year is at the equal highest level for the years shown.

Chart 8 - Number of Awards by Value Band (%)

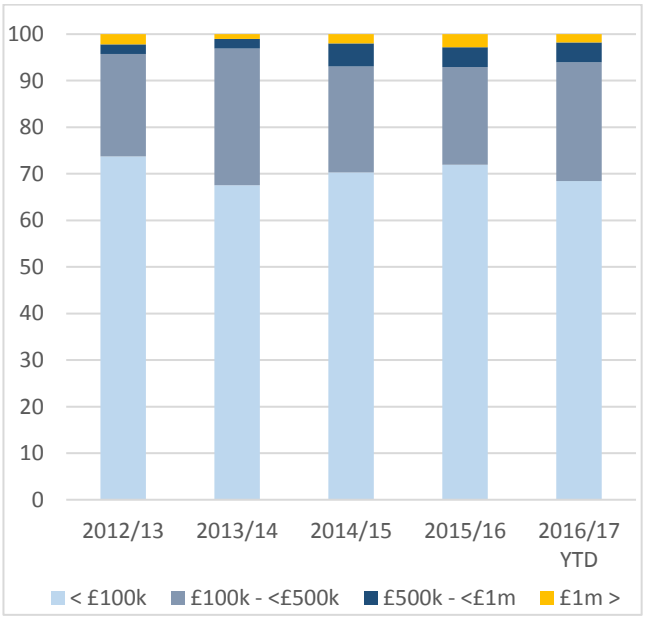
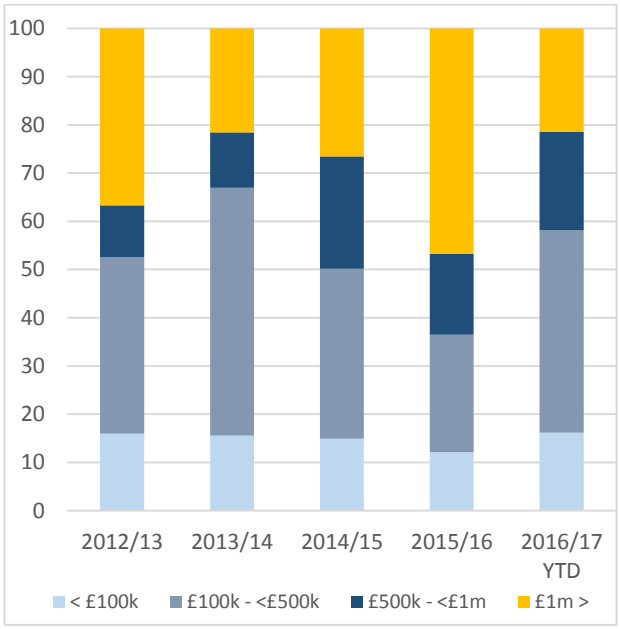


Chart 9 - Value of Awards by Value Band (%)



3.4 People and awards

This section provides information on academic staff involvement in research awards.

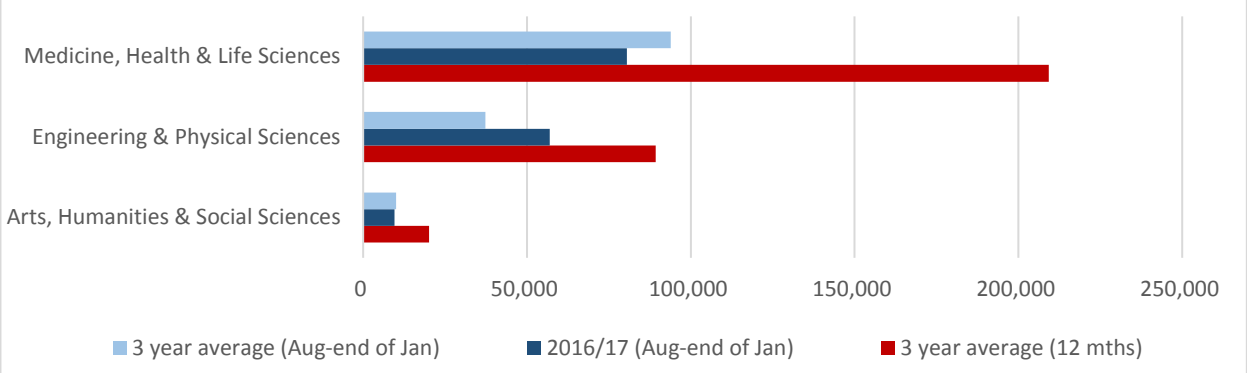
3.4.1 FTEs and awards

Chart 10 illustrates the average value of research grants awarded by academic FTE for each Faculty (see footnote 1).

The average value of award per FTE to the end of Q2, 2016-17, is compared to the three year Q2 average, and the three year full year average.

For EPS the average value of award per FTE at the end of Q2, 2016-17 is higher than the corresponding three year Q2 average.

Chart 10 - Value of awards per FTE[1], Q1&2 2016-17, 3-year Q1&2 & 3-Year Total Average



For MHLS, the average value of award per FTE, at the end of Q2, 2016-17, is lower than the three year Q2 average. This is again due to the three year average for the Faculty being impacted by the incorporation of the large value IMI iABC award.

For AHSS the average value of award per FTE at the end of Q2, 2016-17 is marginally lower than the corresponding three year Q2 average

3.4.2 Grant activity by Academic Staff

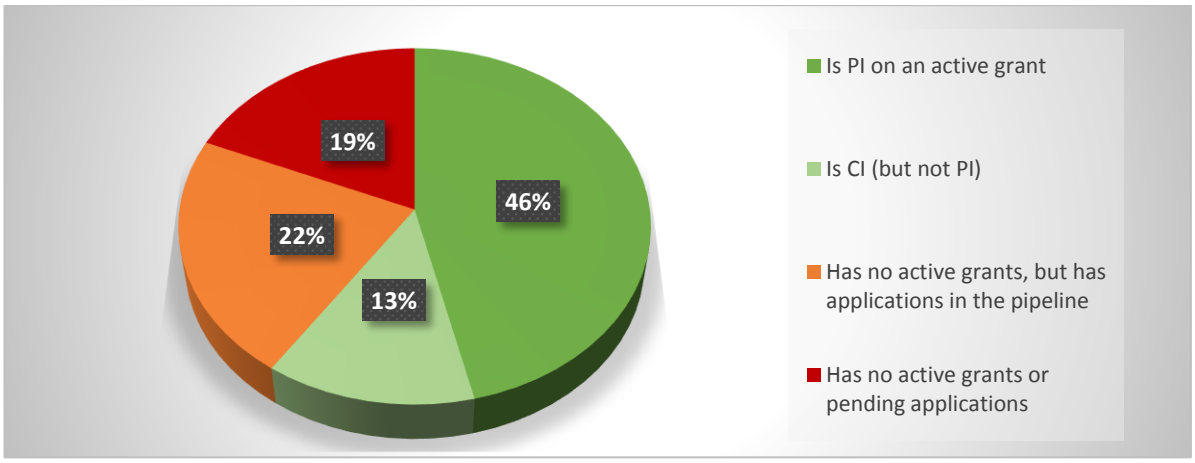
Chart 11 shows a breakdown of current academic staff who have active grants or applications in the pipeline. Active research projects were identified at 31 January 2017 (taking into consideration project end dates and project status). Awards relating to these active grants were identified and matched against current Academic Staff.

Where an Academic was neither a PI nor a CI on an active grant, application records were checked against the previous 18 month period (01 August 2015 to 31 January 2017) to determine if these individuals had an active pipeline of pending applications. The table below shows the breakdown of staff in each category.

Is PI on an active grant	411
Is CI (but not PI)	117
Has no active grants, but has applications in the pipeline	195
Has no active grants or pending applications	165
Total	**888**

The 360 Academic staff identified as not being a PI or CI on an active research project includes 44 staff who joined the University in the 2016-17 financial year.

Chart 11 – Grant Activity by Academic Staff



[1] FTE for 3 year average (12 months and Q1 and Q2) based on REF FTE eligibility. FTE 2016/17 based on FTE 15th Feb 2017

3.4.3 Grant success

The infographic below highlights a selection of higher-value awards received by staff in each Faculty in Q2, 2016-17.

3.5 Success rates

Chart 12 shows the proportion of research grant applications that were successful in each year, based on the number of applications. The chart highlights that the proportion of the number of research grant applications that are successful is decreasing each year.

However, the information for 2015-16 does not yet represent the complete position, as the outcome of 23% (decreased from 39% at the end of Q1, 2016-17) of applications made in 2015-16 is not yet known.

Chart 13 shows the proportion of research grant applications that were successful in each year, based on the value of the applications.

While the percentage success rate, based on the number of successful applications, decreased each year over the three year period between 2013-14 and 2015-16, the proportion of successful applications based on value has remained at a consistent level of 37% in 2013-14 and 2014-15.

The proportion of successful applications for 2015-16 is lower than in previous years. However, a comparison with previous years is difficult due to the outcome for pending 2015-16 application not yet known. The same applies to the position at the end of Q2, 2016-17.

Comparing the percentage success rate of application numbers against the application value success rate, suggests that a large volume of small value applications are inflating the volume of successful applications as illustrated in Chart 12. This is borne out by the steady-state values for 2013-14 against 2014-15 shown in Chart 13.

Chart 12 - % success rate, no of applications

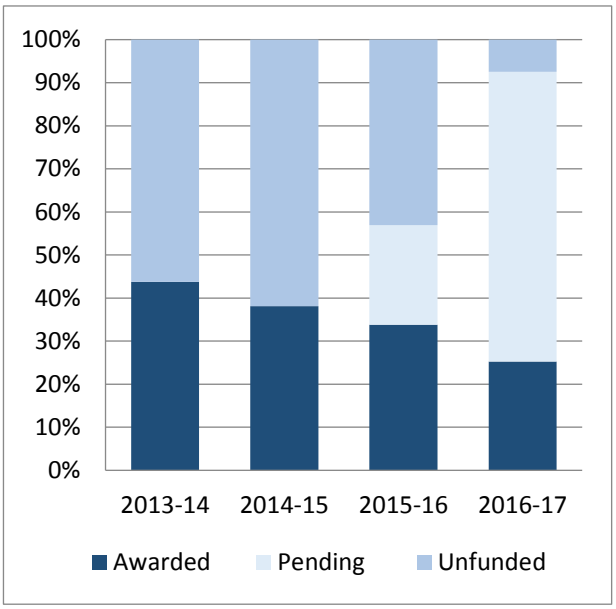
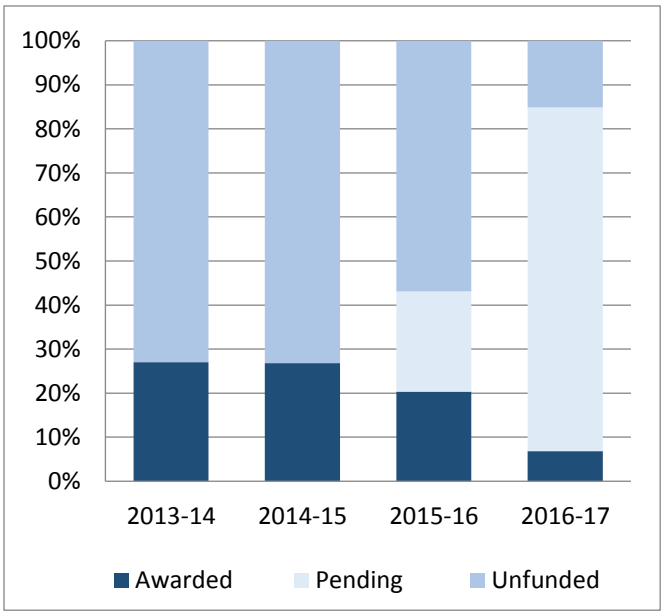


Chart 13 - % success rate, value of applications



4. Research activity

4.1 Awards, income and contribution

Chart 14 shows the total value of research award for the years 2012-13 to 2015-16. Also included is the value of research awards for the six month period to the end of Q2, 2016-17

The chart also shows total full-year research income and the six month income for each year.

Total research income has increased in each of the full years shown, and mirrors the trend of increasing award values. This chart illustrates that the impact of increased value of awards is realised in the form of increasing research income spread over a number of years, thereafter.

These projections rebase the target 2016-17 award levels to £91.1m, to reflect the one-off nature of the IMI iABC award in 2015-16, with total award values increasing each year to a level of £146m by 2020-21.

This chart shows the progress already made, and also highlights the significant challenge that remains to achieve the Vision 2020 ambition for £110m of research income by 2020-21.

4.2 Research income 2016-17

Total income from core research grants was £63.2m in 2015-16.

The estimate for research income for 2016-17 is £69.1m (February 2017 revised estimates): an increase from 2015-16 of £5.9m (9.3%), and is marginally higher than the target income level of £68.3m.

Chart 14 - Value of awards, research income (£m), 2012/13-2016/17(Q2) and forward targets

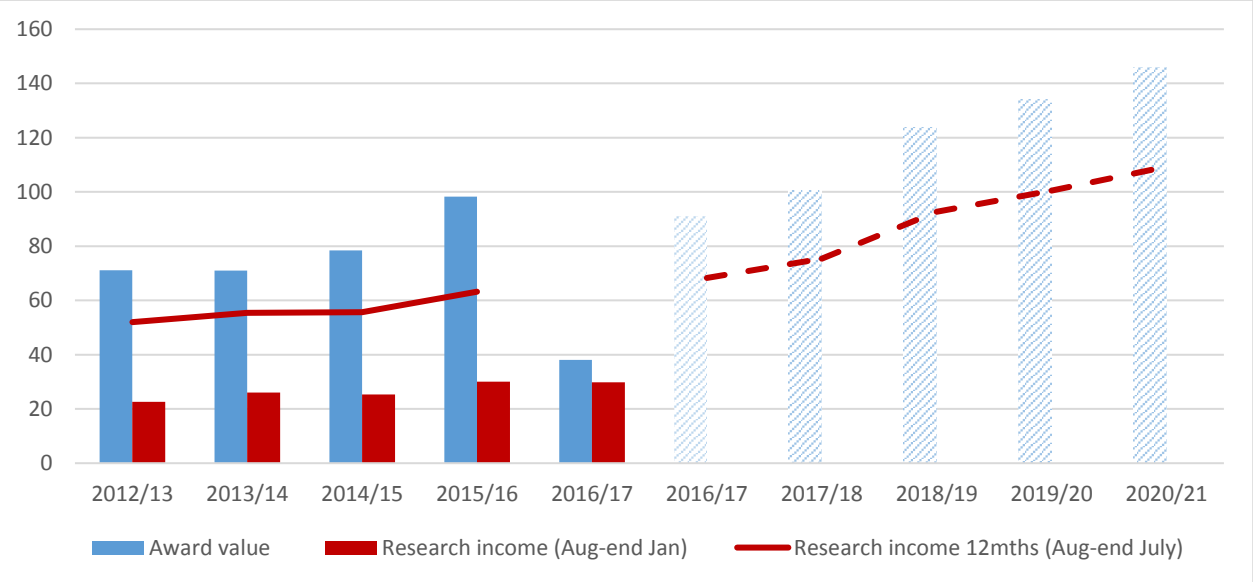
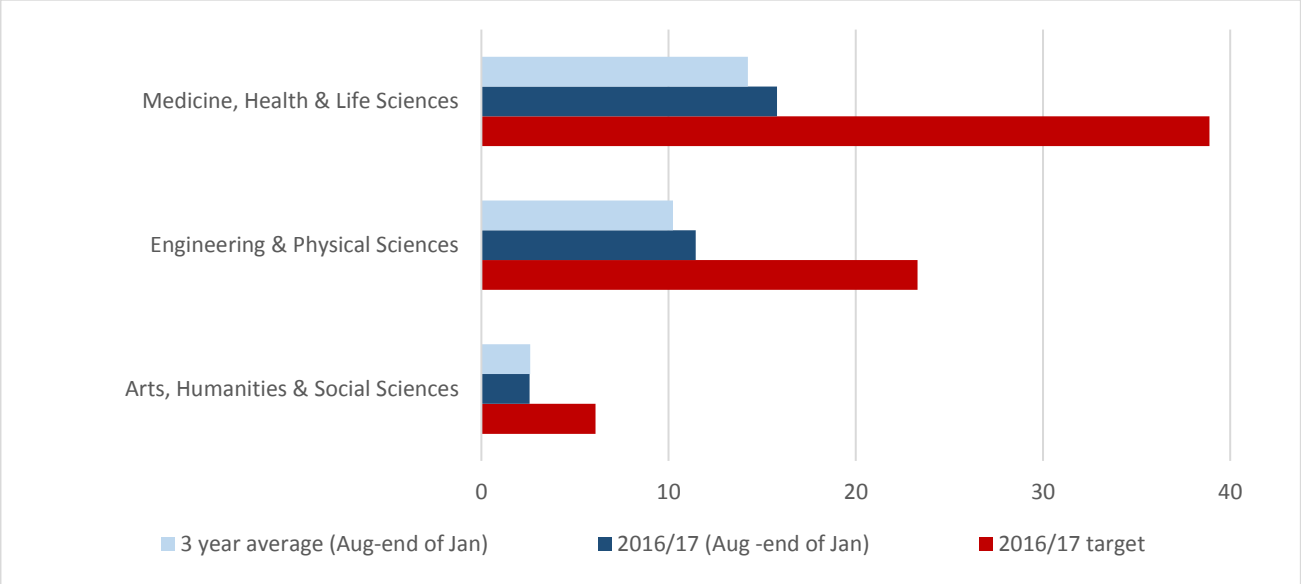


Chart 14 also projects forward to future years to show the value of awards that will be required to deliver research income at the Vision 2020 level of £110m, by 2020-21.

Chart 15 – Research Income for Q1&2 2016-17 compared to the 3-year Q1&2 average and the 2016-17 income target



Actual research income, in the six months to the end of Q2, 2016-17 is £29.8m. This represents 43.1% of the full year estimate. However, the expectation is that income in the second half of 2016-17 will be significantly higher than in the first half of the year.

It is estimated that a number of recently awarded large projects will commence shortly, leading to a corresponding increase in research income in the period February to July 2017.

Also, a number of specific large-scale projects, including IMI iABC, CEM capital and NITC capital, are being carefully monitored with approximately £6m of additional income on these projects expected in the second half of 2016-17: the total income (matched to expenditure) on this group of projects, in the first half of 2016-17, was £0.6m.

4.3 Faculty income

The total research income target for 2016-17 is £68.3m. This institutional target is comprised of Faculty targets of £38.9m for MHLS, £23.3m for EPS and £6.1m for AHSS.

Chart 15 shows research income for each Faculty for the six month period to the end of Q2, 2016-17. This is shown in comparison to the three year Q2 average and the full year 2016-17 research income target for each Faculty.

While EPS research income at the end of Q2, 2016-17 represents 49% of the Faculty full year target, the corresponding figures for MHLS and AHSS are 41% and 42%, respectively.

4.4 Source of income

Chart 16 shows the research income for the main source of funding groups.

At the end of Q2, 2016-17 research income from RCUK, UK Government and UK Charities is higher than the corresponding three year Q2 average.

Income from the other sources at the end of Q2, 2016-17 is lower than the three year Q2 average.

The Research Strategy 2015-20 includes a target to increase the proportion of total research income generated from RCUK and EU government sources from 36% (2012-13) to 46% (by 2020).

The proportion of research income generated from RCUK and EU government sources was 44.3% in 2014-15 and 45.7% in 2015-16.

For the six months to the end of Q2, 2016-17, the proportion of income generated from RCUK and EU government sources was 41% of total income. This represents the position at midpoint of the year and may change by the end of 2016-17.

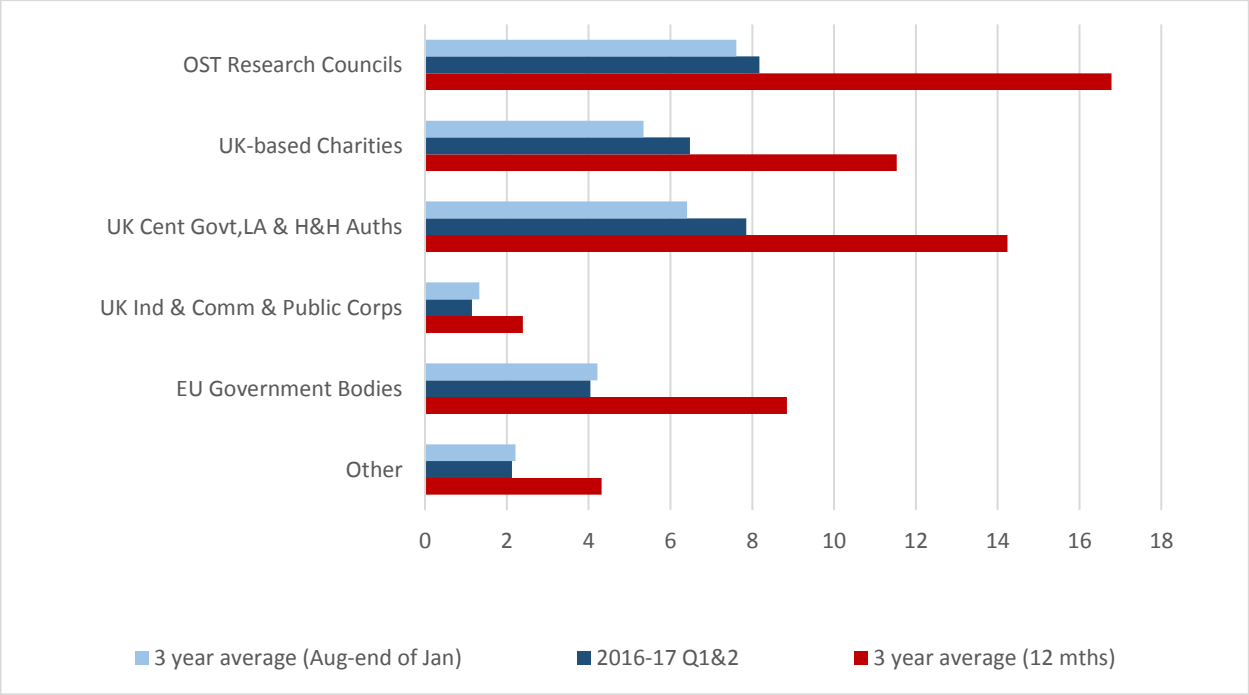
4.5 Research contribution

In addition to research income levels, the contribution generated from research grants is being carefully monitored.

The actual contribution recovery rate for 2015-16 was 17%, and the estmated rate for 2016-17 (based in the February 2017 estimates), is 16.4%.

This lower contribution recovery rate reflects the impact that a number of large-scale capital grants and the iABC project, with low or zero contribution, are having.

Chart 16 – Research Income for Q1&2 2016-17 compared to the 3-year Q1&2 average and the 3-Year Total Average £m



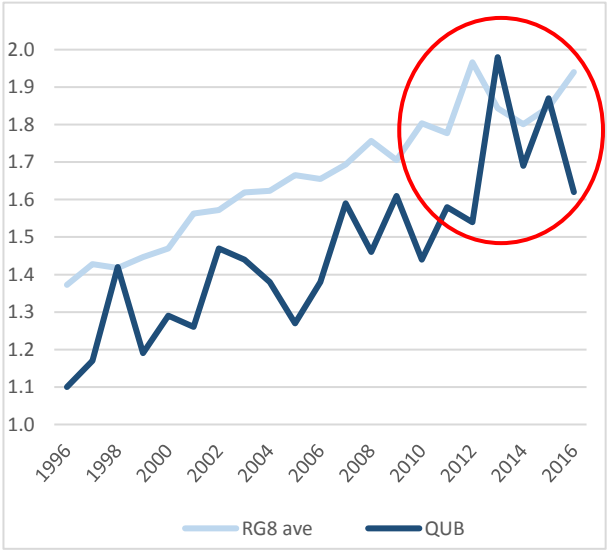
5. Outputs and outcomes

5.1 Citations (FWCI)

Over the 2013-2016 period, the citation performance of the University, as measured by the Field-Weighted Citation Impact (FWCI)[2], has increased relative to the RG8 average. Indeed, for the first time since the data has been collected (dating back to 1996), QUB surpassed the RG8 average in 2013 (ranking 3rd from 9 institutions) and again in 2015 (ranking 5th from 9).

Crucially, over the 2013-2016 period, the University had a higher FWCI than the University of Nottingham. This was the first time (since 1996) that citation performance was greater than any RG8 institution over any four year period.

Chart 17 – FWCI of research outputs, QUB and RG8 average, 1996-2016

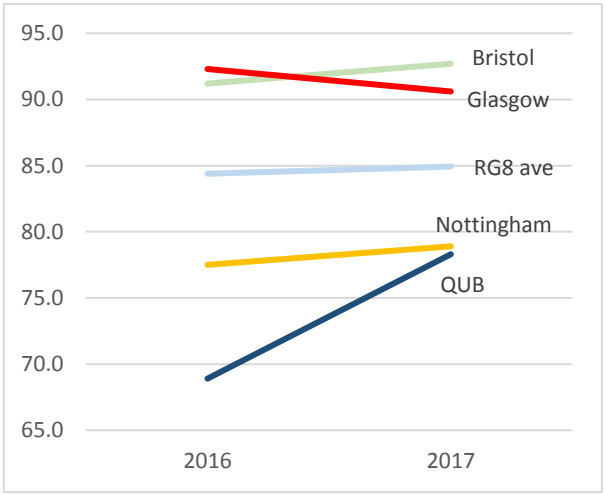


Source: Scopus / SciVal, February 2016

While the methodology for recording citation scores in the THE rankings is not directly derived from the FWCI calculation, similar trends are evident:

- The University's citation score in the THE ranking increased by 14% from 68.9 in 2016 to 78.3 in 2017, faster than the RG8 average (which increased by just 0.6% to record 84.9 in 2017).
- While not surpassing any RG8 institution in the THE citation scores, the increase in 2017 brings the University close to the lowest RG8 institution, the University of Nottingham (78.9).
- The Universities of Glasgow and Bristol are the highest performers on both THE citation scores and on FWCI.

Chart 18 – Citation scores from THE Word University Rankings, QUB and selected RG8 institutions, 2016-2017[3]



Source: THE

[2] Field-Weighted Citation Impact compares the number of citations received by a publication against the average number of citations received (over three years) by all other similar output types (e.g. conference paper, journal article, review etc), published in the same year and the same subject area / discipline. A Field-Weighted Citation Impact of 1.00 indicates that a publication (or group of publications) has been cited exactly as would be expected based on the global average for similar publications.

[3] Citation scores recorded before 2016 are not directly comparable with 2016-2017 period due to a change in source bibliographic database.

5.2 Top institutional co-author collaborations

Over the 2013-2016 period, changes have occurred in the pattern of the top institutions (by number of publications) which have co-authored research outputs with Queen's.

While Ulster University has traditionally been, by far, the most dominant collaborative partner, since 2013, this position has been held by UCL. Compared to the 2009-2012 period, two institutions outside of the UK and Ireland (Harvard and CNRS) have also entered the top 10 list of co-author collaborative institutions (see Chart 19 and Chart 20).

Changes in the composition of top collaborative institutions may also have a bearing on the citation impact of the University. Chart 20 shows that while Queen's and Ulster co-authored 296 outputs over the 2013-16 period, the Field-Weighted Citation Impact (FWCI) for these publications equalled 1.0. By contrast, 305 authored publications with UCL received a FWCI of 6.02.

The map in the front cover of this report provides further illustration of the level of co-authored collaboration activity and the citation impact (FWCI) of those publications for the top 15 institutions (by number of co-authored research outputs) in Europe over the 2013-2016 period.

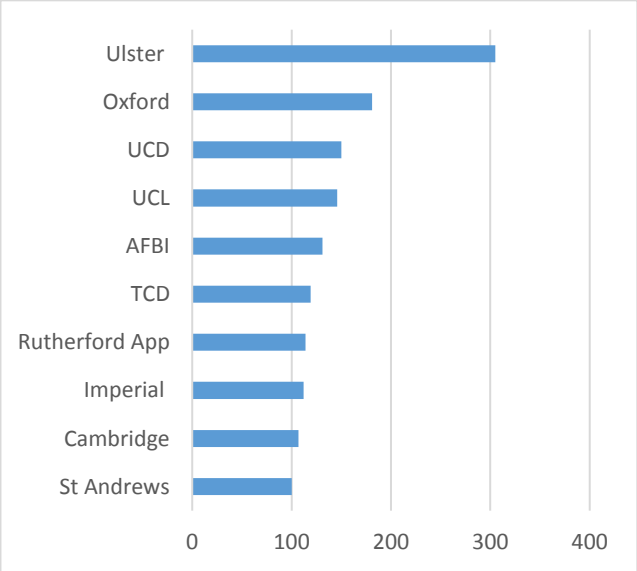
5.3 Patent citations

The number of patents citing research outputs provides an indication of the extent of knowledge transfer between university and industry and the potential for future economic impact.

Since 2011, 227 patents have cited Queen's research. A list of the top patent owners is outlined in Chart 21 while the main countries (by the number of patents) in which the patent was applied (reflecting the extent of global reach) are identified below:

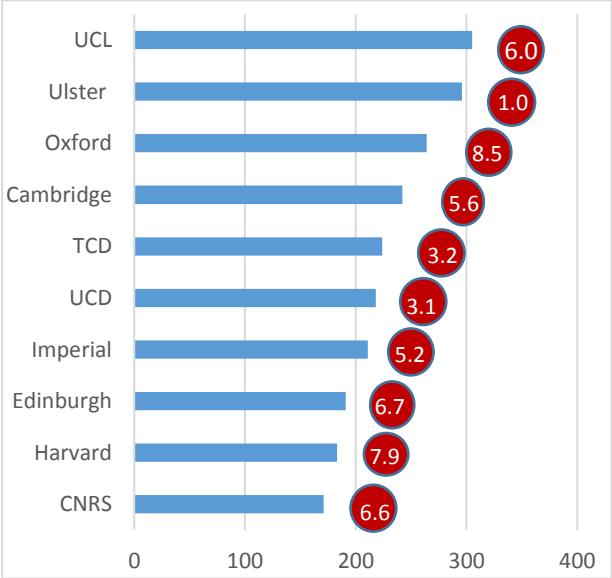
- United States (88)
- UK (32)
- France (16)
- Germany (14)
- Japan (10)
- South Korea (7)
- Switzerland (7)
- Austria (5)
- Italy (5)
- Netherlands (5)

Chart 19 – Top ten QUB collaborative institutions by no of co-author publications, 2009-2012



Source: Scopus / SciVal, February 2016

Chart 20 - Top ten QUB collaborative institutions by no of co-author publications, including FWCI, 2013-2016



Source: Scopus / SciVal, February 2016

Chart 21 – Top patent owners which have cited QUB research outputs 2011-2016

Top patent owners	No of patents citing QUB research
Queen's University of Belfast	8
Incyte Corporation	7
Institut Pasteur	5
Novartis Ag	4
Qualcomm Incorporated	4
Shimadzu Corporation	4
University of Leicester	4
Agency For Science, Technology and Research	3
Belfast Health and Social Care Trust	3
Cemm - Forschungszentrum Für Molekulare Medizin Gmbh	3
Medical Research Council	3
The Regents of The University of California	3
The Trustees of The University of Pennsylvania	3

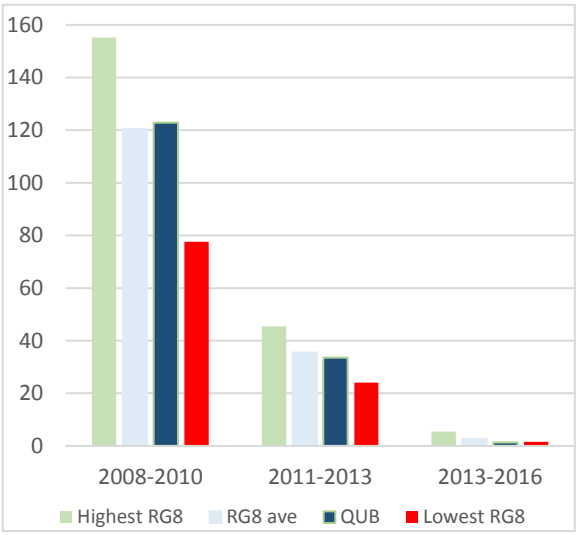
Source: Scopus / SciVal, February 2016

With Queen's being the top organisation citing research outputs, this provides a strong indication that the University is proactive in registering patents from its own research.

As RG8 institutions have larger FTE and annual publication output, it is difficult to compare the number of patents citing research with this peer group. However, when benchmarking against the number of patent-citations per scholarly output (which measures the average patent-citations received by 1,000 scholarly outputs and thus adjusts for the size or publication output of an institution), Queen's compares relatively well against the RG8.

While citations for outputs published in 2013-2016 may not yet have time to come to fruition, QUB's citations per output were close to the RG average for outputs published in 2011-2013 (ranking 6th from 9) and above the RG average for the 2008-2010 (ranking 4th from 9).

Chart 22 – No of patent citations per scholarly output, 2008-2016, QUB and RG8 institutions, 2016-2017

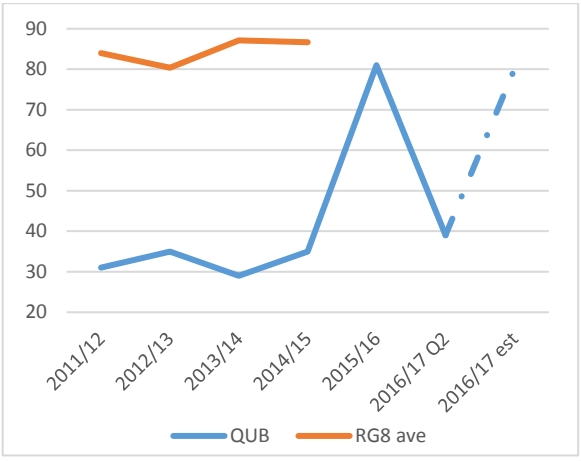


Source: Scopus / SciVal, February 2016

5.4 Invention disclosures

By Q2 2016/17, 39 Invention Disclosures were recorded. With the full year figure estimated to rise to 80, this places the University on track to meet the target of doubling IDF activity (from position during 2011/12 – 2014/15) and reach levels close to the RG8 average.

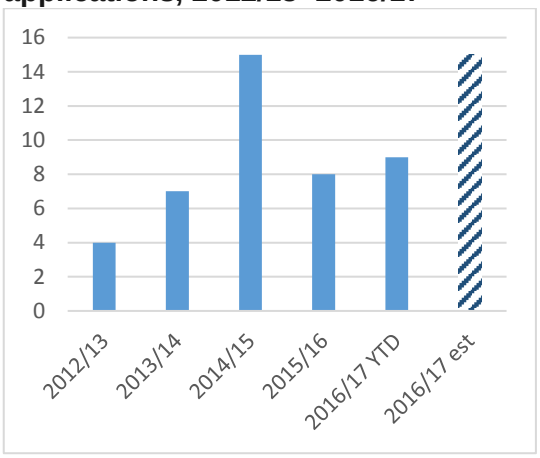
Chart 23 - No of Invention Disclosures QUB and RG8 ave 2010-11 to 2014-15 (2015/16 and 2016/17 Q1 QUB only)



5.5 New patent applications

Nine new patent applications were recorded in Q2 in 2016/17 with estimates for the full year reaching 15. This represents an increase on 2015/16 and on par with the previous four year high registered in 2014/15.

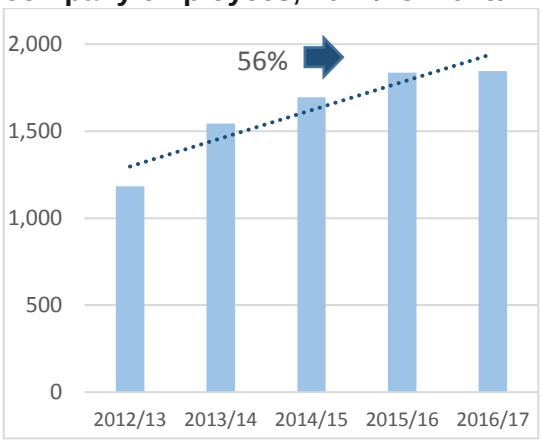
Chart 24 – No of new patent applications, 2012/13 -2016/17



5.6 QUBIS portfolio – employees and companies

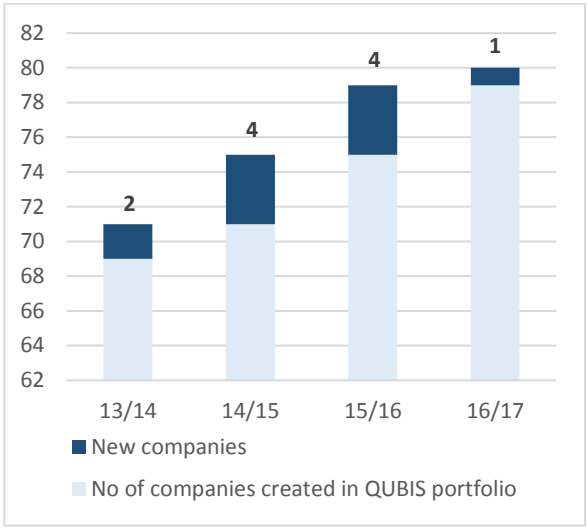
The number of employees of QUBIS spin out companies continues to rise. While many of the employees are linked to one company, Kainos, overall, the number of employees have increased from 1,183 in 2012/13 to 1,846 in 2016/17, a rise of 56%.

Chart 25 – No of QUBIS portfolio company employees, 2012/13 -2016/17



Since its inception in 1984, QUBIS has created 80 companies (with a current active portfolio of 34). While two companies were created in 2012/13, QUBIS has managed to meet its target of doubling the spin outs created during the 2014/15 to 2015-16 period. While only one company has been created in the year to date, QUBIS is on track to meet the target of four for a third year running.

Chart 26 – No of QUBIS portfolio companies, 2012/13 -2016/17



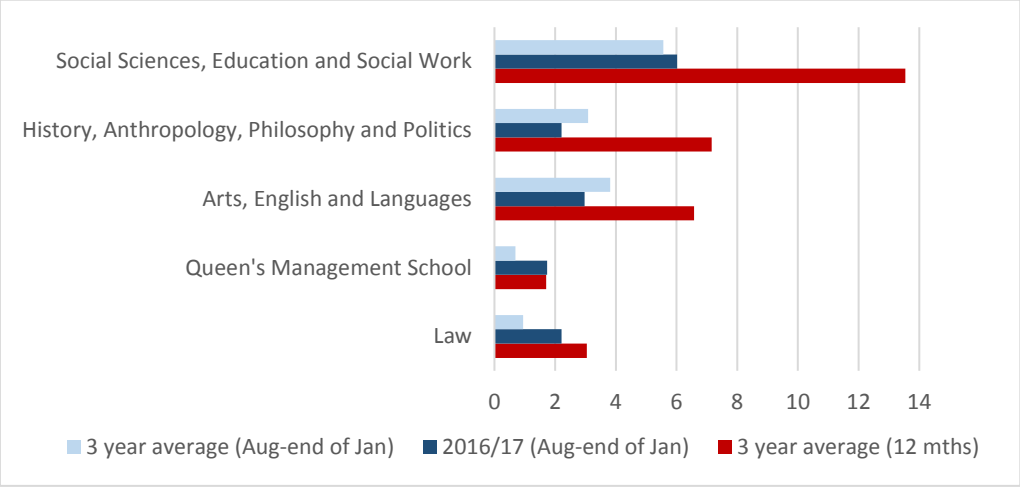
Annex 1

Faculty Charts

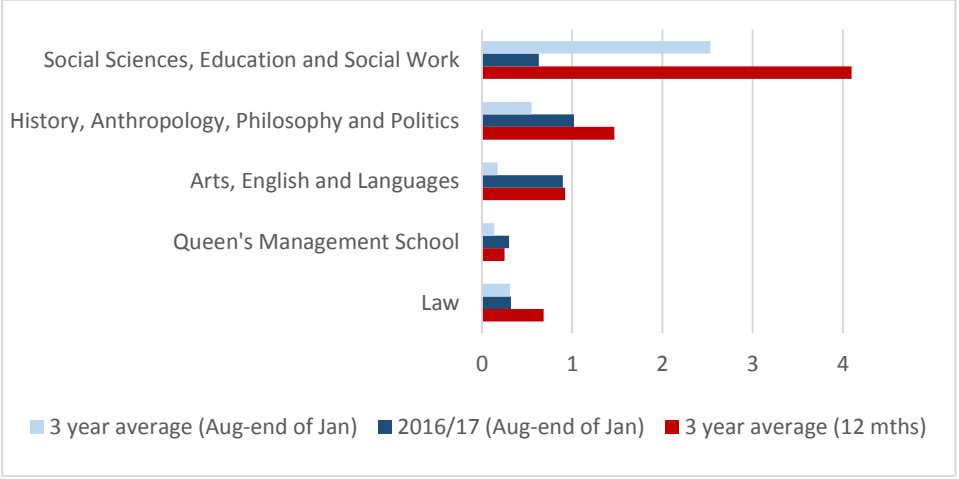
RESEARCH PERFORMANCE

Quarter 2, 2016-17

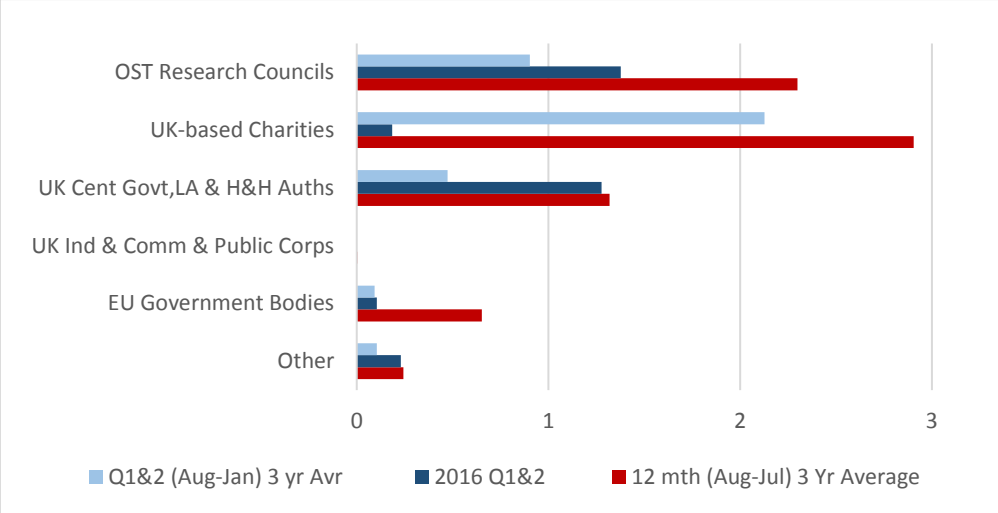
Value of applications (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



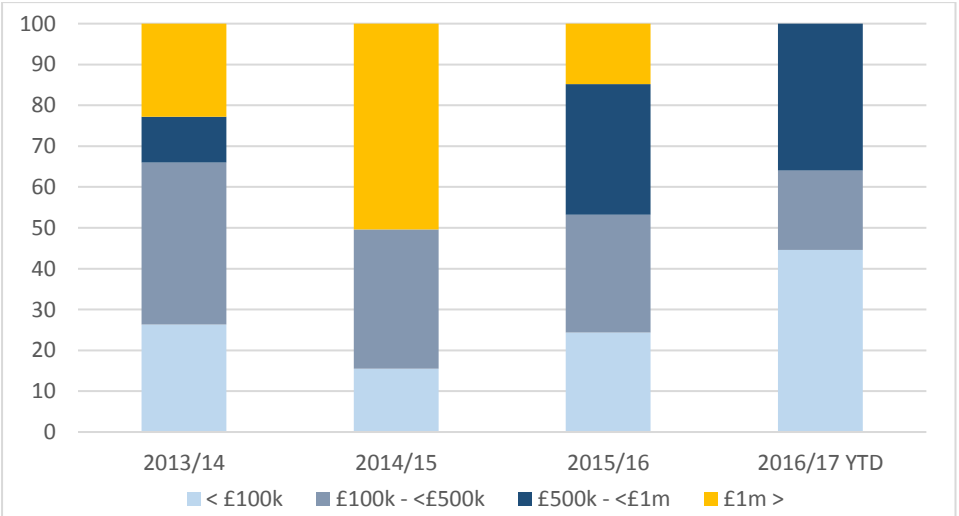
Value of awards (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



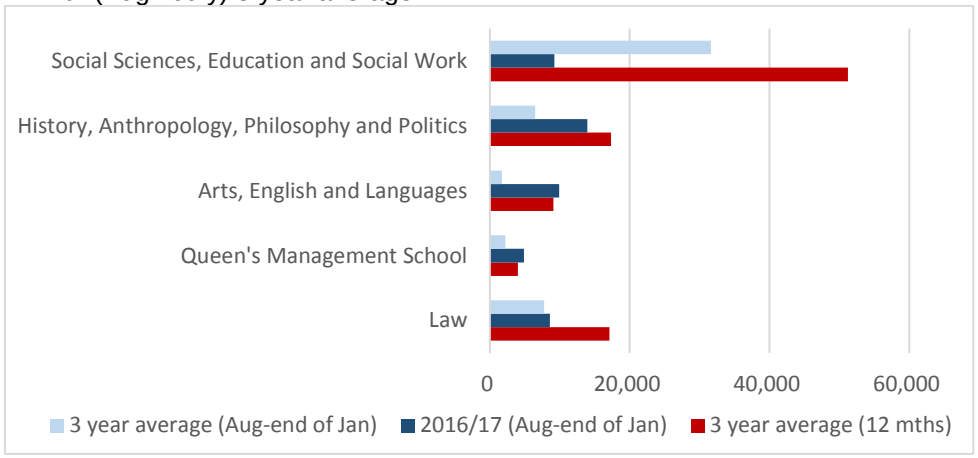
Value of awards (£m) by source of funds Faculty of AHSS, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



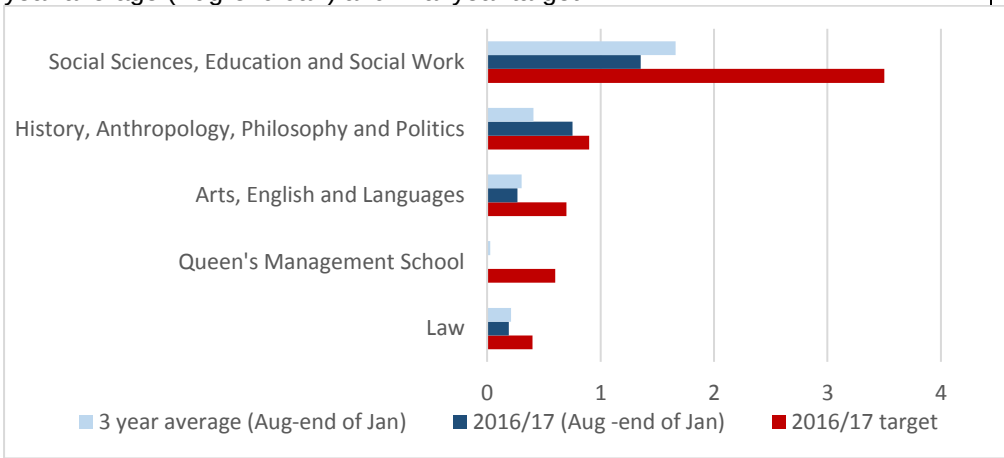
Value of research awards at different thresholds (%), AHSS, 2013/14-2016/17 (end Jan)



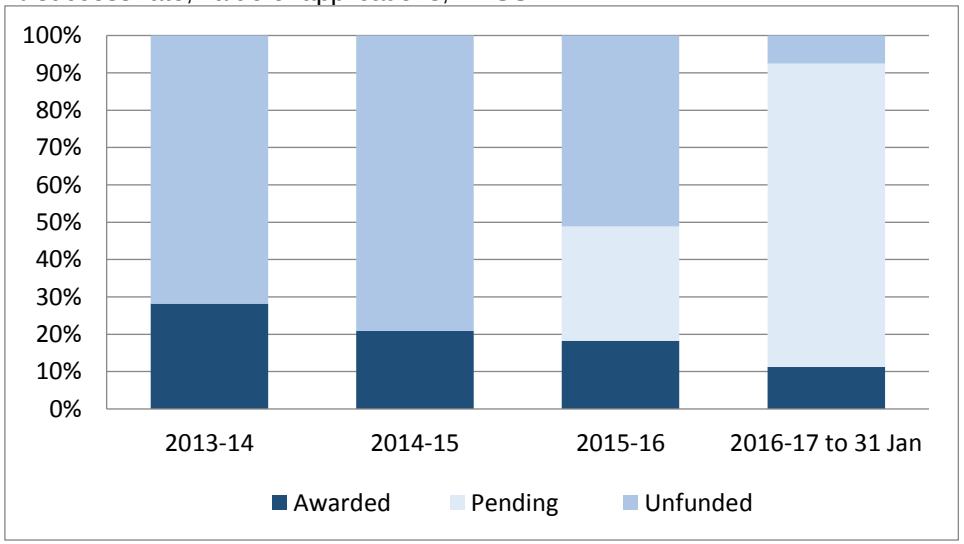
Value of awards per FTE, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



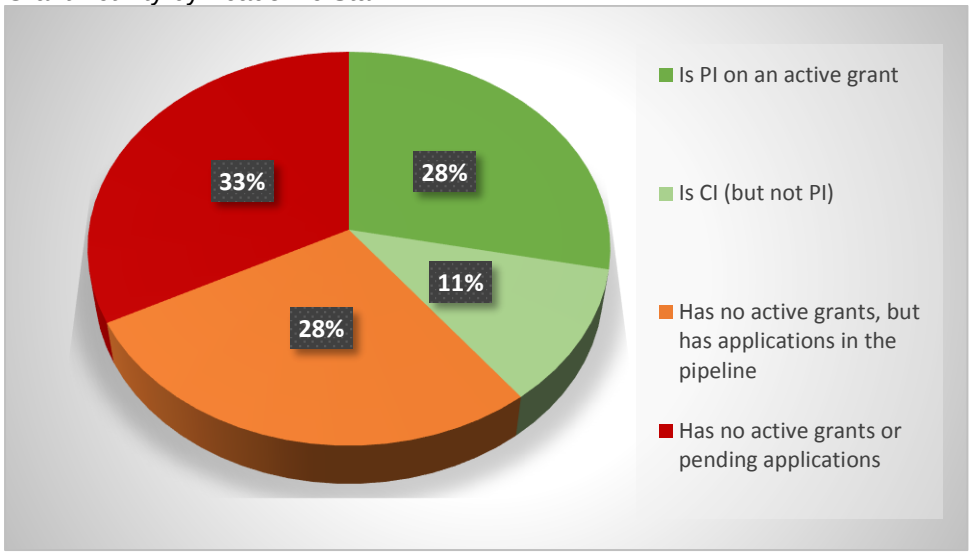
Value of research income (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and final year target



% success rate, value of applications, AHSS

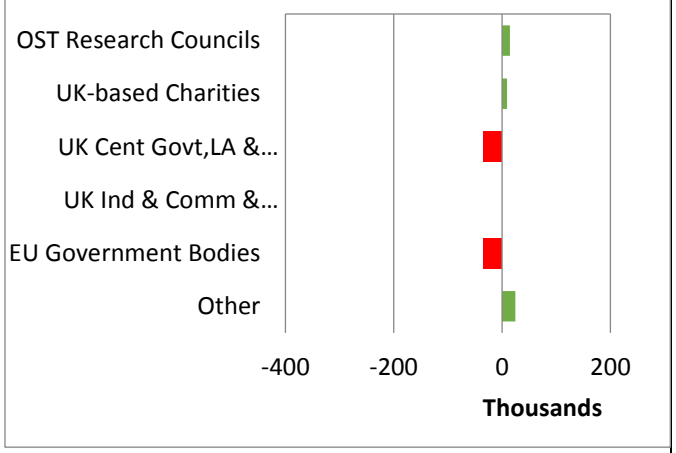


Grant Activity by Academic Staff

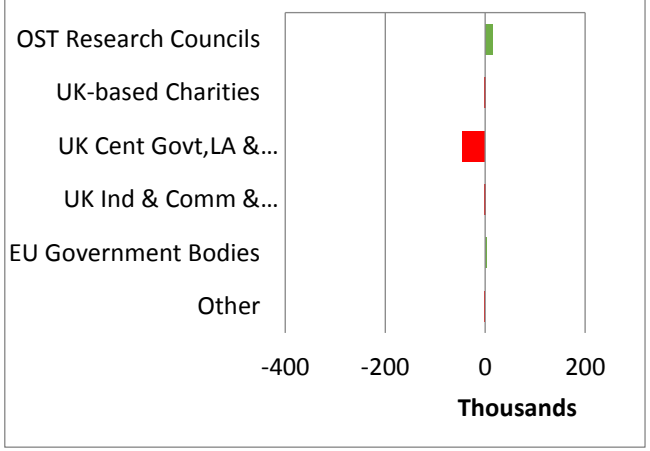


Movement of Research Income (£K) Quarters 1 & 2 2016-17 (Aug – end Jan) set against 3 year Average (Aug – end Jan) by School and Source of Funds.

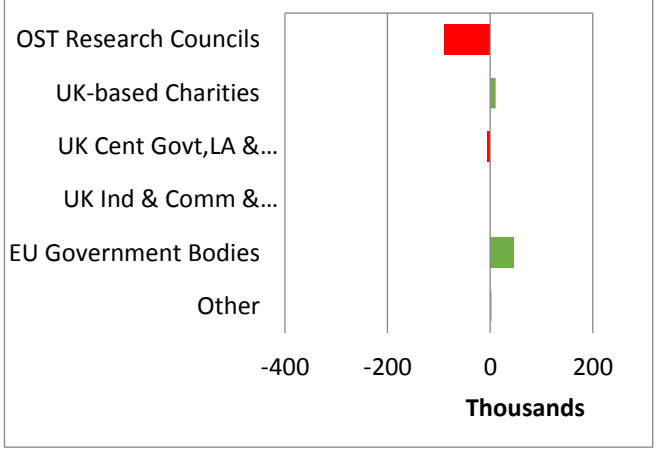
Law



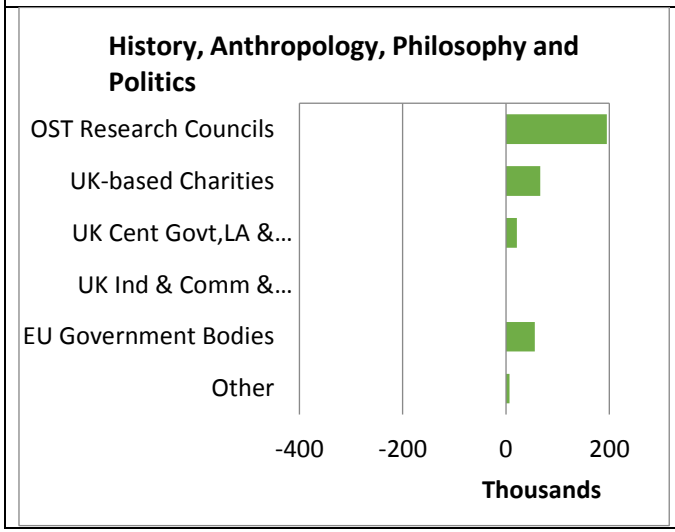
Queen's University Management School



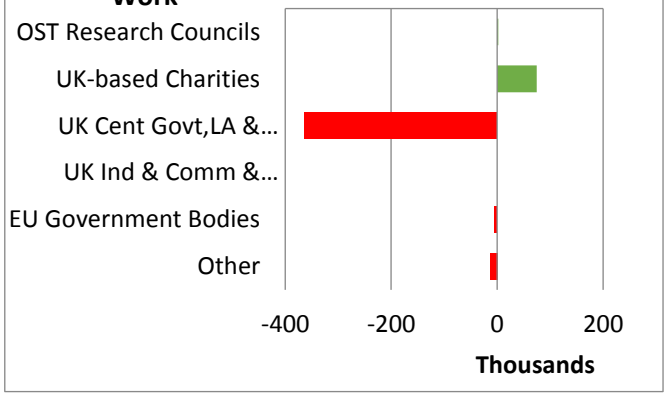
Arts, English and Languages



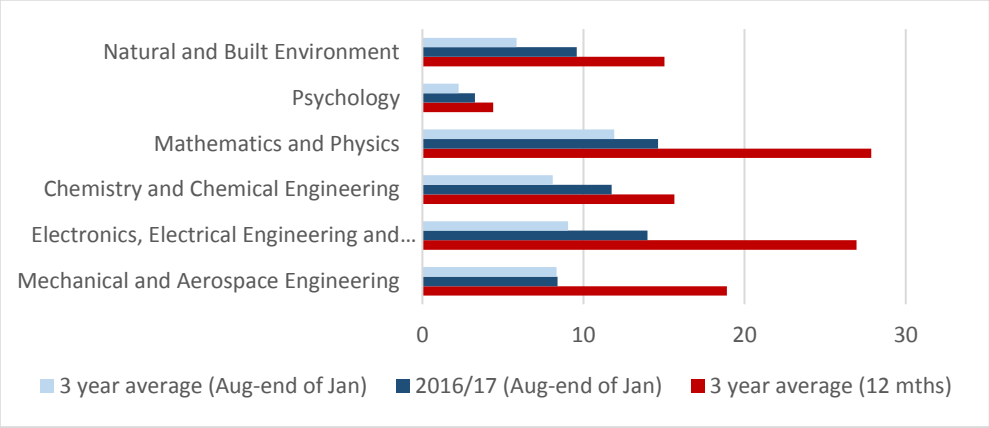
History, Anthropology, Philosophy and Politics



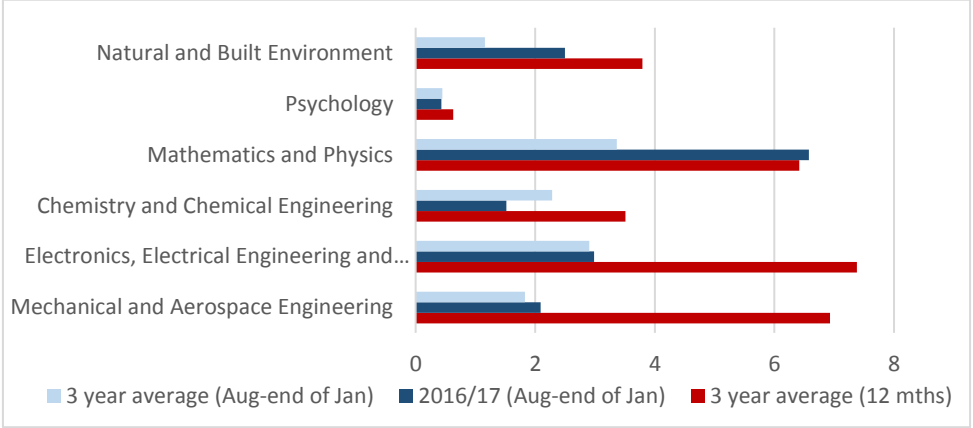
Social Sciences, Education and Social Work



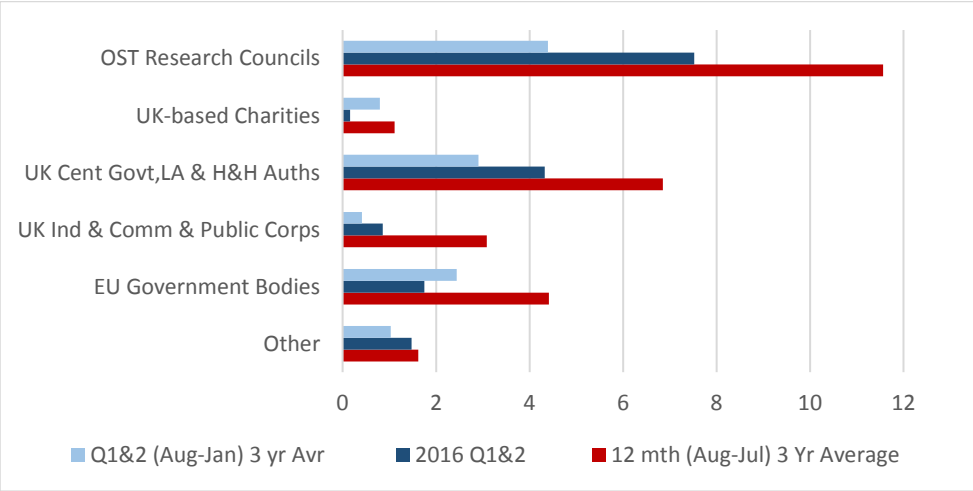
Value of applications (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



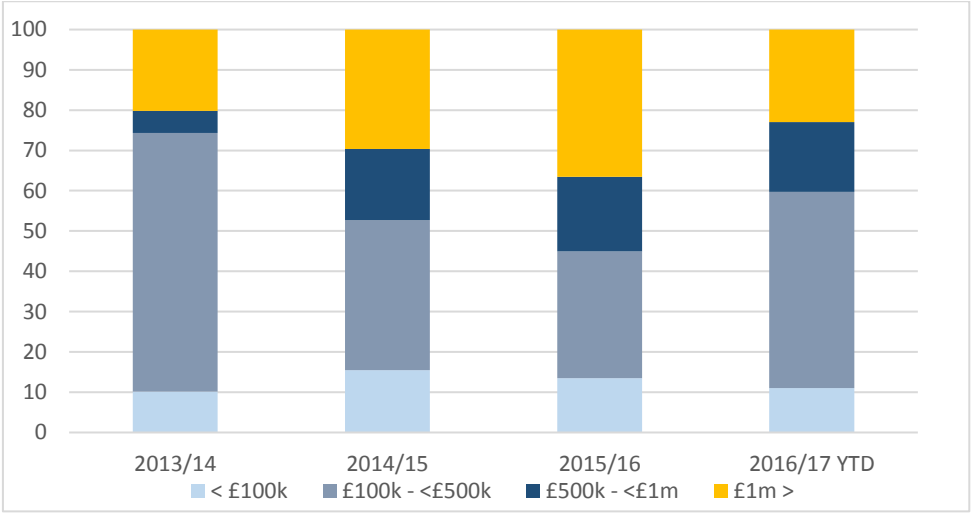
Value of awards (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



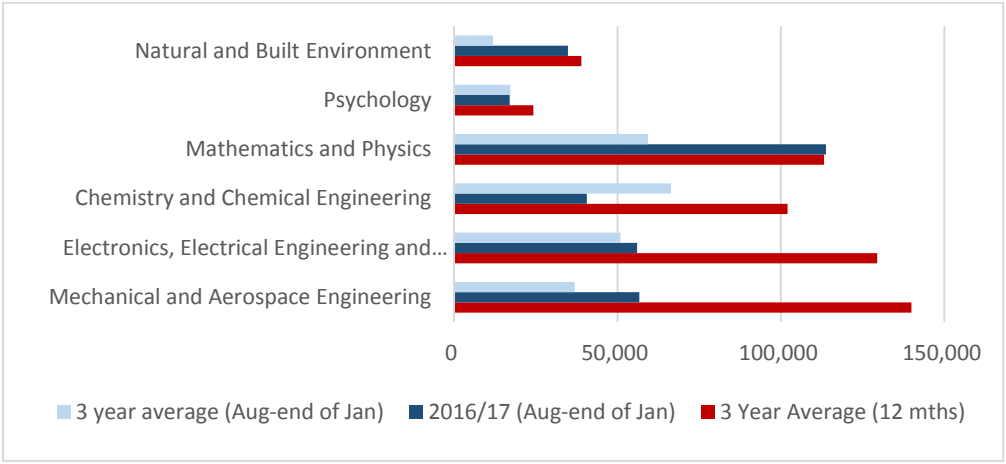
Value of awards (£m) by source of funds Faculty of EPS, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



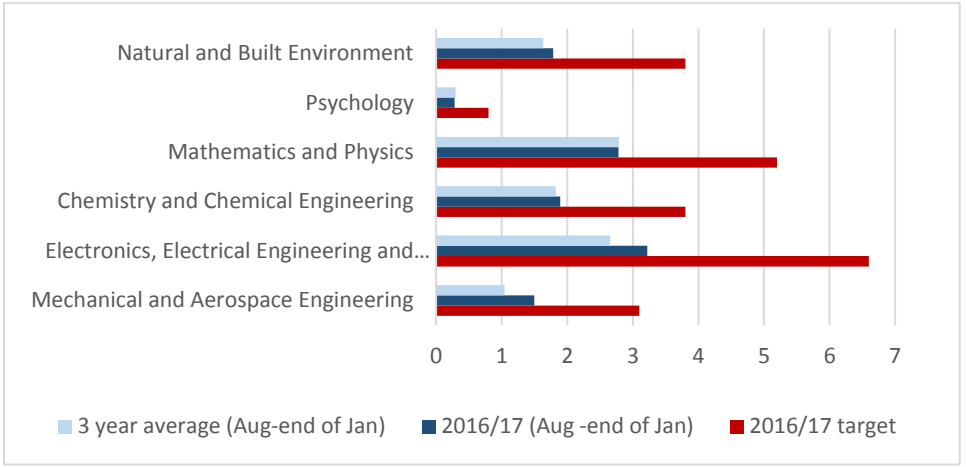
Value of research awards at different thresholds (%), EPS, 2013/14-2016/17 (end Jan)



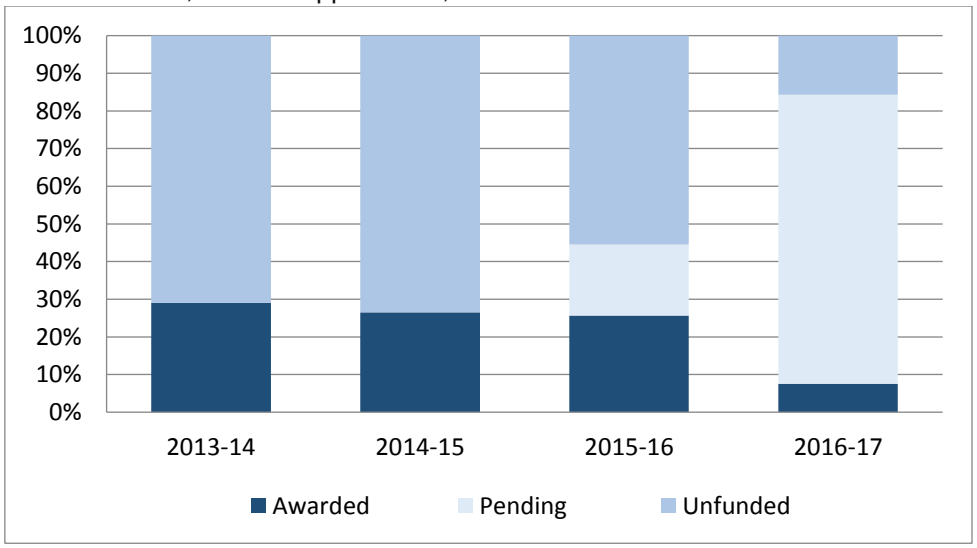
Value of awards per FTE, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



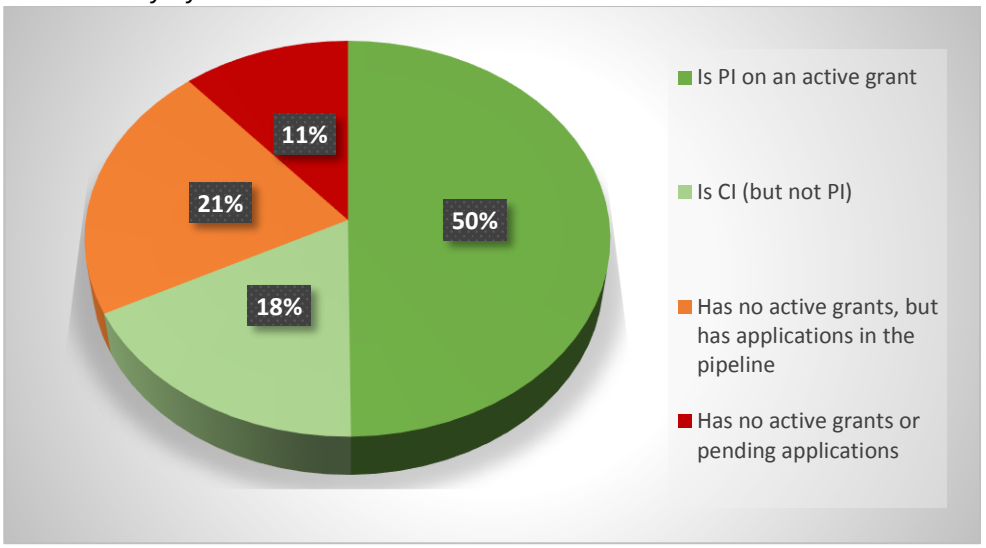
Value of research income (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and final year target



% success rate, value of applications, EPS

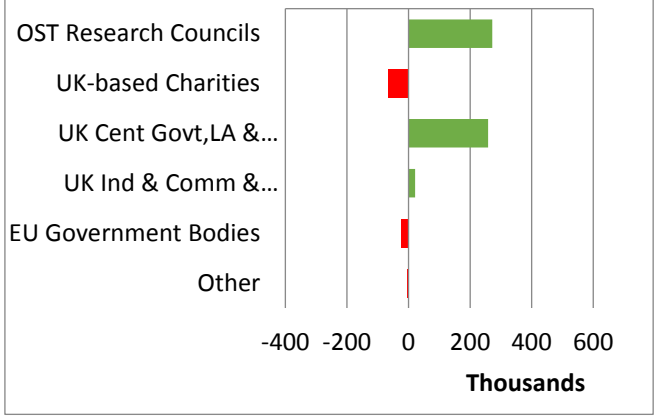


Grant Activity by Academic Staff

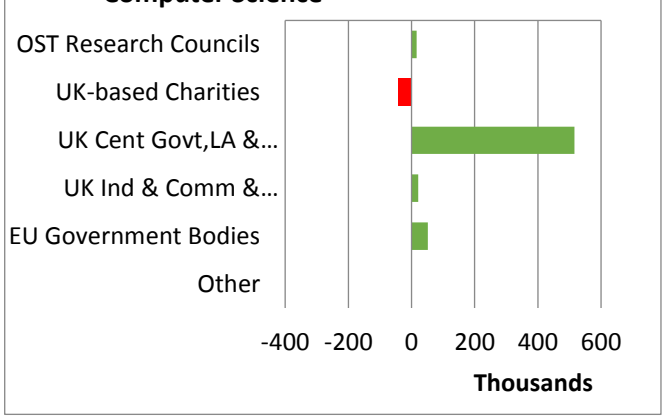


Movement of Research Income (£K) Quarters 1 & 2 2016-17 (Aug – end Jan) set against 3 year Average (Aug – end Jan) by School and Source of Funds.

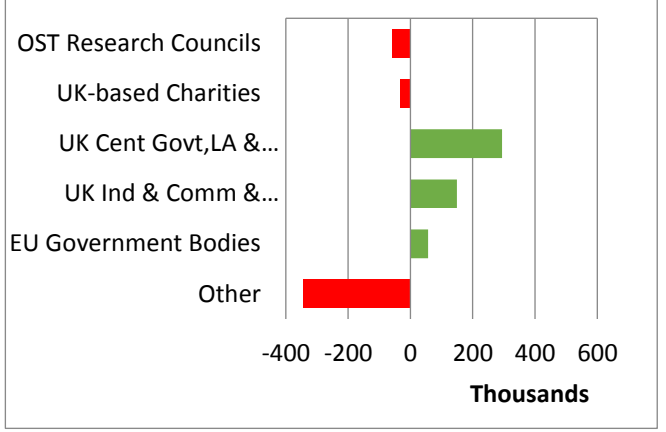
Mechanical and Aerospace Engineering



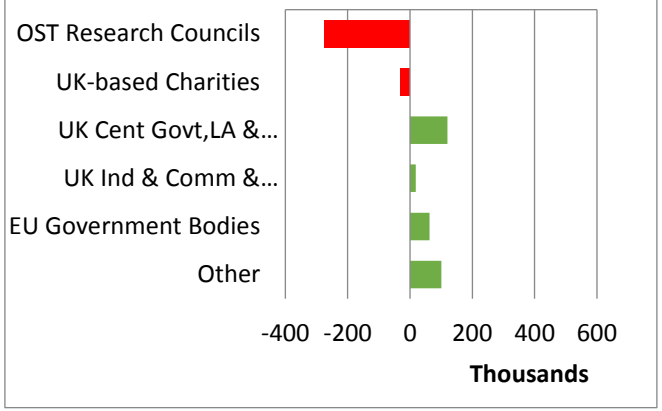
Electronics, Electrical Engineering and Computer Science



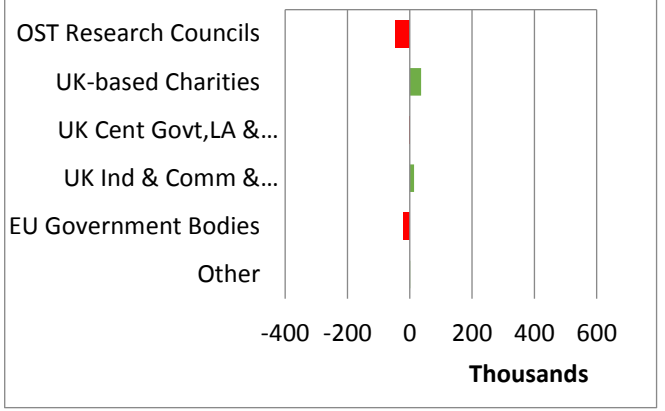
Chemistry and Chemical Engineering



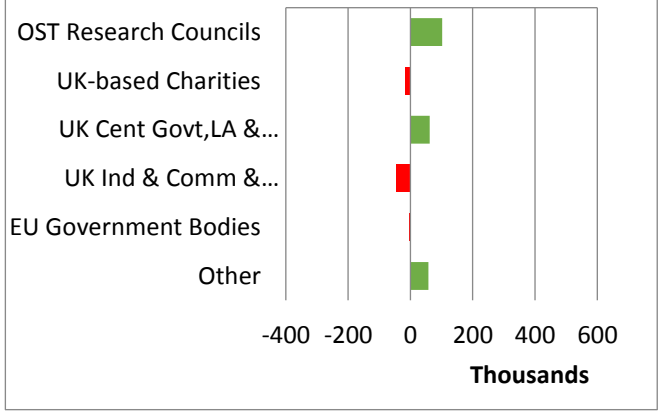
Mathematics and Physics



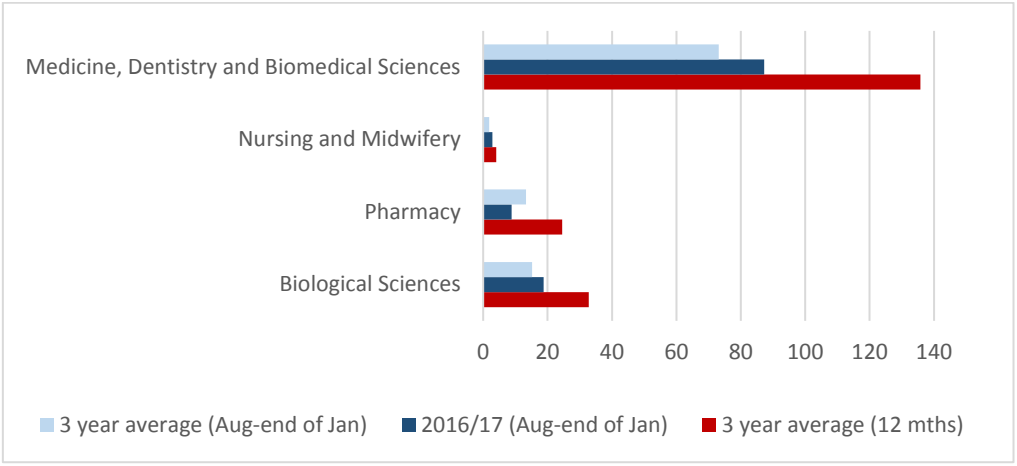
Psychology



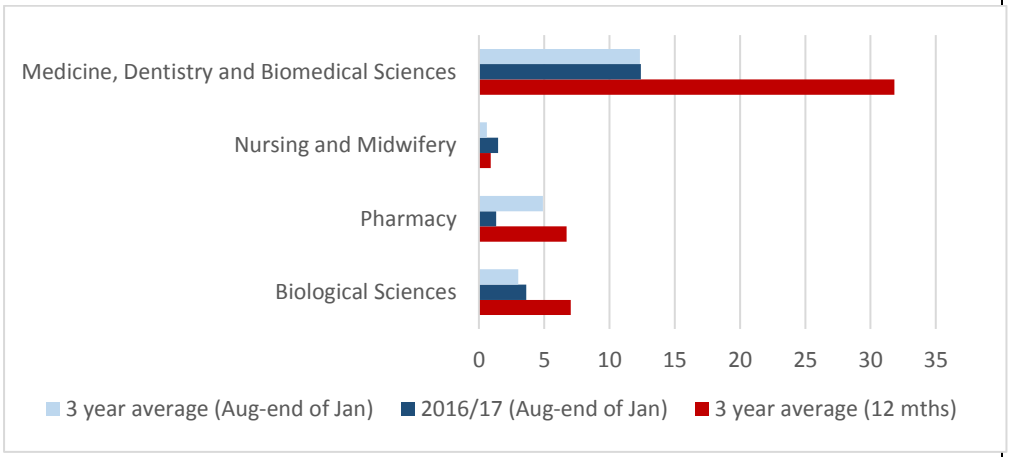
Natural and Built Environment



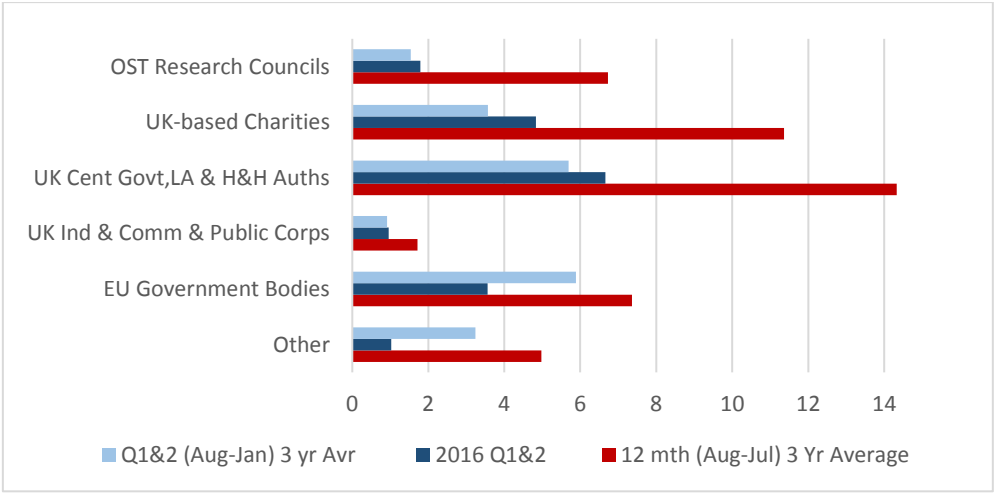
Value of applications (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



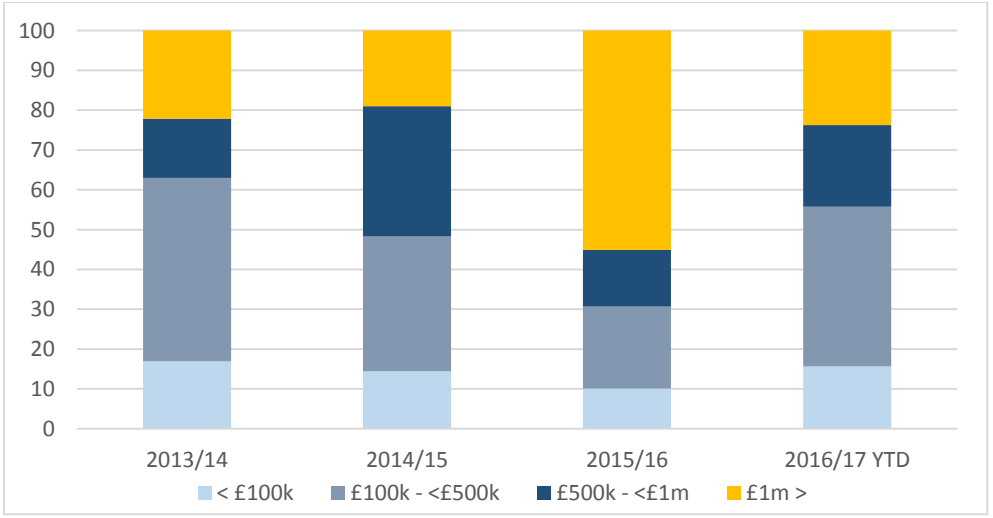
Value of awards (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and 12 mth (Aug –July) 3 year average



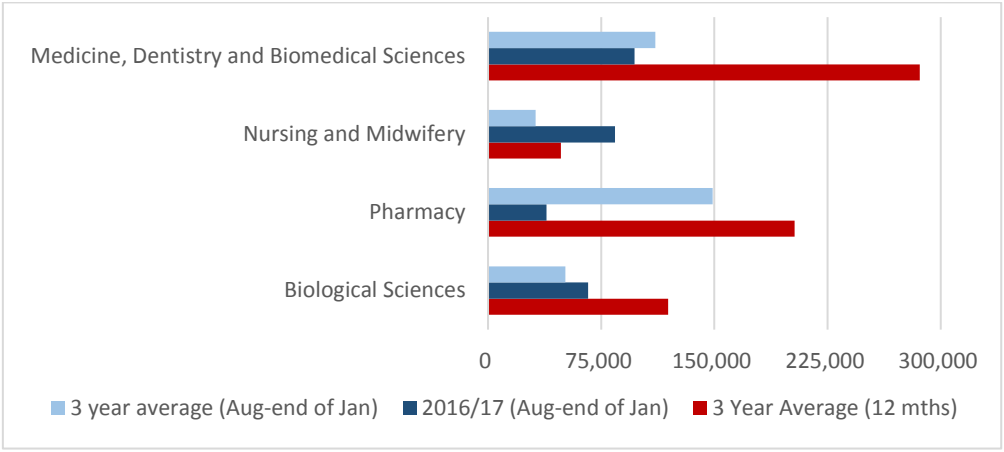
Value of awards (£m) by source of funds Faculty of MHLS, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



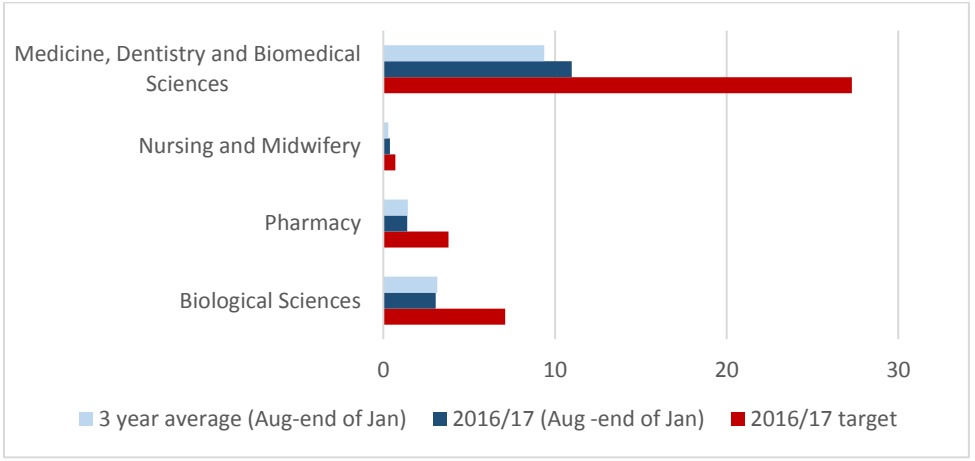
Value of research awards at different thresholds (%), MHLS, 2013/14-2016/17 (end Jan)



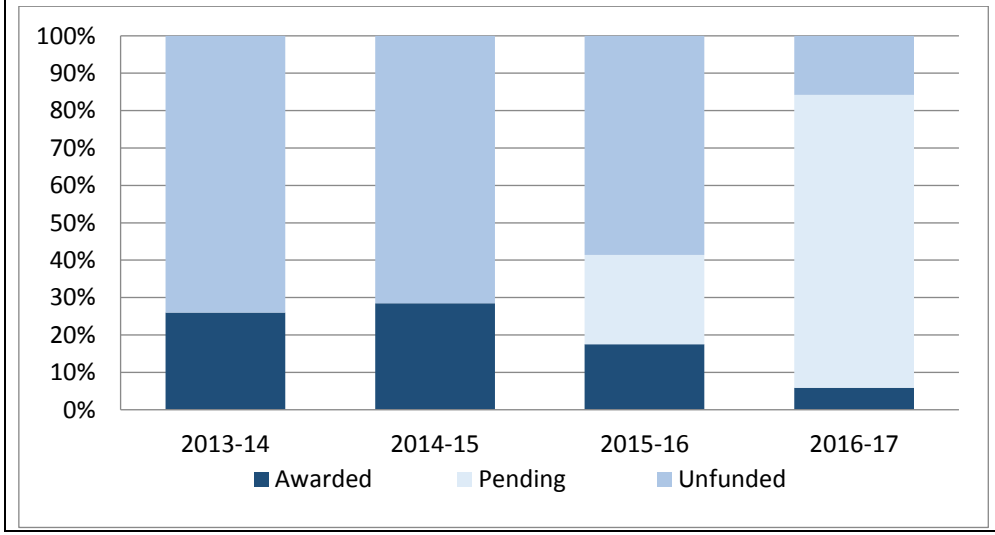
Value of awards per FTE, 2016/17 (Aug-end Jan) set against 6mth (Aug-end Jan) and 12 mth (Aug –July) 3 year average



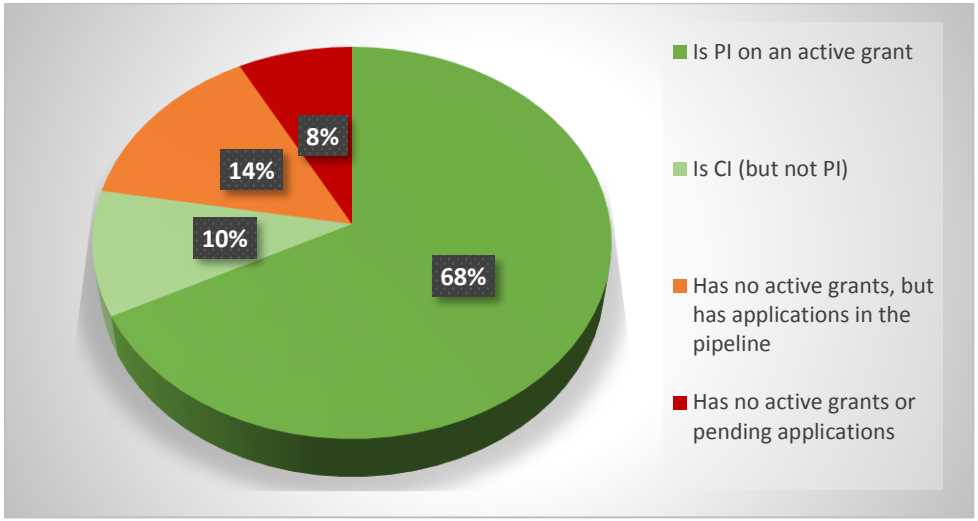
Value of research income (£m) 2016/17 (Aug-end Jan) by School set against 3 year average (Aug-end Jan) and final year target



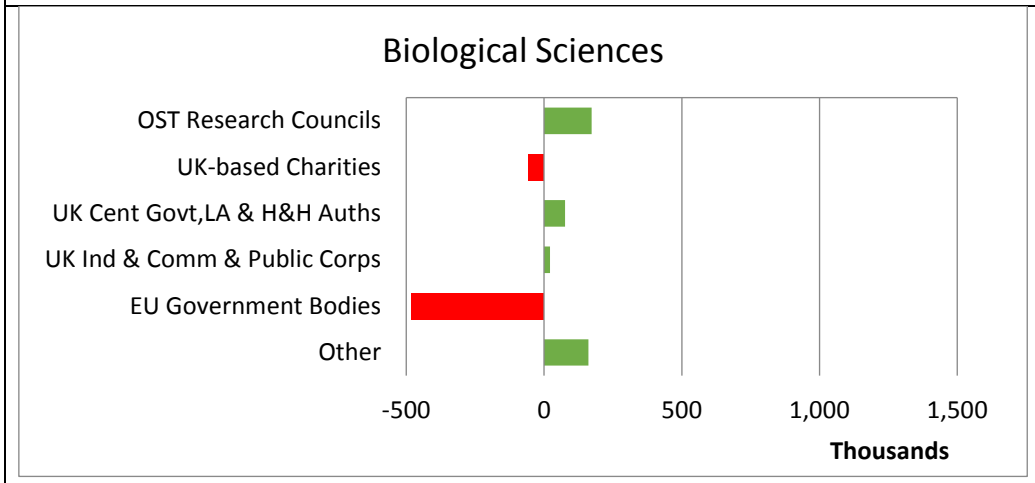
% success rate, value of applications, MHLS

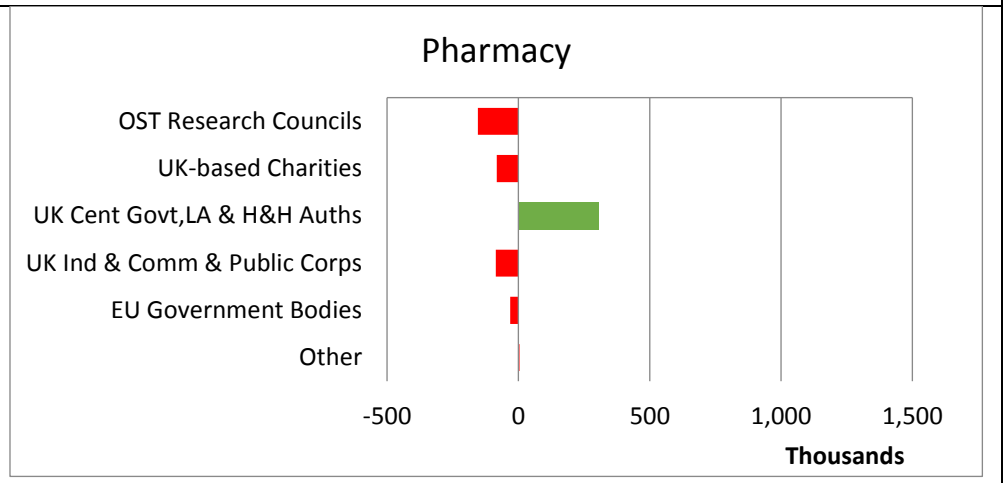


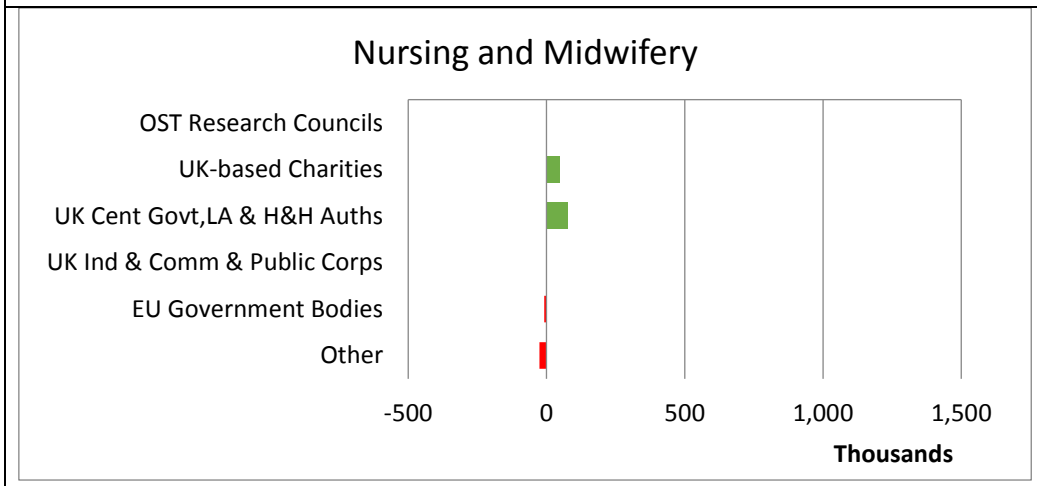
Grant Activity by Academic Staff

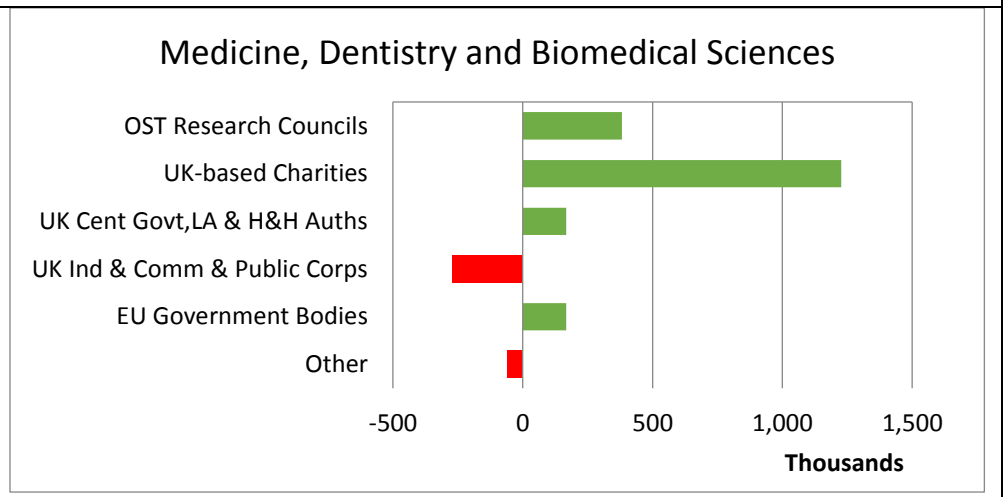


Movement of Research Income (£K) Quarters 1 & 2 2016-17 (Aug – end Jan) set against 3 year Average (Aug – end Jan) by School and Source of Funds.









Annex 2

Data

RESEARCH PERFORMANCE

Quarter 2, 2016-17

Research Grant Applications

Academic/Financial Years and Current Year-to-Date

Annex 2

Faculty/School	2013-14		2014-15		2015-16		2016-17 End Q2 [1 Aug 16 - 31 Jan 17]	
	Number	£	Number	£	Number	£	Number	£
Arts, Humanities & Social Sciences								
Law	23.11	1,847,711	27.38	4,705,394	21.05	2,569,360	18.03	2,210,119
Queen's University Management School	16.05	289,494	19.91	2,597,471	31.40	2,218,041	21.01	1,734,715
Arts, English and Languages	40.88	2,454,512	64.82	10,027,046	58.50	7,246,884	20.65	2,972,143
History, Anthropology, Philosophy and Politics	39.64	2,370,034	64.24	9,246,068	70.75	9,842,669	28.80	2,215,038
Social Sciences, Education and Social Work	101.85	8,646,304	88.48	23,212,722	82.93	8,767,071	44.55	6,023,540
Faculty Total	**221.53**	**15,608,055**	**264.83**	**49,788,701**	**264.63**	**30,644,025**	**133.04**	**15,155,555**
Engineering & Physical Sciences								
Mechanical and Aerospace Engineering	50.20	9,832,269	61.32	12,772,389	68.15	34,079,085	35.13	8,388,461
Electronics, Electrical Engineering & Computer Science	65.50	14,670,989	90.08	38,399,971	107.83	27,756,105	50.82	13,969,024
Chemistry and Chemical Engineering	63.47	15,538,614	80.32	16,730,340	58.88	14,652,346	45.72	11,735,894
Mathematics & Physics	67.49	23,715,485	87.97	28,824,405	113.81	31,021,654	48.25	14,631,993
Behavioural Sciences	34.36	4,260,190	35.69	4,142,920	33.99	4,659,806	19.10	3,266,675
Natural and Built Environment	84.98	12,105,033	100.98	15,482,187	141.15	17,502,429	61.88	9,571,335
Faculty Total	**366.00**	**80,122,580**	**456.36**	**116,352,212**	**523.81**	**129,671,425**	**260.90**	**61,563,382**
Medicine, Health & Life Sciences								
Biological Sciences	161.73	28,642,591	163.69	37,539,411	151.10	32,096,027	86.32	18,756,705
Pharmacy	107.53	18,312,084	121.41	33,677,153	110.86	21,160,278	50.70	8,875,957
Nursing & Midwifery	27.20	2,696,185	30.84	3,485,993	44.16	5,853,114	19.36	2,895,024
Medicine, Dentistry & Biomedical Sciences	432.01	119,234,387	416.87	127,648,272	428.44	161,119,441	198.68	87,293,894
Faculty Total	**728.47**	**168,885,247**	**732.81**	**202,350,829**	**734.56**	**220,228,860**	**355.06**	**117,821,580**
University Total	**1,316.00**	**264,615,882**	**1,454.00**	**368,491,742**	**1,523.00**	**380,544,310**	**749.00**	**194,540,517**

Research Grants Awarded

Academic/Financial Years and Current Year-to-Date

Annex 2

Faculty/School	2013-14		2014-15		2015-16		2016-17 End Q2 [1 Aug 16 - 31 Jan 17]	
	Number	£	Number	£	Number	£	Number	£
Arts, Humanities & Social Sciences								
Law	8.95	505,004	11.44	717,979	7.47	827,995	8.00	322,503
Queen's University Management School	7.80	208,984	3.00	36,952	10.98	505,808	8.65	301,784
Arts, English and Languages	18.95	978,176	13.90	944,836	12.75	842,673	6.90	897,965
History, Anthropology, Philosophy and Politics	14.42	962,302	19.22	1,560,645	26.04	1,876,999	13.35	1,021,940
Social Sciences, Education and Social Work	52.77	4,705,641	48.34	4,746,039	42.61	2,838,696	18.80	630,470
	102.89	**7,360,107**	**95.90**	**8,006,451**	**99.85**	**6,892,171**	**55.70**	**3,174,662**
Engineering & Physical Sciences								
Mechanical and Aerospace Engineering	24.16	3,006,137	30.48	4,254,692	28.05	13,521,120	12.96	2,090,374
Electronics, Electrical Engineering & Computer Science	29.27	4,464,869	35.56	12,233,615	34.85	5,434,747	20.02	2,986,284
Chemistry and Chemical Engineering	29.19	4,261,182	34.98	4,939,637	14.90	1,332,250	13.10	1,517,856
Mathematics & Physics	37.75	8,786,672	39.19	6,754,041	36.00	3,712,858	20.50	6,574,765
Behavioural Sciences	8.48	477,795	9.35	443,487	10.70	962,524	3.00	428,440
Natural and Built Environment	33.85	4,554,826	38.55	2,724,292	55.40	4,099,479	21.37	2,498,962
	162.70	**25,551,481**	**188.11**	**31,349,764**	**179.90**	**29,062,978**	**90.95**	**16,096,681**
Medicine, Health & Life Sciences								
Biological Sciences	76.36	6,919,073	68.87	8,420,420	43.40	5,734,044	24.78	3,633,690
Pharmacy	56.53	3,820,499	46.95	4,152,589	50.93	11,969,335	24.17	1,315,948
Nursing & Midwifery	12.79	1,468,856	7.10	307,318	19.99	971,027	10.66	1,479,189
Medicine, Dentistry & Biomedical Sciences	174.73	25,894,826	142.07	26,161,906	144.93	43,619,245	75.74	12,396,163
	320.41	**38,103,254**	**264.99**	**39,042,233**	**259.25**	**62,293,651**	**135.35**	**18,824,990**
University Total	**586.00**	**71,014,842**	**549.00**	**78,398,448**	**539.00**	**98,248,800**	**282.00**	**38,096,333**

Research Income

Academic/Financial Years and Current Year-to-Date

Annex 2

Faculty/School	2013-14					2014-15					2015-16					End Q2 2016-17 [1 Aug 16 - 31 Jan 17]				
	RCUK	UK Charities	Framework & H2020	Other	Total	RCUK	UK Charities	Framework & H2020	Other	Total	RCUK	UK Charities	Framework & H2020	Other	Total	RCUK	UK Charities	Framework & H2020	Other	Total
	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Arts, Humanities and Social Sciences																				
Law	243,045	69,619		105,621	418,285	235,006	21,323		169,521	425,850	188,236	52,758	62,925	140,907	444,826	134,205	29,345	-26,813	53,955	190,692
Queen's University Management School	-613	6,858	81	44,342	50,668	51,694	2,771	9,862	20,263	84,590	20,128		423	133,983	154,535	24,463		9,574	-40,777	-6,740
Arts, English and Languages	315,294	105,875	20,816	14,124	456,108	599,094	55,179	24,465	43,988	722,727	544,436	61,749	114,056	89,569	809,810	149,452	42,285	66,275	9,798	267,809
History, Anthropology, Philosophy and Politics	479,844	42,488	87,236	90,367	699,935	514,055	63,104	136,110	194,794	908,062	470,961	133,729	102,214	221,179	928,082	455,259	104,589	108,695	85,036	753,580
Social Sciences, Education and Social Work	550,333	1,266,791	-2,180	2,243,787	4,058,731	490,456	1,408,653		1,352,102	3,251,211	271,833	1,237,783		1,131,143	2,640,759	179,941	711,087		464,113	1,355,141
	1,587,903	**1,491,630**	**105,953**	**2,498,241**	**5,683,727**	**1,890,304**	**1,551,031**	**170,436**	**1,780,668**	**5,392,440**	**1,495,595**	**1,486,019**	**279,617**	**1,716,781**	**4,978,012**	**943,320**	**887,306**	**157,732**	**572,124**	**2,560,481**
Engineering and Physical Sciences																				
Mechanical and Aerospace Engineering	209,049	179,673	166,441	852,730	1,407,892	72,897	168,059	270,210	1,385,096	1,896,263	428,634	178,601	320,855	2,159,994	3,088,084	374,849	23,510	136,055	961,320	1,495,734
Electronics, Electrical Engineering & Computer Sci	2,834,470	283,145	806,044	1,327,287	5,250,945	2,411,073	220,719	1,155,745	1,661,477	5,449,014	3,025,795	183,278	1,448,699	1,687,776	6,345,548	1,307,581	56,167	714,568	1,140,893	3,219,209
Chemistry and Chemical Engineering	1,314,646	43,982	616,896	2,167,271	4,142,795	886,798	213,562	512,990	1,825,141	3,438,491	906,304	229,195	755,598	1,527,568	3,418,665	488,234	70,292	390,830	942,141	1,891,497
Mathematics and Physics	3,035,711	168,576	893,518	688,015	4,785,820	3,395,566	242,063	901,432	725,019	5,264,080	5,307,148	158,672	955,829	995,442	7,417,091	1,654,600	60,628	455,857	611,101	2,782,186
Behavioural Sciences	342,249	26,356	171,414	136,218	676,237	431,808	73,963	17,472	82,829	606,072	276,269	192,078	40,029	67,114	575,490	138,434	71,842	2,663	66,384	279,323
Natural and Built Environment	747,512	137,995	494,792	1,955,331	3,335,630	958,226	218,668	765,710	1,260,447	3,203,051	1,100,262	333,917	505,915	1,018,270	2,958,365	590,516	99,858	388,285	708,536	1,787,194
	8,483,636	**839,727**	**3,149,104**	**7,126,851**	**19,599,319**	**8,156,368**	**1,137,032**	**3,623,561**	**6,940,010**	**19,856,971**	**11,044,413**	**1,275,740**	**4,026,925**	**7,456,165**	**23,803,243**	**4,554,213**	**382,297**	**2,088,257**	**4,430,375**	**11,455,143**
Medicine Health and Life Sciences																				
Biological Sciences	796,014	389,105	1,014,099	4,296,401	6,495,619	964,262	470,714	1,099,475	3,461,558	5,996,010	1,248,189	326,126	1,154,708	3,184,189	5,913,212	636,064	171,167	514,227	1,723,593	3,045,051
Pharmacy	723,656	357,327	11,773	1,662,967	2,755,723	953,271	479,727	2,721	1,960,502	3,396,221	388,269	459,753	-4,936	2,319,924	3,163,011	154,878	119,061		1,118,429	1,392,369
Nursing and Midwifery	746	58,118	55,621	561,728	676,213	0	19,568	21,390	596,016	636,974		10,327	91	759,495	769,913		65,044	7,206	311,028	383,277
Medicine, Dentistry & Biomedical Sciences	2,888,168	8,195,761	1,156,806	7,982,551	20,223,286	3,728,026	7,549,741	1,116,299	7,980,795	20,374,861	5,992,452	8,508,028	1,634,985	8,472,728	24,608,193	1,874,197	4,855,980	722,425	3,527,903	10,980,506
	4,408,584	**9,000,310**	**2,238,299**	**14,503,647**	**30,150,840**	**5,645,558**	**8,519,750**	**2,239,886**	**13,998,871**	**30,404,065**	**7,628,910**	**9,304,234**	**2,784,848**	**14,736,336**	**34,454,329**	**2,665,140**	**5,211,252**	**1,243,858**	**6,680,953**	**15,801,203**
Other																				
Research & Enterprise											9,128			0	9,128	10,489			0	10,489
University General				177	177				-1	-1				867	867				1,577	1,577
	0	**0**	**0**	**177**	177	**0**	**0**	**0**	**-1**	-1	**9,128**	**0**	**0**	**867**	9,995	**10,489**	**0**	**0**	**1,577**	12,066
University Total	**14,480,123**	**11,331,668**	**5,493,356**	**24,128,916**	**55,434,063**	**15,692,231**	**11,207,812**	**6,033,883**	**22,719,548**	**55,653,475**	**20,178,046**	**12,065,994**	**7,091,390**	**23,910,149**	**63,245,579**	**8,173,162**	**6,480,854**	**3,489,847**	**11,685,029**	**29,828,893**