

Proposal quality

February 2017

This analysis summarises key information on the quality of proposals being submitted to ESRC.

We are sharing it externally to invite comment, discussion and further analysis. Our aim is to use its conclusions to help us to work effectively with Research Organisations on future demand management and research strategy.

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If you have any questions or comments about this analysis please contact the head of ESRC’s Insights team, alex.hulkes@esrc.ac.uk, or telephone 01793 413039.

Key findings

More than 50 per cent of the proposals received by ESRC are not fundable. This has been the case for some time, though demand management measures have improved proposal quality recently.

We fund about half of all the proposals we receive that are fundable (in other words the 'conversion rate' for fundable proposals is about 50 per cent) though this proportion has declined in the last two years.

The ability to produce a fundable proposal, as described by the fundability rate, varies across Research Organisations. Some are consistent higher-performers, others are less competitive. An ability to produce fundable proposals more consistently than average is not often associated with a high overall success rate.

Submission volume and proposal quality seem to be positively related, but determination of the direction or nature of the relationship requires further investigation.

Proposal outcomes

Every proposal that a Research Organisation submits to ESRC will ultimately fall into one of five¹ decision categories:

- **Funded** – Exactly what it says. A grant is offered to an RO, though for one reason or another they may not actually accept the offer.
- **Fundable** – Based on peer review advice the proposal is considered good enough to support but insufficient funds are available to do so. The definition of ‘fundability’ is not fixed across Research Councils so it is not possible to compare outcomes across Councils directly.
- **Unfundable** – The reviewers of the proposal are sufficiently supportive for it to be worth sending the proposal to a grant panel for a decision, but that panel ultimately decides that the proposal cannot be supported. A judgement that a proposal should not be funded even if the necessary funding subsequently becomes available is implicit in this category.
- **Review reject** – The proposal’s reviews are not supportive enough for it to be sent to a panel for a decision. This decision rests on the likelihood of a proposal with that level of support ultimately being recommended for funding. It is made by the team processing the proposal in ESRC, reflects our understanding of the level of support necessary to be competitive for funding and tends to be conservative. If there is doubt, the proposal is assessed by a panel.
- **Office reject** – The proposal is not suitable for peer review for some reason and is inherently unfundable in some way². There are many reasons why this may be the outcome, for example: the proposal is out of remit; the proposal does not describe research, training or KE in the sense used by ESRC; it has been submitted in error in some way (eg to the wrong scheme); there is insufficient content for peer review to make a judgement.

The proportions of decisions in each category vary (Figure 1.)

¹ A sixth proposal outcome – ‘RO withdrawn’ – is possible. ‘RO Withdrawn’ indicates that the RO has decided, before peer review has started, that it does not want the proposal to be considered further. This is not an ESRC decision and so RO withdrawals will not be included in this analysis. They are quite rare.

² If you are unsure about suitability for funding please check our website at <http://www.esrc.ac.uk/funding/guidance-for-applicants/is-my-research-suitable-for-esrc-funding/>

Rejections before panel are now quite rare, and judgements of unfundability at panel are becoming more common

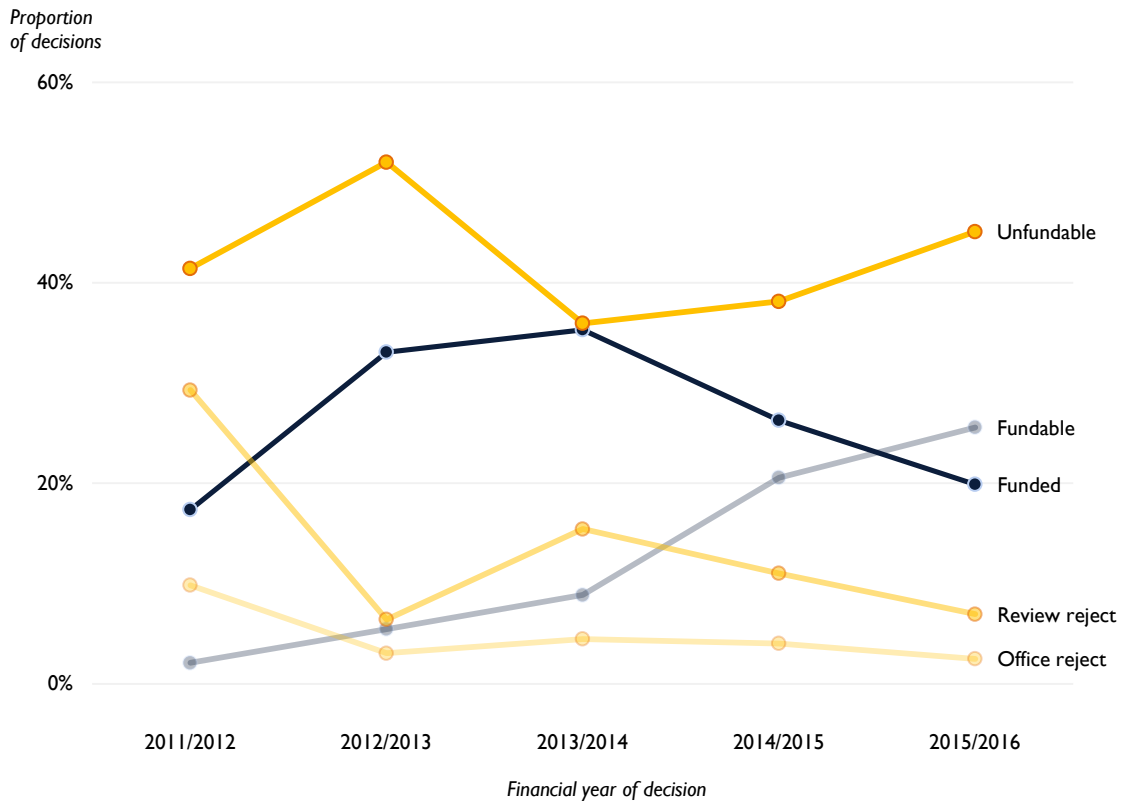


Figure 1: proportions of decisions in each of the five categories over the last five financial years. Data relate to decisions made in that year for research grant and Fellowship proposals submitted after the introduction of demand management only.

Key points:

- The most common decision category in any year is always ‘Unfundable’.
- The increase in the proportion of proposals judged ‘Unfundable’ in 2012/2013 is likely to be due, in part at least, to the decrease in ‘Review reject’ decisions. In fact these two decision categories tend to be inversely related. It may be that the recent increase in the proportion of ‘Unfundable’ proposals is also in part down to a decrease in ‘Review rejects’.
- The recent decrease in success rates is apparent in the trend of ‘Fundable’ and ‘Funded’ decisions. We are unable to fund as many projects as we used to.
- Review and office rejects combined now account for around 10% of decisions. Around 90 per cent of proposals are evaluated by an assessment panel, and this proportion has been increasing recently.

While the detail is interesting, in terms of understanding the system it is helpful and simpler to combine the ‘Unfundable’, ‘Review reject’ and ‘Office reject’ categories into an overall unfundable category. From here on, unfundable refers to the combined total of all three categories.

The introduction of demand management in 2011 reduced the volume of unfundable submissions and increased the proportion of those which are fundable to around 50% of the total (Figure 2):

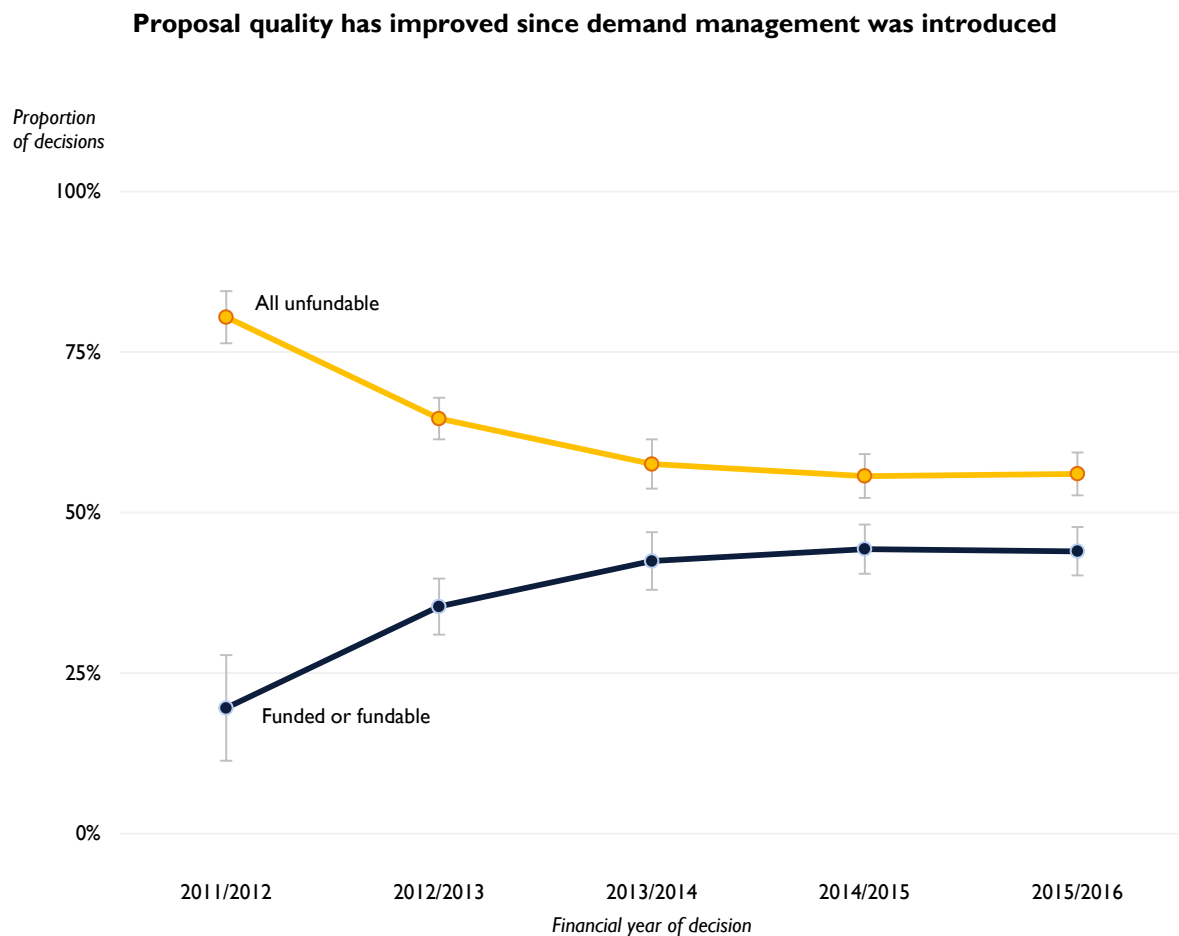


Figure 2: proportions of decisions indicating a ‘fundable’ (decisions of funded or fundable) or ‘unfundable’ (decisions of unfundable, review reject, office reject) proposal for decisions made on grants submitted following the introduction of demand management. Data relate to research grants and Fellowships only. Error bars are 95% confidence intervals.

As time progresses and average grant sizes have increased, the proportion of proposals which are rated as fundable overall and which are actually funded has declined (Figure 3). This is the 'conversion rate':

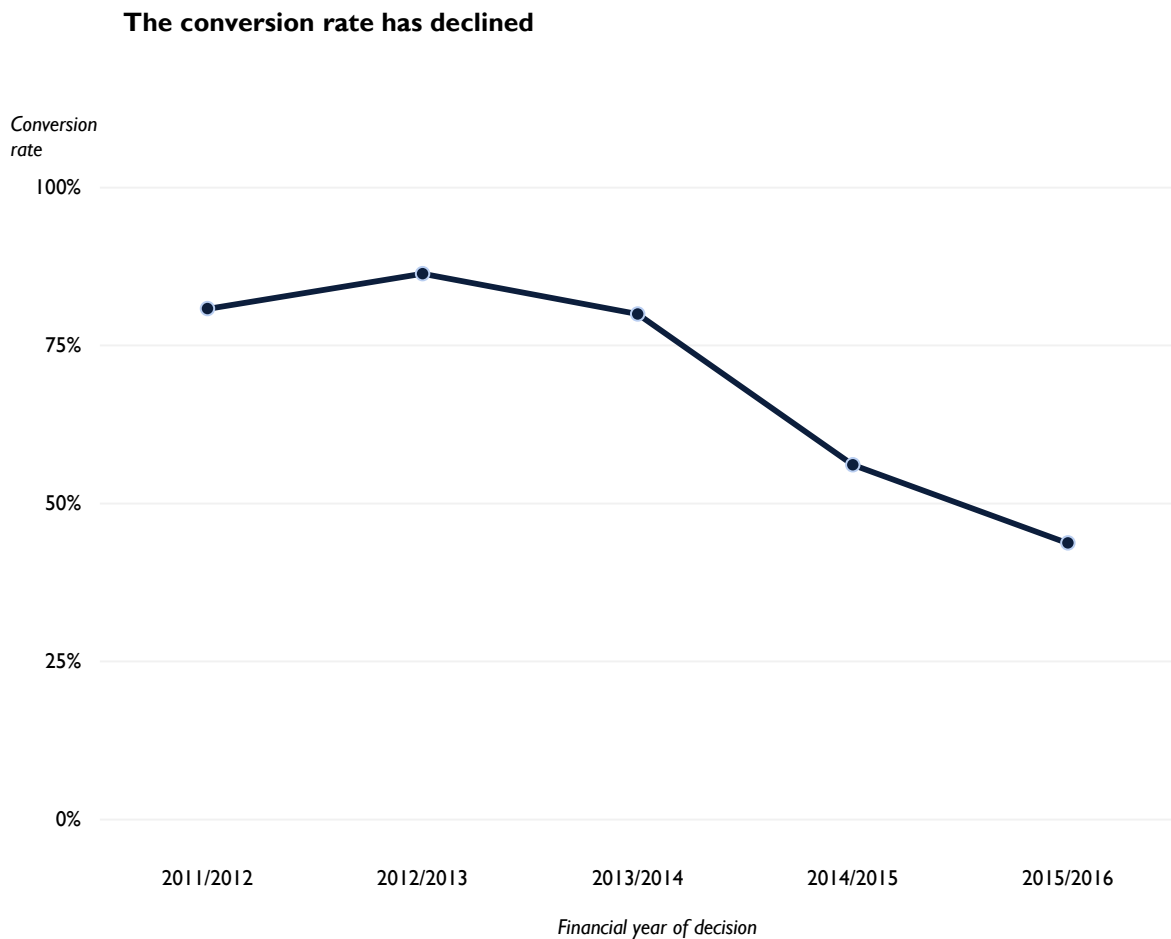


Figure 3: conversion rates (success rates for proposals judged to be fundable) for decisions taken in the last five financial years on all research grants and Fellowships, whether submitted before or after the introduction of demand management

In the last two years we have been able to fund about half those proposals which are deemed fundable, ie the conversion rate has been around 50 per cent. Previously we were able to support around 90 per cent of them, and the trend appears to be downwards.

Proposal quality ‘fingerprints’

Each RO applying for ESRC funding generates a profile of decision outcomes. This profile can be thought of as a proposal quality ‘fingerprint’. An RO’s fingerprint can be compared against the average for all ROs to give a reasonably robust assessment of relative performance.

Figure 4 shows the proportions of ‘Funded’, ‘Fundable’ (but not funded) and unfundable proposal decisions for each of 71 Research Organisations over the last three years. RO names have been replaced with a random five-letter code.

ROs are ranked top to bottom according to the proportion of proposals judged unfundable. Those with the highest unfundable proportions are at the top of the chart, with the more successful organisations found nearer to the bottom. The overall figure for comparison is shown in the very top line.

ROs with overall fingerprints that vary meaningfully from the norm are indicated in capitals. Organisations which are not capitalised should be assumed to have a fingerprint which does not differ meaningfully from the overall average. This might be because that RO’s performance actually doesn’t differ, or it may simply be that there is not enough information to be sufficiently certain that any difference is significant.

As the comparison is of the fingerprint for each RO with the overall average, Figure 4 is not a classification by any single measure. ROs may differ from the average positively, negatively or not at all in any decision category. Visual inspection and closer analysis of the data are needed to form an overall opinion of performance.

30 ROs appear to have fingerprints which differ meaningfully from the overall average for the group of 71. Of these, 16 are weaker performers and 14 are high-performers.

Of the less successful ROs, all bar one have an overall success rate which is below the average. All 16 have a proportion of unfundable proposals which is higher than the average.

Even among the higher-performing institutions we find that most have more than half their proposals rated as not fundable. All have success rates higher than the average for the 71, but in most cases this difference is not large. This is consistent with what we know about success rate variations across ROs: in general overall RO success rates tend not to differ meaningfully from the average.

Distribution of funded, fundable and unfundable decisions

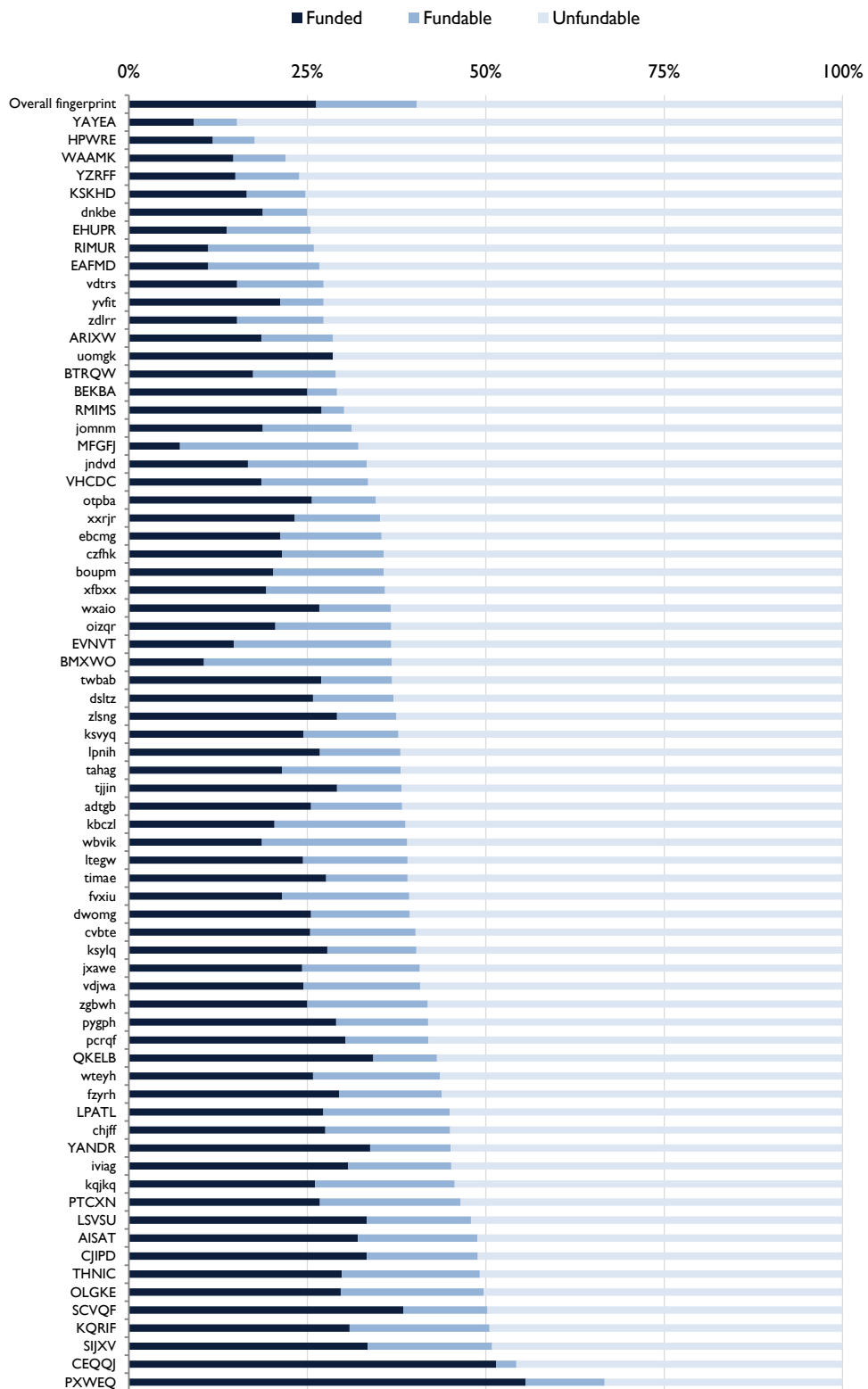


Figure 4: 'Funded', 'Fundable' and unfundable decisions for 71 Research Organisations over the last three years. Data relate to research grants and Fellowships only. Organisations differing meaningfully from average behaviour are capitalised.

Range of quality indicators

The data in Figure 4 can also be presented in a ternary plot³. Figure 5 shows the proportions of funded, fundable (but not funded) and unfundable grants for the same 71 ROs.

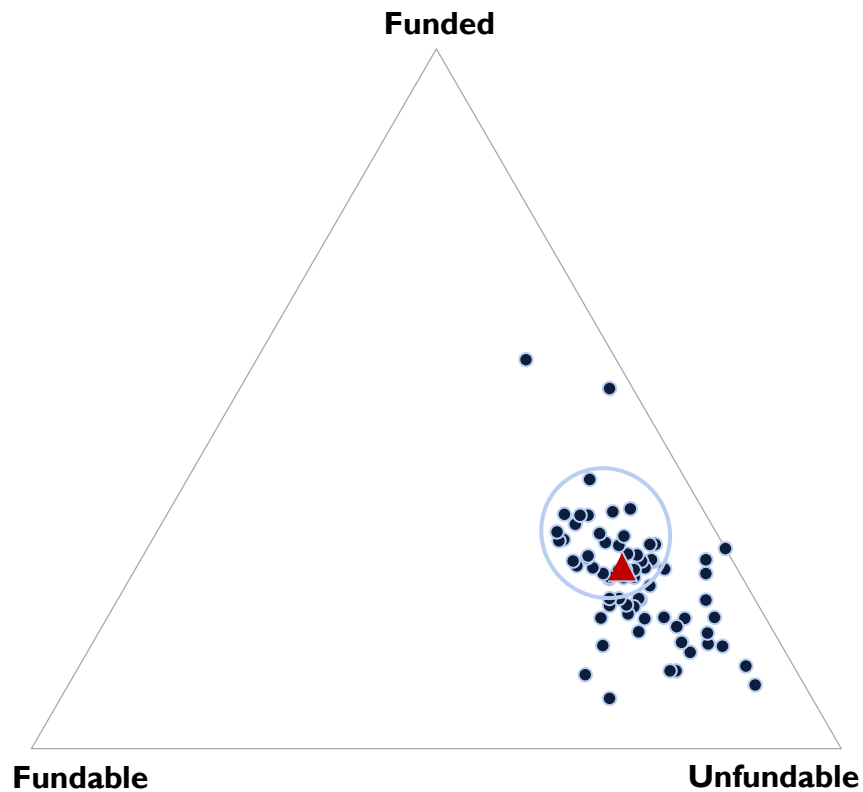


Figure 5: ternary plot of RO funded, fundable and unfundable data for the last three years.

The red triangle indicates the overall average proportion of funded, fundable and unfundable decisions.

³ Ternary plots are a way of presenting data which can be fully described by three variables that sum to a constant. See https://en.wikipedia.org/wiki/Ternary_plot. The closer to the labelled corner an RO's data point occurs, the higher its proportion of grants with that outcome. An example from economics can be found here: <http://faculty.washington.edu/cadolph/vis/gallery7.pdf>

Only a few ROs have overall success rates which are meaningfully higher than the average. The two extremely successful ROs, found towards the top of the plot and at the bottom of Figure 4, are easy to pick out.

The ellipse in Figure 5 highlights nearly 40 ROs which between them account for around two thirds of all demand. It is skewed away from the 'Unfundable' apex, suggesting that volumes and positive outcomes may be related. Figure 6 shows this more directly, with each data point scaled to reflect the number of decisions made in relation to applications from each of the 71 ROs.

The loose crowd of ROs which appear closer to the 'Unfundable' apex is dominated by less frequent applicants. These are the ROs which appear at the top of the fingerprinting list in Figure 4.

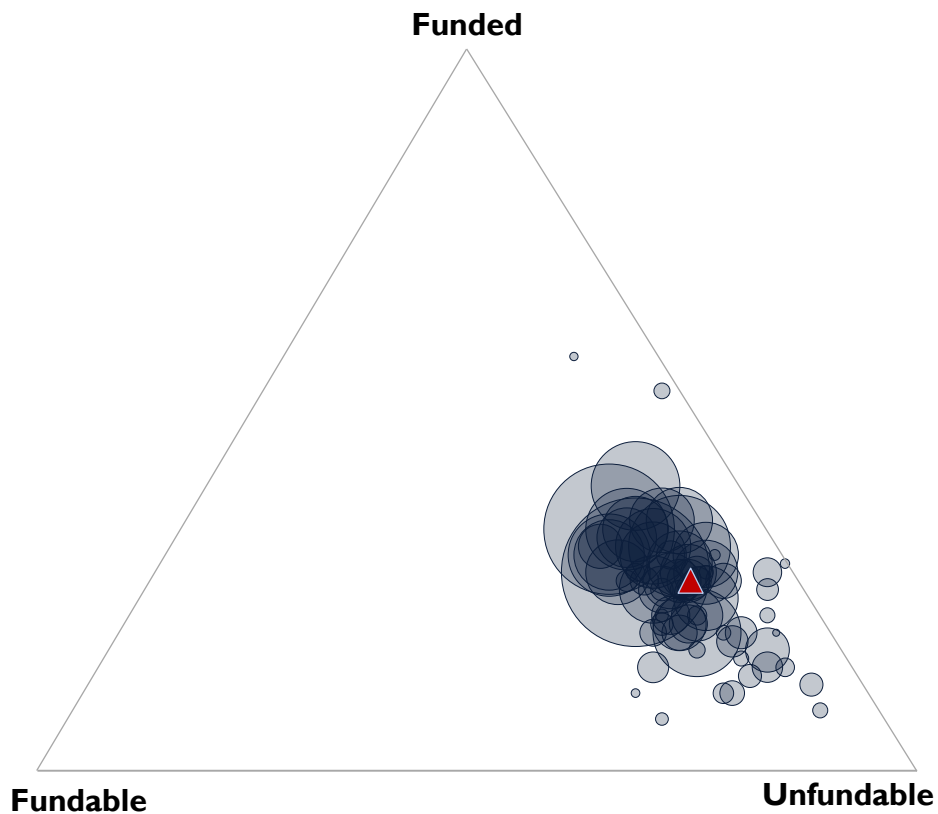


Figure 6: ternary plot of funded, fundable and unfundable proportions with data points sized to show number of applications. Red triangle indicates overall average.

Conclusions

The proportion of the proposals we receive which is ultimately judged not to be fundable is quite high, although it has reduced significantly over the last five years. Demand management measures helped to reduce the volume of unfundable proposals, but every year we still receive hundreds.

For good reasons, the headline success rate dominates discussions. But the conversion rate is also interesting and useful as an indicator of the functioning of the funding system. ESRC's conversion rate used to be quite high, and was at least 80 per cent up until 2014/2015. This figure has dropped significantly in the last two years, but is still near 50 per cent. If a proposal is fundable there is still a pretty good chance it will be funded.

A significant proportion of ESRC proposals are submitted by ROs which have higher than average fundability rates. In other words there seems to be some association between scale and quality of applications. We don't yet know which way cause and effect operates here, or indeed whether the picture is more complicated.

With all this happening it's always going to be hard to tell a fundable proposal from one that is not fundable without actually putting it through the system. If it wasn't so difficult, success rates would be much higher than they are.

While there will always be uncertainty surrounding the fate of any application before its submission, meaning that it is unrealistic to expect not to see any unfundable proposals at all, a proportion above 50 per cent seems very high. Better information on peer review, and better use of that information, may help to address this issue more effectively.