

Although journal impact factors (JIFs) were developed to assess journals and say little about any individual paper, reviewers routinely justify their evaluations on the basis of where candidates have published. As participants on multiple review panels and scientific councils, we have heard many lament researchers' reluctance to take risks. Yet we've seen the same panels eschew risk and rely on bibliometric indicators for assessments, despite widespread agreement that they are imperfect measures. A few funding agencies in the Czech Republic, Flanders (northern Belgium) and Italy ask applicants to list journal impact factors (JIFs) alongside their publications, but such requirements are not the norm. The ERC, the National Natural Science Foundation in China, the US National Science Foundation and the US National Institutes of Health do not require applicants to report bibliometric measures. When it comes to hiring and promotion, bibliometric indicators have an even larger, often formal, role. In Spain, the *sexenio* evaluation (a salary increase based on productivity) depends heavily on rankings derived from JIFs. In Italy, a formal bibliometric profile of each candidate up for promotion is provided to reviewers. At many campuses in Europe, the United States and China, faculty members are given lists of which journals carry the most weight in assessing candidates for promotion. In some countries, notably China, bonuses are paid according to the prestige of the journal in which research is published. The UK Research Excellence Framework (REF) exercise is a rare exception in that it explicitly does not use JIFs. For the first three years after publication, the probability that a highly novel paper was among the top 1% of highly cited papers was below that of non-novel papers; beyond three years, highly novel papers were ahead. We are not saying that non-novel papers cannot be important or influential, but that current systems of evaluation undervalue work that is likely to have high, long-term impact. Fifteen years after publication, highly novel papers are almost 60% more likely to be in the top 1% of highly cited papers. Highly novel papers also tend to be published in journals with lower impact factors. In a nutshell, our findings suggest that the more we bind ourselves to quantitative short-term measures, the less likely we are to reward research with a high potential to shift the frontier — and those who do it. (Fonte: P. Stephan et al, Nature, Comment 26-04-17)