

view from the top janger & nowotny

Job choice is about more than colleagues and money

Europe faces a challenge in attracting and retaining scientific talent, especially in competition with the top American institutions. The issue is particularly important for early-career researchers, who are the most internationally mobile. Established researchers tend to attract less experienced colleagues and are less likely to move themselves. Once excellence is lost it is hard to retrieve.

EU policies on researcher mobility have focused on funding, such as through the European Research Council, as well as removing administrative barriers and creating a single market for research, in the shape of the European Research Area. In 2005, for example, the Commission recommended that “member states endeavour to ensure that researchers enjoy adequate social security coverage”, particularly portable pension rights.

Policy remains vague, however, on how to provide attractive working conditions for researchers. If you ask scientists what they value in a job, it’s no surprise that they mention money and working with top researchers. But they mention many other things. They value autonomy and a clear-cut career path, especially tenure. They want professional recognition, and the chance to solve puzzles and create knowledge. Factors such as quality of life and teaching load are also important.

Across Europe, research systems vary greatly in what they offer employees. Some are strongly hierarchical, others give early-career researchers more independence. Academics at the German Max Planck and French CNRS institutes do no teaching, while those in eastern European universities do a great deal. How does this fit with what researchers actually want? The problem with asking them is that you end up with a long list of criteria, but little idea of the truly crucial factors, or how individuals trade these off against one another.

To get a more fine-grained idea of researchers’ priorities, we recently conducted a study in which 10,000 researchers—at all career stages, in all disciplines, and spread across the world—chose between three fictitious jobs that varied in working conditions, salaries and funding. Early-career researchers chose between typical entry-level assistant professors’ jobs; established researchers chose between full professorships.

Junior jobs, for example, specified a salary between \$25,000 (€23,000) and \$65,000 and a teaching load ranging from 0 to 75 per cent of working hours. We also varied health and pension benefits, quality of life, work-

ing conditions—such as fixed-term or tenure track career paths—the quality of peers, funding, and independence.

We found that researchers were willing to trade off significant amounts of money to work in institutions with the right conditions for knowledge production. Factors that influence scientific productivity influenced researcher mobility much more than administrative hurdles.

Early-career researchers particularly valued the freedom to choose their own research agenda and tenure track employment routes. This emphasis on early autonomy contrasts with the *European Charter for Researchers*, which advises to “recognise the limitations to...freedom that could arise as a result of particular research circumstances (including supervision/guidance/management)”.

Tenured researchers were less willing than early-career researchers to trade off salary against scientific productivity. But they still value independence in setting their own research agendas.

Perhaps surprisingly—given the stereotype of academics complaining about their teaching load—research-only jobs were not preferred. Academics at all stages value the opportunity to work with students, although early-career researchers stated a lower optimal teaching load than those with tenure. Overall, the most preferred teaching load equated to just over a quarter of a researcher’s time.

These results were consistent across nations and disciplines, suggesting that the ideal job looks more or less the same for all academics. Funding, not surprisingly, was a more important criterion in the equipment-heavy sciences.

This suggests many ways in which European institutions, nations and the EU can work to attract researchers and compete with the United States. Attractive working conditions and career paths can compensate to some extent for a lack of top researchers and high salaries.

Giving the most promising early-career researchers more independence, for example, or more flexibility in the allocation of research funding and teaching loads could enhance recruitment and retention at little or no cost to university budgets. There is no lack of options.

Reforms may face internal opposition. Professors at the top of very hierarchical systems, for example, may resist a flatter structure. But this is necessary if Europe wants to remain attractive in the global competition for talent.

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