

[Kakenhi Essay]

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A Safety Net

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The scale of budget funding for national universities has been trending downward year-on-year, and researchers engaged at the laboratory level have seen their research budgets shrink in the process. As someone responsible for the supervision of a research laboratory, I have found this state of affairs to be a constant source of stress. Although research funding available through the application frameworks run by NEDO and JST among other entities has of course fulfilled a huge role, my gut feeling is that Grants-in-Aid for Scientific Research (Kakenhi) have become the final safety net upon which we can most depend. Why are the grants a safety net? I have organized the reasons for that perspective, after being asked to write this essay.

First is the fact that the Kakenhi framework was designed to support research on themes that are based on the independent ideas of researchers (in other words, following an entirely bottom-up approach). The accomplishments of novel research that starts with a flash of insight or awareness can include a certain unknown or unexpected element that leads to additional insights or ideas. Of course, while research that is focused exclusively on fulfilling demand for commercial applications is important, fundamental research that leads from one insight to the next and has a ripple effect that seeds novel research in an array of other fields is just as important. From the perspectives of progress in science and technology, the former has short-term value whereas the latter has value that is longer-lived. As a matter of national policy, I think it important that we have well-balanced research frameworks of these types. In this context, if we exclude assistance from private-sector organizations, maybe Kakenhi can be described as the only public framework that provides support for the latter type of research.

Program diversity counts as the second reason for my “safety net” perspective. The Kakenhi framework is conceivably the only program of its kind anywhere in the world that not only offers a hierarchy of levels of grant funding for a diversity of different categories of research, from Scientific Research on Innovative Areas and Specially Promoted Research to Fundamental Research and Challenging Exploratory Research, but also shows such attention to the needs of researchers that have just set up their own laboratories or young researchers to whom age limits are applied. Having the ability to choose from and

apply for multiple categories of funding commensurate with the scale and scope of one's research is yet another extremely desirable aspect of the Kakenhi program.

Ease-of-use is the third reason. Compared to the situation 25 years back when I had just assumed a university faculty position, the program is unbelievably easier to use now, accommodating our accounting needs for foreign trips, honoraria, hiring expenses, annual carryover, and so forth. Compared to other public frameworks for research assistance, I think the Kakenhi program is by far the most flexible. That said, because there will always be researchers that break the rules, it seems extremely unfortunate that the program has adopted certain procedures that run counter to its benefits: for example, stiffer penalty provisions and the requirement for submission of written oaths.

Almost exactly 10 years back, I was appointed to serve as a MEXT Senior Scientific Research Specialist while concurrently employed by my university, and in that new role, performed duties that were associated with the Kakenhi program. I'm not familiar with what senior scientific research specialists do nowadays but back then, our duties were broad in scope and ranged from the provision of advice on the grant framework to the assessment of themes for research. Each month, we assembled many times at MEXT conference rooms in Tokyo and I participated in valuable discussions which were devoted to revisions to the grant program itself or application screening procedures for projects in the large-scale categories of Scientific Research on Priority Areas and Specially Promoted Research. Needless to say, scientific research specialists were not directly involved in the screening of research grant applications. I felt that providing advice and support to everyone in the MEXT offices that handled grant funding from the perspective of a researcher was an important mission.

My tenure in that position lasted two years. The experience that left the strongest impression on me was a study I performed with other research specialists during my final year. That study had to do with the shape of the grant framework itself. To perform the study, we conducted a questionnaire survey of academics and application referees for large-scale research grants and then split up to travel abroad and conduct interviews with officials in the US, UK, Germany, and other countries, and gathered and organized data on the features of public subsidy and grant programs for research in the leading nations. Although I no longer have a clear memory of the exact details that were in our final report, I did come away with the strong impression that in comprehensive terms including the efficiency and effectiveness of the application and screening processes and the burdens placed on applicants and screeners, Japan's Grants-in-Aid for Scientific Research was by no means second-rate .

Although my own duties in this role were within the scope of science and engineering, the experience was deeply gratifying to me personally because I had opportunities to work closely with some 20–30 other research specialists from other fields. Incidentally, a number of professors affiliated with other universities at that time as well as one administrative staff member somehow eventually became staff at Tohoku University. As recently as last year, we held a “Sendai branch” reunion of former senior research specialists and had a great time.

As this portrayal suggests, the Kakenhi framework has undergone repeated improvements over the past few decades thanks to the diligent efforts not only of academics but also of many esteemed scientific research specialists and administrators, and I think it has evolved into an amazing grant framework that perfectly fits in with Japan’s own cultural fabric. I feel it is our duty as members of academia today to ensure that future generations inherit a constantly improving and expanded version of this highly beneficial, user-friendly, and flexible “safety net.” To that end as well, obviously it will be imperative for researchers to exercise discretion, avoid selfish behavior at stages of application, screening, and use, and refrain from acts of misconduct.

Lastly, I should note that I am concerned that the Kakenhi program unfortunately may not necessarily be a “safety net” for researchers at small national universities that have been hit by the impact of shrinking administrative budgets or at private universities struggling to stay in operation due to a decline in the size of the college-age population. If it is true that technological seeds only have a certain probability of connecting with market needs, then from the perspective of Japan’s own national interest over the longer term, it is essential that we maintain an environment that continuously generates as many seeds as possible. I believe the upshot from this is that we need program improvements that will ensure with high probability that grant funding even in small amounts reaches researchers with novel and interesting ideas.