Description

Justification of Performance!

Getting any research funded is hard. There has never been a blank check for research in any decade, other than perhaps during times of war when emergency funds were made available to fund urgent projects of national importance. Every research project carries an *opportunity cost* of another project that will not be funded as a result. Minimizing the impact of that cost requires a thorough process of justification: “Why is Project A the best use of the research dollars rather than Project B, or C, or D?”

A Change in Expectations

Federal research funding was long dismissed as bureaucratic, highly politicized, and often totally illogical in terms of the performance criteria (or lack thereof) required for the renewal of that funding year-on-year. It could be argued that basic research projects benefited from such a lax environment, but sequestrations and falling tax revenues have changed that situation dramatically, and if Representative Lamar Smith’s *FIRST* (Frontiers in Innovation, Research, Science and Technology) bill makes it into law, the justification requirement will be elevated beyond all reasonable logic, requiring written application to non-scientists in Congress for funding approval.

Meanwhile, the greater dependence on corporate funding has brought an increased emphasis on performance measured against dollars invested. From the corporate perspective, the research-funding model has a different *opportunity cost*.

In this model, dollars invested in research generate a return on that investment (ROI). If that ROI is lower than what could have been achieved with a different investment, that opportunity cost is equated to real dollars that could have been returned to shareholders as dividends or invested in future projects as profit.

The Need for Both

Basic or pure research provides the critical foundation for applied research projects to succeed. There cannot be a sequential improvement or refinement without a proven base to build upon. Critics argue that we are already stretching the limitations of existing basic research data, and that future applied research projects will be left to slice topics into thinner and thinner studies in order to keep resources utilized if basic research funding continues to decline.

A New Financial Model

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It is very unlikely that basic research will ever be able to meet the performance criteria of corporate-funded applied research projects. The fundamental operating criteria are simply too different, unless technology finds a way to convert a decade's worth of work into two years. On that basis, there appear to be two options ahead of us.

First, a re-commitment of federal funding with the guaranteed renewals needed to underwrite decade-long studies.

Second, a new corporate model that makes basic research a more viable financial proposition, either with tax incentives for underwriting basic projects, or financial penalties for only pursuing applied projects. The incentive approach would seem to be more palatable to politicians and executives, but only time would tell.

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