## Summary: Place-Based Policies and Innovation Workshop

October 24, 2022

#### Overview

Working under NSF grant #2232647, professors Jorge Guzman (Columbia University) and Scott Stern (MIT) convened, through the National Bureau of Economic Research (NBER), a one-day workshop focused on place-based policies and innovation.

The workshop was held on October 24, 2022, at the NSF (Alexandria, Virginia). It was attended by <u>29 individuals</u>, including NSF staff together with subject matter experts from academia, economic development, government, and private philanthropy. It lasted from 9 AM to 4 PM and included two panels, each followed by a working-group discussion. The specific topics, length, and participants of each panel are included in the conference's <u>online program</u>, and therefore are not overviewed in this document. A cold breakfast, coffee, and a hot lunch were catered for individuals other than NSF staff. The meeting was held under Chatham House Rules, meaning that all comments and conversations can be represented as long as they are not attributed to specific individuals or their institutions.

#### **Opening Remarks**

Opening remarks were provided to launch the meeting and emphasized the unique opportunity provided by the NSF's new directorate for Technology, Innovation and Partnerships (TIP). Specifically, TIP is an opportunity for NSF to move beyond its traditional role of sponsoring research to instead take a more active role in leveraging research and innovation to develop the U.S. innovation economy.

## Panel #1: Metrics for Evaluating Innovation Initiatives

The first panel focused on the role of metrics in enabling the evaluation of innovation initiatives. The conversation covered four core areas.

First, when done well, thoughtful measurement can allow the "story" of a program to be accurately and fairly represented. Data that are generated for one purpose can sometimes be used by other stakeholders – programmatic partners, the granting organization, and other external audiences – and it is important to design the data collection with that in mind.

Second, measurement is often best done hand-in-hand with carefully-thought-through 'but-for' analyses: how different would an outcome for society – and for a specific grantee or program in particular – have been in the absence of the granting organization's support?

Third, measurements should occur at two levels: individual projects, and a program's overall portfolio. A program like NSF TIP's Regional Innovation Engines (NSF Engines), for example, may wish to consider whether each project is progressing towards its goals or not, while also asking if the NSF Engines program's portfolio as a whole has been successful. For example, it is

possible that most projects fail but one homerun makes the overall impact of the program substantial, or (conversely) that while most projects meet their goals, the overall portfolio impact is moderate.

Finally, the group spoke about concrete metrics for equity and inclusion. The discussion raised some examples of well-intended policies that may not have the expected effects; for example, double blind reviews may hurt the very groups they intend to help if historically disadvantaged groups with different past levels of access to resources are compared "apples to apples" with other applicants. The discussion also contemplated the 'business case' for equity and inclusion, in addition to the moral case: the view in the room was that while a moral case for equity is clear, doing the work to make the business case can sometimes make the conversation easier.

## **Group Discussion**

The group discussion divided attendees into five working tables for 60 minutes followed by a 20-minute report-out session. A few individual takeaways generated particular interest.

First, it was clear that measurement should be a key part of assessing which regions would most benefit from participating in the NSF Engines program. One group proposed the idea of an 'index' in which regions are scored by their level of readiness towards becoming an innovation ecosystem, so that, at a program portfolio level, program staff could consider including a balance of regions across all levels in the NSF Engines program.

Second, a key feature of the assessment should attempt to measure spillovers. The NSF Engines program is specifically designed to be a 'catalyst' for a region: providing an initial amount of financing upon which future progress can be self-sustaining. In this way, measurements should aim to capture both ways in which the Engine is generating those additional spillovers, as well as overall impact more generally. It was also mentioned this measurement effort should make sure to incorporate the well-being of the community.

Third, a core area of focus was the importance of social networks and partnerships. It was remarked several times how partnerships are a core early indicator of general social impact, and something grantees would be well equipped to report on. However, also key is to avoid giving incentives to regions to implement "on paper only" partnerships that do not represent real commitments.

## **Second Panel: Evaluation**

After lunch the group convened for the afternoon panel, focused on evaluation. The conversation started with an example of University of California, Merced, a university created in California to bring innovation into the California's poverty-stricken Central Valley, expositing what has and hasn't worked well in that effort.

Building on this example, the conversation moved to discuss federal efforts to invest in regional innovation, including the Cold War era space race. Answering the question of how public

research investments affect economic growth is challenging in part because the regions that receive public research funding tend to be quite different from regions that do not. During the space race, for example, regions that had more capacity to support NASA-relevant manufacturing were more likely to receive contracts for research. This selection must be addressed in order to rigorously answer the question of how NASA research funding – if awarded to some areas but not others – influenced job creation and economic growth. In a randomized trial, such a comparison is possible by construction, but for historical case studies one must work to construct a meaningful comparison less directly.

The group then discussed one evaluation by the US Patent and Trademark Office (USPTO) that overcame this selection challenge by designing a randomized evaluation. Concern was expressed that pro-se inventors – that is, inventors that file for a patent without a lawyer – were disadvantaged in navigating the patent application process. In response to this concern, USPTO staff designed a program to assist pro-se applicants in the patent application progress. In a very organic way, they realized one way to know whether the program worked was to randomize participation in the program, which allowed them to document clear evidence on the effects of the program.

Finally, the group discussed how – for application-based programs such as NSF Engines – people who apply may change their behavior even if they do not end up being selected for the program. Some referred to this behavior change as enabling a 'mindset shift' in the sense of applicants revising their expectations about what is possible. The group talked about whether the community of applicants – beyond the actual grantees – could take advantage of this momentum for developing regional innovation ecosystems even beyond what can be directly supported by the NSF Engines program.

#### **Group Discussion**

The workshop discussion followed the same five-group format, with new table assignments across the groups.

A key piece of the conversation focused on the importance of having evaluations built in that could provide diagnostic results early on in the program, so that both the program and the individual projects would observe opportunities to potentially course correct. We discussed the relative costs and benefits of such 'prompt' versus more comprehensive evaluations.

The discussion also emphasized two different approaches to evaluation. One is a 'hands off' approach, in which one is simply assessing the progress of the ongoing investments. The other is a world of program management, in which the goal of evaluation is not simply to know whether things are working, but rather to illuminate opportunities to encourage course-correction.

Given the earlier discussions of spillovers and partnerships, the group discussed how a key element in the success of any regional initiative is trust and shared ownership over common

goals. These can be difficult to assess, but the structure of the NSF Engines program may allow making progress on such goals through thoughtfully structured site visits.

There was also emphasis on the potential for NSF Engines investments to spur not just economic growth, but rather a broader notion of economic development. This change in framing captures the idea that the goal of the program is not solely about improving the GDP of a region, but rather about generating gains in well-being.

Finally, the discussion touched on some ideas for measurement, including the costs and benefits of using location quotients for the measurement of regional differences.

# Closing

Overall, the discussion surfaced a number of opportunities for how measurement and evaluation can advance the goals of the NSF Engines program.