



Response to Senator Paul's "February 2016 Waste Report"

The National Science Foundation (NSF) has been the backbone of America's science and engineering research enterprise for over 70 years. In fact, NSF is the only federal agency that supports all fields of fundamental science and engineering research and education. NSF supports cutting-edge research projects — many of which serve as bellwethers for solutions to the myriad complex issues facing society. NSF programs also traditionally integrate research and education, fast tracking innovation excellence via hands-on learning to train our next generation of researchers and innovators.

Each year, NSF competitively awards thousands of grants that collectively advance our nation's scientific capabilities and engage the talents of hundreds of thousands of researchers, postdoctoral fellows, technicians, teachers and students in every field of science and engineering.

NSF is the primary source of federal funding for non-medical basic research, providing approximately 12,000 new awards annually. Through its merit review process, NSF ensures that proposals submitted are reviewed in a fair, competitive and in-depth manner. Competition for funding is intense, with only about one out of five proposals ultimately being approved.

Each proposal submitted to NSF is reviewed by science and engineering experts well-versed in their particular discipline or field of expertise. All proposals submitted to NSF are reviewed according to two merit review criteria: *Intellectual Merit* and *Broader Impacts*. NSF's merit review process is widely considered to be the "gold standard" of scientific review. Perhaps the best evidence of NSF's success is the repeated replication of its merit review model for discovery, education and innovation around the globe.

The results of this process — funding the best and brightest ideas through competitive merit review — have been profound. NSF-supported research has underpinned multitudinous discoveries leading to new inventions — the Internet, web browsers, Doppler radar, Magnetic Resonance Imaging, DNA fingerprinting, and bar codes — to name a few. These diverse examples underscore NSF's significant contributions to our nation's prosperity, health and wellbeing. NSF-funded discoveries have expanded our understanding of the world in which we live, led to life-saving medical advances, enhanced our national security, improved our everyday lives and yielded insights into the creation of the universe.

NSF's task of identifying and funding work at the frontiers of science and engineering requires keeping close track of research around the United States and the world; maintaining constant contact with the research community to advance the horizons of inquiry; and choosing the most promising people to conduct the research.

The following grant cited in the "February 2016 Waste Report" illustrates an example of promising NSF-funded research awarded support through the merit review process.

Doctoral Dissertation Research in DRMS: Testing the Links between Savings, Credit, Betting, and Consumption among Small Business Owners

NSF Award 1530852

February 2016: “Government Waste? You Bet”

University of California-Berkeley

The success of American small businesses is essential for communities large and small across the country and a critical component of the overall U.S. economy. When small businesses cannot raise enough capital to support such things as hiring new employees, opening new locations or purchasing new equipment, they oftentimes fail and thus diminish the value they otherwise could have brought to their community. The research in this study investigated one way that small businesses accumulate capital when the banking system in their area does not adequately support small businesses. The study also evaluated techniques that can help small businesses reliably raise needed capital without resorting to risky measures.

The insights gained from the research are broadly applicable to challenges faced by many small business owners in the U.S. and provide valuable evidence for policymakers and leaders who wish to support and grow small businesses in their communities. The results of the study were published in a leading journal of economics¹ in early 2021 and have already been cited by other economics researchers.

The award is consistent with NSF’s mission to advance fundamental knowledge, thus strengthening the U.S economy, enhancing our ability to compete with other countries and bolstering our position as a global innovation leader.

¹<https://www.aeaweb.org/articles?id=10.1257/app.20180177>

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