

# From 9/11 to Recession: Historically Significant Events in America and Their Impact on Research Administration

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## ABSTRACT

Federally sponsored research funding sources are not stagnant programs. Many things influence the nature of research, not all of them purely scientific. Historically significant events draw public attention to causes, and in the age of immediate information those events can have a powerful and lasting impact on research funding. September 11, 2001 is a day America will never forget, and because of this major event, sponsored research focused on protecting the nation from attack and building up national defense became a high priority. Similarly, while the nation has been mired in recession from late 2007 up to the present day, job creation through research funding became an important focus for the nation and has led to the passing of an enormous funding package to accomplish this task. Neither of these events has a foundation in academic research, but both have had a significant impact on research and how research administrators operate on a daily basis.

## INTRODUCTION

Historically significant events have a substantial impact on a university campus. From social to academic life, the ease of information transfer affects both students

and faculty. Significant incidents can also have a direct impact on how research is conducted; public interest in research is a direct result of history-shaping events. As the nation's concerns and values shift, federal research funding appropriations and

how those funds are distributed to scientists are impacted. Events such as the terrorist attack on September 11<sup>th</sup>, 2001 caused a dramatic effect that is still felt in the research community today. Other events, such as what is being called “The Great Recession”, also created public outcry for government action and once again caused research to fundamentally change. Because of these changes, the work of research administrators is constantly shifting to meet the new demands of federal sponsors and the compliance requirements that accompany alterations to the research funding system. The following case studies demonstrate how historically significant events, specifically the September 11<sup>th</sup> terrorist attacks and the Great Recession, have a direct effect on the enterprise of sponsored research.

### **CASE STUDY: SEPTEMBER 11, 2001 TERRORIST ATTACKS**

On September 11<sup>th</sup>, 2001 the world changed forever with the terrorist attacks on New York City and the Pentagon in Washington, DC. The nation mourned together and simultaneously turned to elected leadership for solutions and a way to respond.

The changes enacted by the U.S. government in the days, weeks, months, and years following September 11<sup>th</sup> have profoundly altered the landscape of U.S. policy, and research has been affected by these changes.

In February 2002, President George W. Bush released the first federal budget in a

post-September 11<sup>th</sup> climate. It included a dramatic increase for homeland security efforts from \$19.5 billion to \$37.7 billion (U.S. Department of Homeland Security, 2008, p. 6). In his June 2002 address to the nation, President Bush outlined his plan for improved homeland security, which included building on an existing framework for funding basic and applied research in order to develop strategic tools for the advancement of homeland security. He stated “The new Department would consolidate and prioritize the disparate homeland security related research and development programs currently scattered throughout the Executive Branch” (U.S. Department of Homeland Security, 2002, p. 4). Funding for research and development would now be consolidated under the new Department of Homeland Security, which would be responsible for determining and adhering to appropriate federal compliance regulations.

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In addition to changes in the organization of the federal government’s approach to homeland security, it began to take a more active approach to the protection of information and its transfer to

groups and countries that could potentially use it to harm the nation or its allies. Increased emphasis on export control regulations meant that research done in a university setting could be subject to the control of the U.S. Department of State, Directorate of Defense Trade Controls International Traffic in Arms Regulations (ITAR) (U.S. Department of State, 2010) and the U.S. Department of Commerce's Bureau of Industry and Security Export Administration Regulations (EAR) (Export Administration Regulations Database, 2010). These regulations had been in force since their development during the Cold War period, but increased scrutiny on seemingly innocuous things following an attack using ordinary passenger jets mandated that the government more closely monitor things previously viewed as innocent, such as the research and development enterprises in place at universities around the country. Besides this increased emphasis on specific export control regulations, other restrictions began to appear in contract terms. Clauses were included in federal contracts that dramatically restricted the freedom of investigators to hire foreign nationals as graduate students and post-doctoral scholars.<sup>1</sup> Some contracts were saddled with clauses to completely restrict any publication of the results of a project in order to avoid disclosing national security secrets. By early 2002, funding agencies with specific national security interests, such as the Army Research Laboratory, even began to issue new clauses containing

strict policy guidelines for information requiring government review prior to public release.<sup>2</sup> Clauses, such as DEAR 952-204.73 Facility Clearance, were also augmented in early 2002 as a direct result of the need to more closely monitor activities that had once been perceived as free from potential malice.

Finally, the President and Congress proceeded to enact unprecedented increases in the budget for the U.S. Department of Defense—another measure put into place in the wake of an attack that had revealed a nation unprepared to defend itself against assault. The budget for the DoD in fiscal year 2002 was \$328.9 billion (U.S. Department of Defense, 2003). By fiscal year 2011, the budget grew to \$708 billion for defense, including \$159 billion to fund ongoing military operations in Afghanistan and Iraq (U.S. Department of Defense, 2011).

## **DIRECT RESULT FOR RESEARCH AND RESEARCH ADMINISTRATION**

In the aftermath of the September 11<sup>th</sup> attacks, researchers found themselves with an opportunity to participate in the defense of the nation through their laboratories. The new U.S. Department of Homeland Security pursued a research agenda that had been consolidated into one agency and that was ready to push out funding in the name of protecting the nation and its people. New organizations such as the Transportation Security Administration were founded under the auspices of the new DHS and quickly began to push for the improvement

of transportation security infrastructure through research funding programs, a practice that continues to this day (Transportation Security Administration, 2009). This development required researchers and research administrators to learn the policies and requirements of a brand-new agency, with an added element of difficulty in that the agency itself was still in the process of writing the requirements. Its funding principles were similar to those of other federal sponsors, but necessitated time and dedication in order to learn the requirements to guarantee that safe and successful research projects would be conducted.

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While the requirements of a new agency were being introduced, existing agencies were working to improve security measures and make certain that sensitive information was properly controlled. New terms such as “sensitive, but unclassified” (Ricks, 2004) became familiar to researchers and research administrators. Searching for the balance between fostering free and open collaboration among scientists, and protecting information that could potentially profit those who wished to do harm became one of the most important issues in the post-September 11<sup>th</sup> research administration environment. The mission of

universities to publish the results of research in order to advance scientific knowledge had to be balanced with the reality that publications were read by friend and foe alike. Limiting the information available to potential enemy combatants was of paramount importance. Research administrators became responsible for ensuring that faculty members retained the rights to use their work and further the science in the field, while at the same time keeping national security in mind. The number of projects subjected to tight regulations and serious consequences for making mistakes (University of Tennessee, Knoxville, n.d.) continued to increase to the point where employing a full-time export control officer in addition to experts in contract negotiation became necessary, as was the case at the University of Tennessee in 2004 (Witherspoon, 2009). Even with a dedicated export control officer, clarifying the intricacies of limited publications, deemed exports, and foreign national restrictions has required research administrators at the department and central office levels to become familiar with government policy in order to protect faculty research efforts (University of Tennessee, Knoxville, Office of Research, 2008). Professional development for both faculty and staff is now offered regularly and in various formats by university administrations desperate to stay ahead of the rapidly changing post-September 11<sup>th</sup> research security landscape (University of Tennessee, Knoxville, Office of Research, 2009).

Since the September 11<sup>th</sup> attacks, the dramatic uptick in funding for the DoD has had the most significant impact on research. In light of tighter controls and the idea of “sensitive but unclassified” work, funding through contracts with the DoD is more involved and requires more oversight than it did prior to the September 11<sup>th</sup> attacks. More negotiation is required at the beginning of a contract to promote the proper balance between protection and freedom of scientific collaboration, as well as increased monitoring of the project throughout the period of performance to see that basic research does not cross a line into applied research without the proper control mechanisms in place. However, the more dramatic effect of this budget increase is what has *not* happened during this period. From fiscal year 2003 to fiscal year 2009, as the DoD budget increased by more than 50%, the budget for the National Institutes of Health (NIH) was increased by less than 13% (National Institutes of Health, 2011). The National Science Foundation (NSF) budget was increased by just over 21% (National Science Foundation, 2011). While research dollars were stagnant, the DoD budget went from billions of dollars to almost three-fourths of a trillion dollars each year.

Arguments have been made that the funding stagnation in these critical areas of basic scientific research could cause an entire generation of scientists to leave the profession before they can establish themselves due to a lack of support (Casey, 2008). In this new reality, the role of the

research administrator has become increasingly valued at many institutions, as the number of proposals submitted has increased but the disparity in funding among federal agencies has led to a drop in the percentage of successful proposals. According to data presented in March 2011 at the National Science Foundation Regional Grants Conference, of 21,792 proposals submitted in 2001, 31% were awarded funding. By fiscal year 2010, the number of proposals submitted had almost doubled to 42,547, but the percent awarded funding had decreased to just 23%. Arguments can

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be made regarding which areas of research and research administration were most dramatically impacted, but for better or worse, researchers have come to rely heavily on the expertise of research administrators in departments and central offices in order to increase the chances that their proposal will be scored as competitive. This need for experienced research administrators to guide the faculty has directly impacted everything from biomedical research to research related to national defense. As the requirements continue to increase, the knowledge and

expertise of the research administrator must also continue to grow and expand in order for the faculty to remain competitive.

### **Case Study: The “Great Recession” of 2007–2009**

In late 2007, the United States officially entered a period that has come to be colloquially called “The Great Recession.” As an economic downturn is only classified as a recession following two consecutive quarters of negative economic growth, it was not until the bankruptcy filing of the Lehman Brothers bank in September 2008 that most Americans became familiar with terms like “too big to fail” and “federal bailout.” The national unemployment rate went from 5.0% in December 2007 to 8.2% in February 2009, and continued to rise until October 2009 when it peaked at 10.1% (U.S. Department of Labor, 2011). The stock markets plummeted to half of previous values as individual investors and corporations alike looked to the government for a solution to a recession that seemed endless. On February 17, 2009, government assistance arrived in the form of the American Recovery and Reinvestment Act (ARRA) of 2009, signed into law by President Barack Obama. As “a direct response to the economic crisis, the Recovery Act has three immediate goals: Create new jobs and save existing ones, spur economic activity and invest in long-term growth, and foster unprecedented levels of accountability and transparency in government spending” (Recovery.gov, 2009). A total of \$787 billion was obligated

for tax cuts, education, health care, and unemployment benefits, and for federal grants and contracts investment.

As a result of the stimulus program, March 2009 saw federal agencies like NIH and NSF go from famine to feast, a complete reversal of the previous administration’s funding policies following in the wake of the September 11<sup>th</sup> attacks. The stimulus package provided an additional \$10.8 billion (National Institutes of Health, 2009) to the NIH and an additional \$3 billion (National Science Foundation, 2009) to NSF, over and above what was already appropriated in the yearly operating budgets for these agencies. This influx of funding came in the form of new solicitations under recovery-specific programs, award supplements to current projects, and projects that had previously been submitted and scored high marks for scientific merit, but had been rejected due to lack of available funding. In addition to the significant emphasis major research institutions placed on obtaining Recovery Act funds, faculty who historically did not compete for research funds heard about the opportunities available through the new ARRA funds and were encouraged to enter the sponsored research field. Universities of all sizes began to plan for significant increases in proposal and award volume due to the availability of stimulus funds.

### **DIRECT RESULT FOR RESEARCH ADMINISTRATION: ARRA REPORTING AND INCREASED COOPERATION**

Oversight of the ARRA investment is a top priority for Congress and the President, and thus significant reporting requirements are attached to the funds marked for research grants and contracts. Under the terms of section 1512 of the Recovery Act (Recovery.gov, 2009) reporting must be completed within ten days of the end of each quarter and must contain the total award amount, the amount obligated and expended, the unobligated balance, and a detailed list of the project activities that were supported by the funds. Details such as a description of the projects, an evaluation, and the number of jobs created using the funds must also be included in the report (Brown University, 2009). For many institutions, this has become an “all hands on deck” process. When an ARRA award arrives in the pre-award office, it is imperative for the research administrators reviewing the documents to correctly identify and mark the funds as ARRA. An important detail for the pre-award office to note in the award documents is the quarter in which the award was fully executed. Even if the award was executed on the last day of a quarter and the performance period does not take effect until the first day of the next quarter, reports must be filed for the quarter in which the award was fully executed. However, once the pre-award office identifies the funds as ARRA, the majority of the burden falls on the department, faculty member, and post-award financial office to ensure that the project remains in compliance.

The requirement for reports to be completed ten days following the end of the quarter has placed an incredible burden on post-award offices. The end of each quarter has long been stressful for post-award offices due to financial reporting, but with the arrival of ARRA requirements, not only do the same quarterly financial statements still need to be submitted, but now the additional details required by the Recovery Act must take priority to ensure significant penalties are not imposed on the institution for non-compliance. At large institutions where much of the accounting and tracking of awards is done at the departmental level, the burden of ensuring that ledgers are up-to-date and all transactions are posted in the month they occur has become more important than ever. Reporting done by the central office cannot commence until the institution is able to “close” the month and record the transactions from the department ledgers in the central accounting system as the final step in the tracking process. If transactions are posted late, ARRA reports can be inaccurate. Significant cooperation among post-award administrators, departmental-level administrators, and faculty researchers must happen each quarter to ensure that the institution does not violate the terms of the grant agreement (Federal Bureau of Investigation, 2009).

For research administrators, these policies have meant entering sometimes unfamiliar territory with respect to oversight on federal projects. It is no longer possible for institutions to rely only on accounting offices to complete the required

reporting, as some may have done in the past. The ARRA reporting requirements necessitate substantial cooperation across campuses to maintain compliance. Faculty researchers must be aware of their project budgets and how the transactions are posted to their ledgers. They must be diligent to ensure that the record-keeping process remains accurate and up-to-date. Departmental-level staff must communicate effectively with faculty researchers to accomplish the same goal. Both must pursue open dialogue with the central research office to ensure that no requirement is missed when the quarterly reports are due. It is the responsibility of the research administrators to ensure these requirements are understood and proper training has taken place. Through this necessary cooperation, many research administrators have found that a greater level of understanding has been achieved between offices with traditionally strained relationships. An example from personal experience illustrates how this cooperation has shaped research administration. The situation at many large research institutions is that communication and general understanding between the pre-award and post-award offices is not always smooth. However, with the advent of ARRA, understanding each other's function and goals has become vitally important in order to ensure that nothing is forgotten. ARRA requirements created additional work, but through the necessary collaboration, those requirements have also created an

atmosphere of understanding between different departments.

Collaboration with respect to ARRA reporting requirements is a positive step that should benefit research administrators going forward. Government regulations related to transparency and proper conduct in research continue to increase, and research administrators' involvement with faculty and their research agendas is becoming increasingly important. In addition to ARRA in 2009, other factors have required research administrators to collaborate with faculty in ways that have not traditionally been a part of their job. Requirements for sub-award monitoring in the Federal Funding and Transparency Act of 2006 (Federal Funding and Transparency Act, 2006), and the responsible conduct of research requirements in Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act of 2007 have dictated that faculty, departments, and central office administrators work together to meet the requirements of the award (National Institute of Standards and Technology, 2007). Instead of having brief conversations at the beginning of the award and checking that all pieces are put together to close out a project, ongoing dialog and monitoring of financial and programmatic requirements throughout the project period have become more commonplace in the world of research administration. The result is more labor-intensive for research administrators, but

produces better research oversight by the institution.

## CONCLUSION

Federal sponsorship of basic research is the product of long-standing government interest in growing scientific capital. At the end of World War II, another historically significant event, the government identified a goal to decrease dependence on foreign sources of scientific capital. As documented in a letter written by Vannevar Bush to President Franklin Roosevelt in 1945, “in the nineteenth century, Yankee mechanical ingenuity, building largely upon the basic discoveries of European scientists, could greatly advance the technical arts. Now the situation is different” (Bush, 1945, p. 26). Building scientific capital by funding basic research in universities throughout the country became a permanent part of federal fiscal policy. The end goal of that funding was to create a stronger America, where ideas could become reality. The work is done by scientists, but the funding is controlled mainly by non-scientists on behalf of taxpayers. Elected officials who make decisions about funding levels for research are influenced by the voters in

their district and in their hometowns. These individuals are in turn influenced by significant events in U.S. society, thus allowing major events to have a significant influence over what is done in laboratories.

September 11<sup>th</sup>, 2001 changed research interests because it changed the nation. The recession has caused the nation to see scientific advancement as a way to help the country regain economic stability. The direction of research administration as a profession is tied to the changes that come from federal sponsors.

**“When events in U.S. society direct federal sponsorship, they also affect the direction of research administration.”**

When events in U.S. society direct federal sponsorship, they also affect the direction of research administration. These case study examples are only two events that have had a significant, measurable impact. Imagine the impact that has not been measured.

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## ENDNOTES

1. i.e., DEAR 952.204-71 Sensitive Foreign Nations Controls; Army Corps of Engineers ER 52.0000—4017 – Foreign Nationals.
  2. ARL 52.005-4401 Release of Information.
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