

Advanced Statistical Computing Homework 1

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Contents

1	Introduction	2
1.1	Background	2
1.2	Education	3
1.3	Employment	3
1.4	Hobbies & More	3
2	NEH Data	5
2.1	Overview	5
2.2	A Closer Look	5
2.3	Visuals	8
3	Conclusion	12

Chapter 1

Introduction

1.1 Background

Hi! My name is Sadaf Rohani, and I'm a 24 year old DAAS student currently living in Gainesville, VA. My family is originally from Afghanistan, but I've lived in America since I was 2 years old.



Figure 1.1: Pictured with Traditional Jewelry

1.2 Education

I graduated a couple years ago with my BS in Neuroscience from George Mason University, took a gap year, then started my Master's program at VT last year.

1.3 Employment

Currently, I work as a student co-op at the United States Postal Service Office of Inspector General's office (USPS OIG). A current work-in-progress for me is a project that will improve major mailer loss reporting.

1.4 Hobbies & More

In my free time, I love to read books such as *Pride & Prejudice*. I also have several reality TV shows that I am guiltily addicted to reality shows like *Love Island UK*, *90 Day Fiance*, and *Selling Sunset*.

One of my favorite foods has to be pizza, and nothing beats an authentic NY slice. Thankfully, I've been able to visit NYC fairly regularly (before Covid) as I used to live in Queens and like to see my cousins there. I've also slowly started to travel more; the most recent place I went to was Costa Rica and it was lovely.



Figure 1.2: Costa Rica, March 2020

Chapter 2

NEH Data

2.1 Overview

The National Endowment for the Humanities (NEH) is a federal organization that supports projects focused on the humanities. I wanted to look at the various characteristics of applicants that received grants. Below is a quick look at some of the grant information available from fiscal years 2010-2019:

The downloaded binary packages are in

`/var/folders/rf/5sdfqncs3xbgtwyd_xcx7xnm0000gn/T//Rtmp09A4ht/downloaded_packages`

Table 2.1: A Portion of NEH Grant Data from Fiscal Years 2010-2019

Institution	AwardOutright	AwardMatching	SupplementAmount
University of Alaska, Anchorage	0	12291.0	0
National Underground Railroad Freedom Center	0	650000.0	0
SUNY Research Foundation, Buffalo State College	0	200000.0	0
National Underground Railroad Freedom Center	0	600000.0	0
Harvard University	0	349999.8	0

This data set was obtained from [Data.gov](#) and can be accessed via my [Google Drive](#).

There are 33 total columns, with variables to identify the grant application number, grant type and discipline, institution information and location data, amount and date awarded if application was approved, and supporting program information such as the title and description.

For a more detailed data dictionary, visit the [NEH website](#).

2.2 A Closer Look

Let's look at some summary statistics for the dataset:

It appears that 4-year colleges are the organizations that apply for the most NEH grants. The overwhelming majority of applications (7430/7502) were from the United States. The University of Virginia (UVA) was the institution that submitted the most grant applications, but most applications were submitted from organizations in New York.

Preservation Assistance Grants were the most applied to program, while most applications were for research divisions.

Table 2.2: NEH 2010-2019 Grant Selected Summary Statistics

Institution	Organization	Program	Division	Award	Outright	Supplemental	Project Title
University of Virginia : 66	Four-Year College : 2137	Preservation Assistance Grants : 941	Research Programs : 2432	Min. : 0	Min. : 0	Length: 7502	
Regents of the University of California, Berkeley: 56	University : 1887	Summer Stipends : 786	Preservation and Access: 1871	1st Qu.: 6000	1st Qu.: 0	Class : character	
Unaffiliated Independent Scholar : 53	Center For Advanced Study/Research Institute: 468	Fellowships for University Teachers : 484	Public Programs : 1124	Median : 50400	Median : 0	Mode : character	
University of Illinois : 52	State Humanities Council : 295	Humanities Collections and Reference Resources: 391	Education Programs : 1099	Mean : 144801	Mean : 35936	NA	
University of Chicago : 45	Unknown : 241	Scholarly Editions and Translations : 249	Digital Humanities : 430	3rd Qu.: 149569	3rd Qu.: 0	NA	
New York University : 44	Historical Society : 241	NEH on the Road : 242	Challenge Grants : 278	Max. : 7254650	Max. : 5000000	NA	
(Other) : 7186	(Other) : 2233	(Other) : 4409	(Other) : 268	NA	NA	NA	

The average monetary worth of the grants awarded was 144801 USD, with an average supplemental award of 35936 USD.

We can narrow the dataset to show those applications that were rewarded more than the average amount for either outright grants or supplemental money.

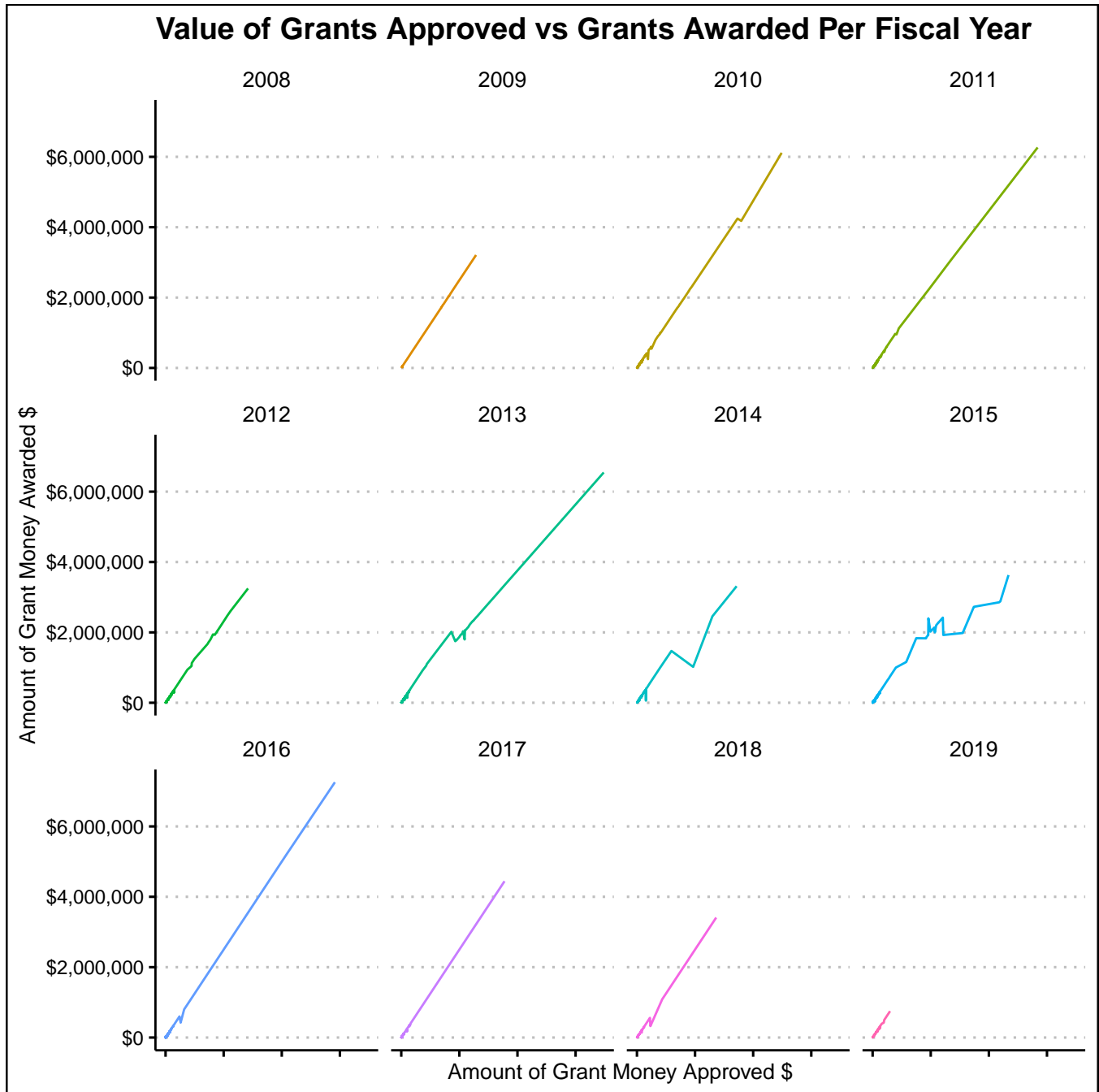
Table 2.3: Above Average NEH Grant Summary Statistics

Institution	Program	Division	AwardOutright	AwardMatching	SupplementAmount	ProjectTitle
California Humanities	State Humanities Councils General Operating Support Grants	Federal/State Partnership	6113750	295900	4392870	State Humanities Program
Mid-America Arts Alliance	NEH On the Road Cooperative Agreement	Public Programs	6266667	0	5000000	Mid-America Arts Alliance's Proposal to Sustain the NEH on the Road Traveling Exhibition Program
California Humanities	State Humanities Councils General Operating Support Grants	Federal/State Partnership	6544450	116100	4405680	State Humanities Program
Humanities New York	State Humanities Councils General Operating Support Grants	Federal/State Partnership	4377670	63400	2931540	State Humanities Program
Humanities Texas	State Humanities Councils General Operating Support Grants	Federal/State Partnership	4550190	82600	3058200	State Humanities Program
Florida Humanities Council	State Humanities Councils General Operating Support Grants	Federal/State Partnership	4280590	62400	2867090	State Humanities Program
Humanities New York	State Humanities Councils General Operating Support Grants	Federal/State Partnership	4851930	60300	3208130	State Humanities Program
California Humanities	State Humanities Councils General Operating Support Grants	Federal/State Partnership	7254650	111800	4851350	State Humanities Program
Humanities Texas	State Humanities Councils General Operating	Federal/State Partnership	5181140	81500	3346740	State Humanities Program

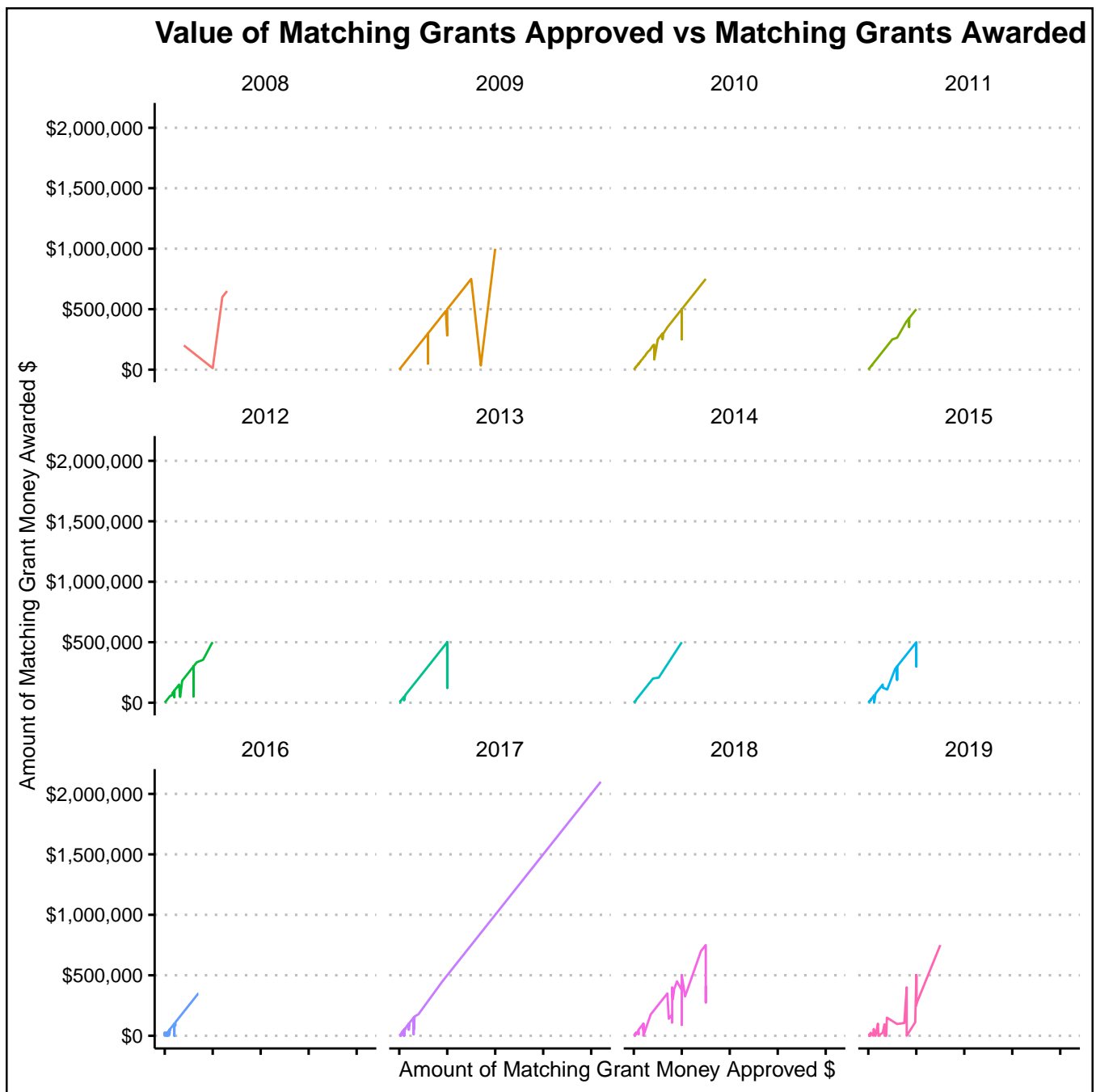
Of the 10 highest-awarded grant applicants, 9 were in a federal/state partnership division. The lone applicant in the public programs division was part of the Mid-America Arts Alliance whose project aim was to propose a way to “sustain the NEH on the road traveling exhibition program.”

2.3 Visuals

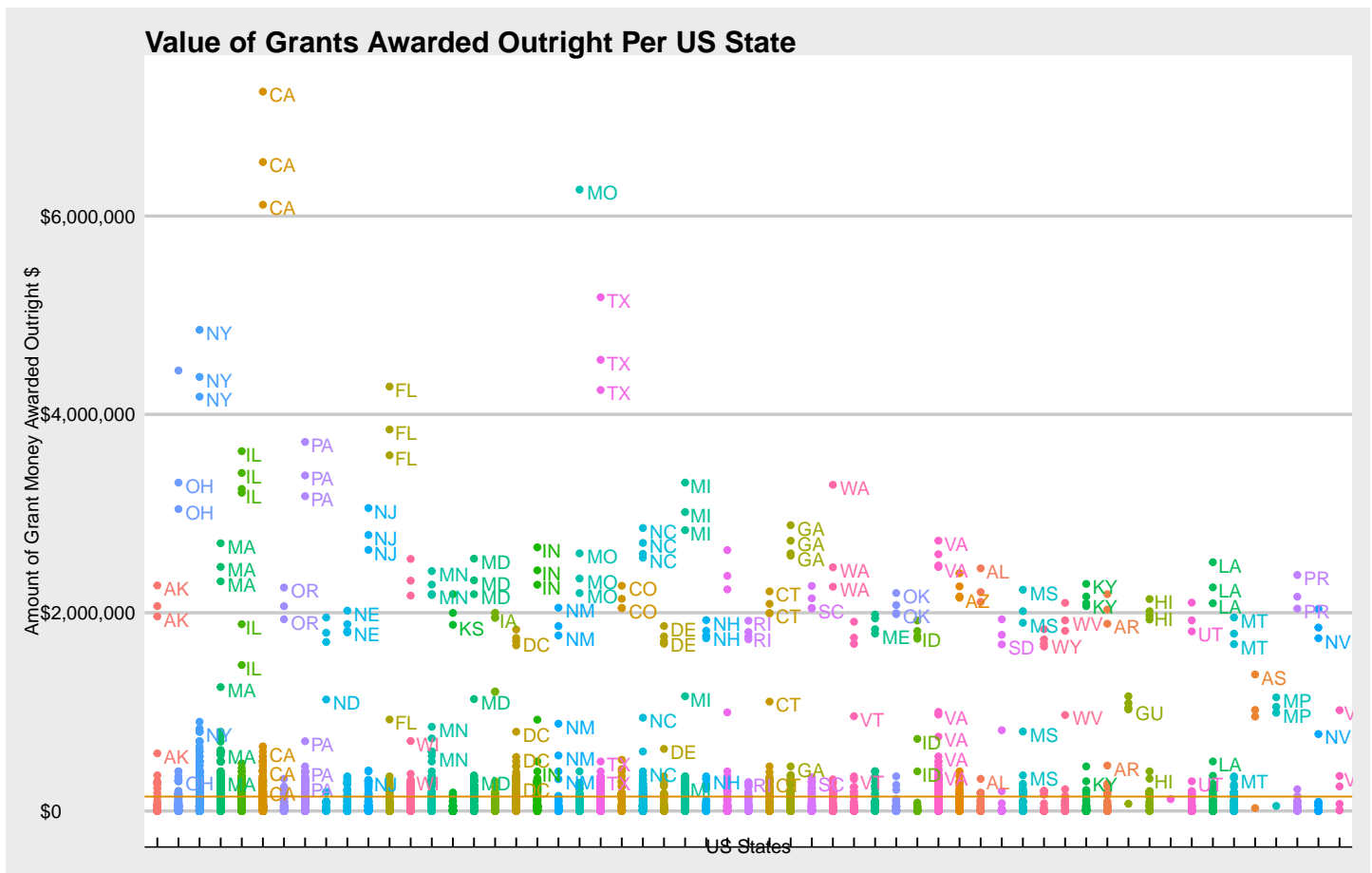
As one can see, there is a fairly strong, positive linear relationship between the the approved grant value and the actual grant value that was awarded throughout the years.



However, that linear relationship is not at several different time points when it comes to comparing the amount of matching grant money approved versus the actual amount of matching values awarded.



From the tables in the previous sections, we know that the United States is the country with the most grants awarded. We can drill down further and look at the US in more detail.



Above, we can see that there were several states that received grants valued at more than the average NEH grant received by other states. Some appear to be outliers, such as California receiving 3 grants worth over 6 million dollars, or Texas with 3 grants worth over 4 million dollars and New York State with 2 grants over 2 million.

These 3 states can be into these 3 states and to see if there are any similarities in the grants received.

Value of Grants Awarded Per Division



There is a difference in the monetary value of grants awarded based on division. For California, NY, and Texas, the Federal/State Partnership division results in a wider range of grant money awarded than the other divisions.

Chapter 3

Conclusion

From fiscal years 2010 through 2019, 7,502 grants were awarded by the National Endowment for the Humanities. The vast majority of those grants were awarded to US-based applicants. Four-year colleges made up the majority of US grant applicants. The mean value of grants that were outright awarded was 144801 USED, however there were some applicants in a few states that received grants worth millions.