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WORKING PAPER

STIMULUS FACTS—PERIOD 2

By Veronique de Rugy

MERCATUS CENTER
George Mason University

MERCATUS CENTER
George Mason University

Stimulus Facts – Period 2

Veronique de Rugy[1]

Using recipient report data from Recovery.gov and economic and political data from the Bureau of Labor Statistics, the Census Bureau, GovTrack.us, and others, I have compiled a series of facts about stimulus spending. My interest is simply to make use of the tens of thousands of stimulus recipient reports recently published on Recovery.gov and to put the aggregate information contained in those reports in a larger context. This report is part of a regular series as new recipient reports are released each quarter.

The information presented here encompasses the data from calendar year 2009 Q4 (FY 2010 Q1) reports of Recovery Act contracts and grants only. It is important to note that the data examined in this document includes funds spent, not funds awarded or allocated. More information about my methodology is provided at the end of this document. Additionally, the complete dataset used for this report is available for download at www.Mercatus.org.

This report is the updated version of the second iteration in my series of reports exploring the reported spending of stimulus funding. While it continues to explore the data from the final quarter of calendar year 2009, this update incorporates in its methodology a larger set of control variables[2] and a more complete explanation of the various statistical tests we used to arrive at our original conclusion, which is bolstered by our expanded methodology.

Basic Facts

A total of 65,084 contracts and grants totaling $170 billion were awarded in this second quarter for which Recovery.gov reports are available. That's only an additional $13.6 billion reported received this quarter over the previous one, roughly $1 billion awarded each week.

[1] For this update, I would like to thank Jakina Debnam and to give special thanks to Omar Al-Ubaydli and Thomas Stratmann, Assistant Professor of Economics and Professor of Economics at George Mason University respectively, for their exceedingly helpful thoughts and comments.

[2] The controls which are tested here have been selected by 1) examining the expressed objectives of the American Recovery and Reinvestment Act 2) examining the methodology that has been used to award stimulus funds (as presented at Recovery.gov) and 3) fielding suggestions from other economists and policy analysts. It may also be helpful to review the existing econometric literature on fiscal stimulus in order to examine the control variables used to examine the controls used. In future iterations of the Stimulus Facts, I hope to incorporate this into our methodology and to take a closer look into the allocation itself.

The number of jobs claimed as created or saved during this period is 597,153 for the entire $170 billion expenditure—an average of $285,814.61 per job. The total number of jobs claimed shrunk from 693,000. It is important to understand this point. The total number of jobs claimed to have been created by the entire stimulus fell overall, not just in the last quarter. This apparent job destruction may have to do with the changes the White House made on how to count jobs.

The total amount awarded to public entities (such as municipalities and state agencies) is $93 billion. However, it is still the case that some of this money may have ultimately found its way to private subgrantees or subcontractors. The total amount awarded to private contractors and grantees is $78 billion. While public entities received 42 percent of the number of all awards, these awards constituted over half of the dollars awarded (55 percent). In other words, public entities are receiving fewer contracts than private (27,230 vs. 37,854), but there is a higher average dollar value on the public awards ($3,417,412 vs. $2,050,484).

My analysis seeks to discover how and why stimulus funds have been spent.

In an attempt to rigorously explore the determinants of stimulus funding spending among congressional districts, which are general indicators of economic condition, demographic characteristics and political indicators were incorporated into a linear regression analysis.

Economic condition indicators were included to explore the hypothesis that fiscal stimulus should be expected to concentrate in districts suffering from economic hardship. The most obvious economic indicators conveying a district's income, proportion of residents receiving public assistance and poverty rate were used. To proxy for the employment effects of recession, the change in unemployment from 2007 to 2008 was used; the district's annual unemployment in 2008 was also used. Note that since the 2009 American Community Survey data is not yet available, 2008 unemployment was the most recent unemployment data available by congressional district. As a consequence, the unemployment measures used for the economic analyses were necessarily limited. However, due to the high correlation between unemployment rates within a given district over time, I find that this limitation is acceptable. In addition, the update incorporated measures of the concentration of manufacturing and construction industries within a district, those industries most affected by the recession. These metrics, in addition to other economic indicators not directly utilized in the regression analysis, are available in Excel and Stata formats at Mercatus.org.

To examine the extent to which the stimulus funds spent were demographically determined, this update also included variables for race, rurality, and age distribution within a given district.

In addition to these economic indicator variables, an array of political variables were tested, exploring whether the characteristics of district's political representation may have had an effect on the district's receipt (or requests for) stimulus funds. Political variables I considered included the political party, leadership position, and tenure of a congressional

district's representative. This report also considered the outcome of that district's voting in the most recent presidential election. If the spending of stimulus dollars was in fact being driven by political motivations, it could be the case that a district might be rewarded according to their presidential votes. Finally, these political indicators also included whether or not the district contained part or whole of the capital of the state in which it was located. Since the contract and grant data used here only includes the reports of primary and sub-recipients, it is possible that a concentration of funds reported received within a state were initially disbursed to that state's capital, to be eventually spread from state capitals throughout the state's various agencies.

After exploring the possible combinations of the aforementioned regressors, the variables which in combination that most fully account for the variation in the spending of stimulus funding continue to contain the political party and tenure of that state's representative. In addition my updated analysis finds that whether the district contains the capital of the state in which it is located, the income within that district, the poverty rate within a district, the concentration of manufacturing within a district, and the political party and tenure of that state's representative are also important in predicting the stimulus fund allocation to a given district.

(See table 1 for regression results including various combinations of regressors.)

Coefficients will be discussed in the following sections.

Party Affiliation

For my analysis, I looked at the 435 congressional districts in the United States plus the District of Columbia, but excluded Puerto Rico and foreign stimulus recipients such as Canada and the U.S. Virgin Islands. The average number of awards per district is 148, and the average dollar amount awarded per district is $385,932,979.

In the United States there are 177 districts represented by a Republican and 259 represented by a Democrat. On average, Democratic districts received 1.53 times the amount of awards that Republicans were granted. The average number of awards per Republican district is 112, while the average number of awards per Democratic district is 171.

Democratic districts also received 2.65 times the amount of stimulus dollars that Republican districts received $122 billion vs. $46 billion). Republican districts also received smaller awards on average. The average dollars awarded per Republican district is $26 million, while the average dollars awarded per Democratic district is about $472 million. In total, Democratic districts received 73 percent of the total stimulus funds awarded and Republican districts received 27 percent of the total amount awarded.

Other Political Variables

Regression analysis (ordinary least squares) was used to explore the predictive power of the various indicators described in the section above. The political variables considered here included the district representative's political party, tenure in office, leadership position, membership on the appropriations committee, and voting in the most recent presidential elections, as well as the inclusion of the state's capital within that district. The analysis finds that a district's representation by a Republican decreases the stimulus funds awarded to it by 27.9 percent. This result underscores the findings from the previous Stimulus Facts report.

This effect is statistically significant at the $p < .015$ level (see table 1). The regression analysis does not seek to explain (nor does it explain) precisely how funds were allocated (adjusted $R^2 = .400$). That would require a more complete dataset than has been used for these results or is available through Recovery.gov. That is, I wanted to know how much political and economic factors could explain the distribution of funds. That is different from saying I want to know all of the factors that control the spending of the funds. I do not have that data nor is it particularly interesting for this purpose. I have confidence that these estimates of the selected indicators are robust, although I do not know how other, yet unknown, indicators may have influenced stimulus funding decisions. The political calculation shows that there is no statistically significant effect of a district's voting outcome in the 2008 presidential elections.

Concretely, while $109 billion has been awarded to congressional districts that voted for President Obama (or 65 percent of the total amount allocated), $59 billion (or 35 percent) have been allocated to congressional districts that voted for McCain. It should be noted, however, that there were many more congressional districts that voted for Obama than voted for McCain. President Obama won 55.6 percent of congressional districts and McCain won 44.4 percent of these districts.

The districts that voted for President Obama received 40,037 awards (or 69 percent of the total number of awards allocated), much more than the districts that voted for candidate McCain; they received 24,483 awards (or 31 percent of the total number of awards).

The average awarded to marginal districts—districts with votes that did not vote overwhelmingly for one candidate or another (5 percent or less difference)—is $22 million. That's significantly less than the average awarded to non-marginal districts of $419 million.

House Leadership

As noted earlier, the average congressional district received $386 million. In contrast, the average leadership district (defined as a district where the representative is part of the majority or minority House political leadership or is a chairman or ranking member of a committee) received $381 million.

The average amount awarded to a leadership district is fairly different depending on whether the leader is a member of the majority or the minority. The amount awarded to average majority leadership district is $351 million while the amount awarded to average minority leadership district is $412 million.

Notice that counter-intuitively, only the amounts awarded to the majority leader are less than the amount awarded to the average district and the average non-leadership district, which is $387 million. This is also true of the dollar amount of stimulus money given to the average member of the House Appropriations Committee ($390 million) and given to the district of the Chairman on the House Appropriations Committee Dave Obey ($52 million).

Finally, on average, 148 contracts or grants were awarded to each congressional district. The number of awards to the average leadership district is 135, the number of awards to average majority leadership district is 169, and the number of awards to average minority leadership district is 101. The average non-leadership district received 150 awards, which is more than the number of awards to the average leadership district.

This update underlines a small, yet statistically significant (p=.014) effect of an increase in the tenure of a state's representative on the amount of stimulus dollars that a district is awarded. For each year that a state's representative has been in office, there is a 12.3 percent increase in stimulus funds, holding all else constant.

Summing up the results on political variables, we can say that there is a slight positive correlation between the percentage of the district that voted for President Obama and the amount of stimulus funding that a district received. This weak correlation (correlation = .172, p=.0003) may however be coincidental (see table 3, figure F).

Finally, this update still finds no statistically significant effect of membership on House Appropriations Committee or leadership position on stimulus funds allocated, while there seems to be a small negative effect of Republican representation on stimulus fund allocation. This underscores the findings from the previous Stimulus Facts report.

Economic Indicators

Next, I checked the correlation (see table 2 at the end of the document) and computed the predictive power of economic indicators on stimulus fund allocation (see table 3). The scatter plots below reveal that overall there appears to be no correlation between economic indicators and stimulus funding (see figures A–H). To confirm the lack of correlation, I ran a statistical correlation test (table 2) to check for correlation between economic indicators and the stimulus fund allocation and a series of regressions to test the statistical significance of economic indicators in predicting the allocation of stimulus funding. As a result, the poverty rate, income, and concentration of manufacturing within a district were included in my specification and found to be statistically significant.

Furthermore, the effect of these economic indicators was found to be robust.

Unemployment

Controlling for the percentage each district that was employed in the construction sector, and the median income of the congressional district, I find that the variation in the unemployment rate has no statistical correlation with the allocation of stimulus funding.

I used the variation in unemployment in the construction industry as a proxy for the concentration of recession-vulnerable employment in a district.

Figure A: Scatter plot of the logarithm of stimulus funding, Unemployment change from 2007 to 2008

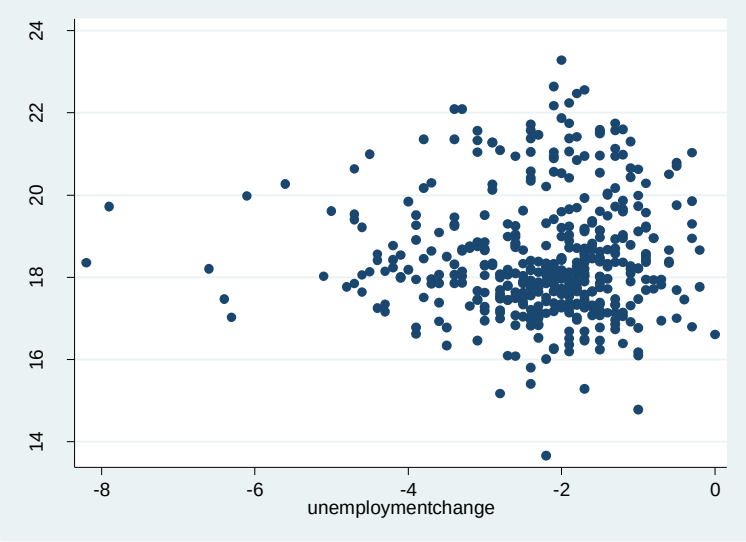


Figure B: Scatter plot of the logarithm of stimulus funding, construction employment as a percentage of total employment as of December 2008

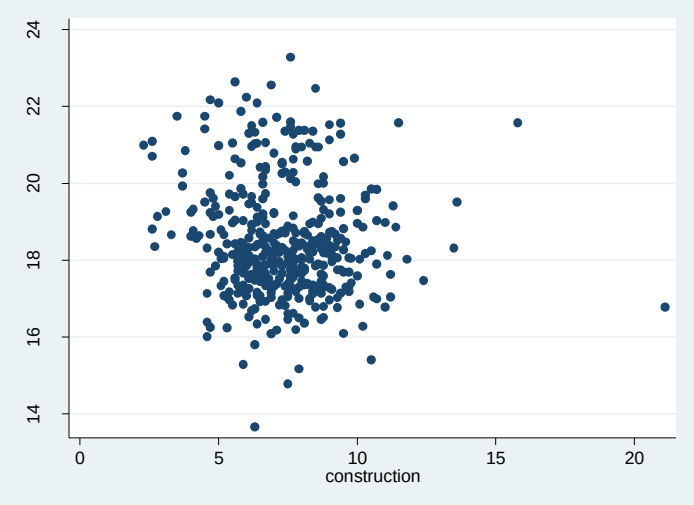


Figure C: Scatter plot of the logarithm of stimulus funding, congressional district mean income

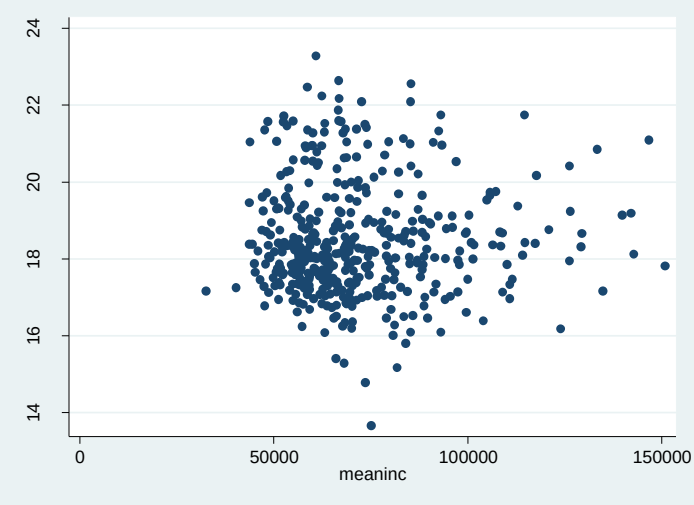


Figure D: Scatter plot of the logarithm of stimulus funding, congressional district median income

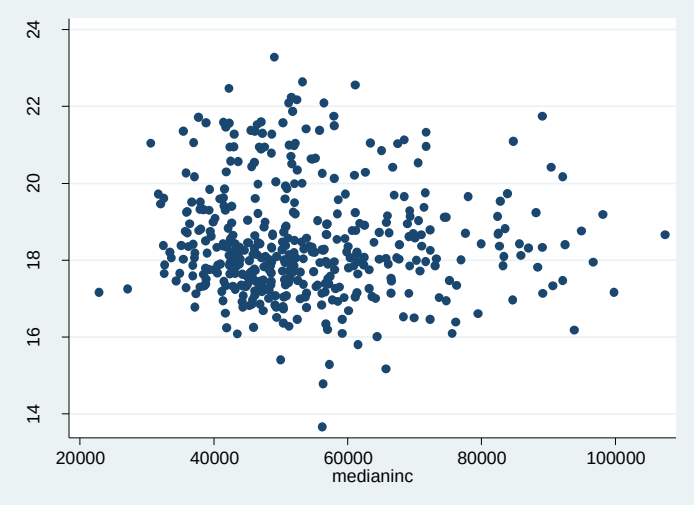


Figure E: Scatter plot of the logarithm of stimulus funding, tenure of the representative of the congressional district

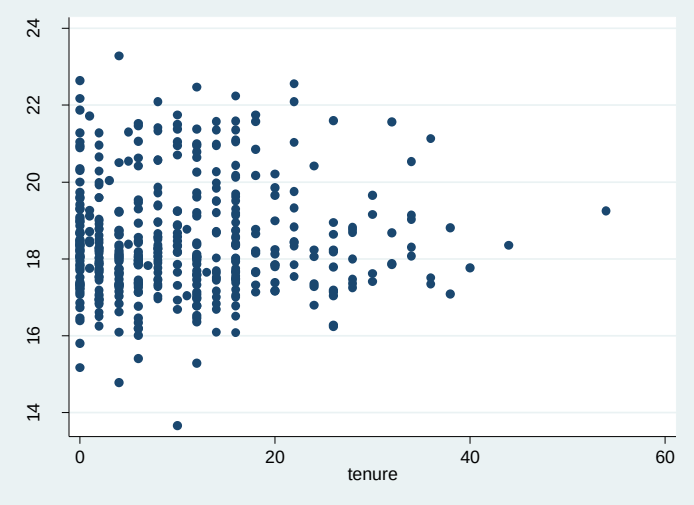


Figure F: Scatter plot of the logarithm of stimulus funding, percentage of district that voted for candidate Obama in 2008 presidential election

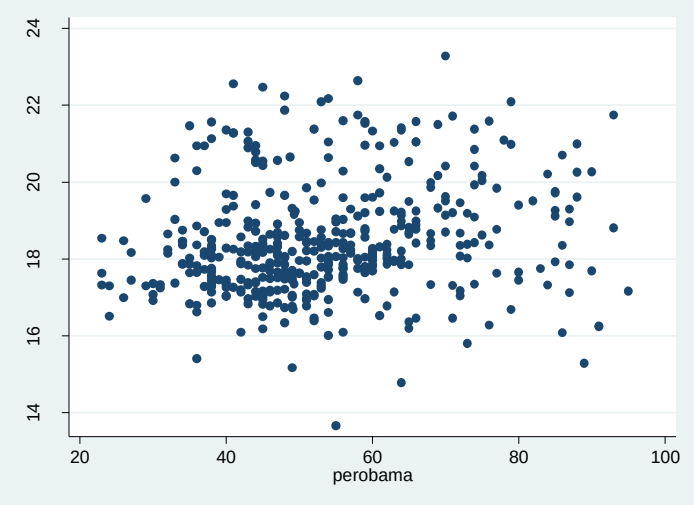


Figure G: Scatter plot of the logarithm of stimulus funding, percentage of the population below 100% of the poverty line within a given district

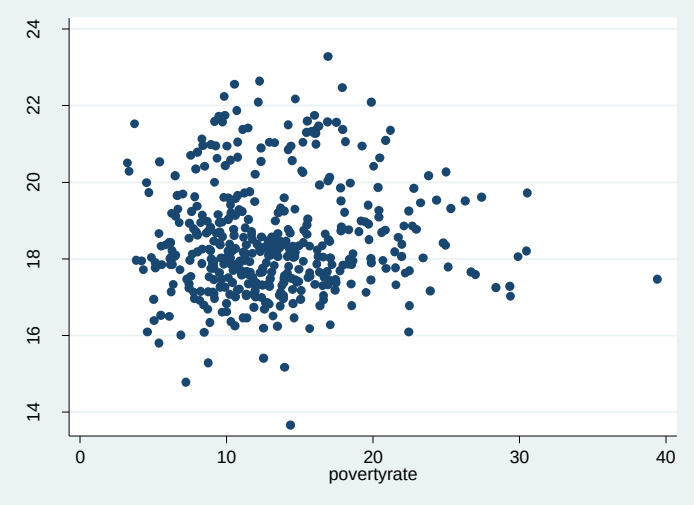
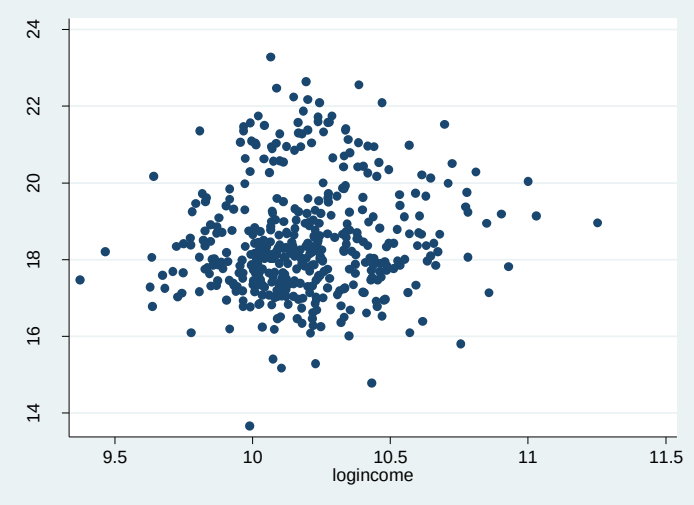


Figure H: Scatter plot of the logarithm of stimulus funding, logarithm of income within a district



Income

Awards were also coded for Metropolitan Statistical Areas (MSAs) based on their ZIP codes. MSAs are large geographical units with an urban center for which the Census Bureau and other agencies compile data. Chicago-Naperville-Joliet, IL-IN-WI, for example, is an MSA.

Using per capita income data from the Bureau of Economic Analysis, I divided each MSA into quintiles. Each quintile represents 20 percent, or one fifth, of all incomes in that MSA. As a result, the top quintile (Q1) represents the highest-income MSA, and the bottom quintile (Q5) represents the MSA with the lowest income.

Q1	Q2	Q3	Q4	Q5
$39,383<Income	$35,803<Income<=$39,383	$32,753<Income<=$35,803	$30,137<Income<=$32,753	Income<=$30,137

Based on the data, I looked at whether the allocations were affected by how high- or how low-income the MSA was. Based on the total MSA, 39 percent of the stimulus funds were allocated to the highest-income MSAs and only 1 percent to the lowest quintile. However, using per capita expenditures in MSAs, the highest quintile received fewer dollars ($447 per person) than the lowest quintile received ($1,163 per person.) Thus, while high-income MSAs received more money than low-income MSAs, they also had more people and the result was more money going to low-income people per capita. See the tables below.

	MSA with high income in **(Q1)**	MSA with low income (**Q5)**
Stimulus Received	$62 billion	$2.4 billion
Percentage of Total Stimulus Received	39%	1%
Stimulus Received per Capita	$447	$1,163
Average Stimulus per MSA	$846 million	$32 million

I also checked whether the stimulus allocation was affected based by another measure of income (average income, below average income.)

	MSA with **above** average income	MSA with **below** average income
Stimulus Received	$124 billion	$33 billion
Percentage of Total Stimulus Received	78.65%	21.35%
Stimulus Received per Capita	$654	$527
Average Stimulus per MSA	$807 million	$162 million

As we can see in the above table, MSAs with income above average received 79 percent of the stimulus funds. MSAs with income below average received only 21 percent of stimulus. However, when I looked for the amount of dollars per capita received the difference was significantly reduced. That's because MSAs with income above average are more populated than MSAs with income below average.

****Report 1 to Report 2 Comparison Statistics****

I also wanted to see how or if the stimulus funds allocation changed between my first report and my second.

Change from R1 to R2

Difference in stimulus allocation by income broken down between above and below average.

	MSA with **above** average income	MSA with **below** average income
Stimulus Received	+$10 billion	+$2,2 billion
Percentage of Total Stimulus Received	+0.3%	-0.3%
Stimulus Received per Capita	+$53	+$34
Average Stimulus per MSA	+$65 million	+$11 million

Change from R1 to R2

Differences in stimulus allocation (by top quintile income, lowest quintile income)

Q1	Q2	Q3	Q4	Q5
$39,383<Income	$35,803<Income<=$39,383	$32,753<Income<=$35,803	$30,137<Income<=$32,753	Income<=$30,137

	MSA with income in **Q1**	MSA with income in **Q5**
Stimulus Received	+$6 billion	+$273 million
Percentage of Total Stimulus Received	+0.8%	-0.4%
Stimulus Received per Capita	+$44	+$135
Average Stimulus per MSA	+$83 million	+$3.7 million

Methodology

My methodology used in this update is the same as the one used for my last report, with a few exceptions.

First, I would like to note that the Recovery Accountability and Transparency Board changed the way it defines a year. Previously, the data was broken down in fiscal year quarters, with the year ending on September 30, 2009 and the last quarter going from July 1st to September 30th. Now the data is broken down in calendar year quarters. With this methodology, the data that goes from October 1st to December 31, 2009 is also the last quarter of 2009. This is the reason why both reports mention being an analysis of the 4th quarter of 2009 data.

As for my previous report, I downloaded all 2009 Q4 recipient reports for contracts and grants from the official Recovery.gov website.[3] These are self-reports submitted by the recipients of stimulus contracts and grants. I did not include loans because I am only interested in transfer payments. I removed all sub-awards from my combined dataset because they simply add up to the primary awards. My resulting dataset is a list of every primary contract and grant reported with their corresponding attributes. Attributes include recipient names and addresses, amounts received, jobs claimed, congressional district, etc.

Each award in the source data has two addresses associated with it: the award recipient's address and the place of performance address. These are the same most of the time, but in some cases, they are not. For example, a pipe manufacturer in Florida might have received a contract for a pipe to be used in New York. I chose to only use the award

[3] http://www.recovery.gov/FAQ/Pages/DownLoadCenter.aspx, http://download.recovery.gov/recipient/2009_Q4/All_ContractsFY09Q4.xls.zip, http://download.recovery.gov/recipient/2009_Q4/All_GrantsFY09Q4.xls.zip

recipient address for my analysis because I am interested in the political economy of the awards, i.e. who receives the payment.

Every award has a recipient state and congressional district associated with it. Almost every state also has awards that are associated with a district "ZZ." Recovery.gov explains, "The code 'ZZ' appears in the congressional district field as a placeholder if a recipient reported an incorrect or invalid congressional district. The recipient will correct the congressional district during the next reporting period, beginning January 1, 2010." I corrected every erroneous district in my dataset by looking up the correct district number based on the recipient's ZIP+4 code.[4]

Every award has a North American Industrial Classification System code associated with it.[5] These codes represent the recipient's industry relevant to the contract. For example, the code 237110 represents "Water and Sewer Line and Related Structures Construction." All codes above 920000 represent "Public Administration," i.e. some government entity. I coded all awards with a code of 920000 and above as "public" and all awards with a code below 920000 as "private."

I coded every award as Republican or Democratic based on the current representation of its associated district.[6] Awards are also coded as leadership or not. I assign the leadership code if the member from an award recipient district is part of the majority or minority House political leadership, or a chairman or ranking member of a committee. I also coded each award with whether the member from the district sits on the appropriations committee.

I coded each award as being in an Obama or McCain district based on which candidate received the most votes in the last presidential election in its recipient district.[7] I also coded each award as being in a marginal district or not. I defined marginal districts as those where the percentage difference between McCain and Obama was 5 percent or less.

I also coded each award with its corresponding MSA based on the recipient's ZIP+4 code using a lookup table.[8] This allowed us to use MSA population data from the Census Bureau,[9] and MSA per capita income data from the Bureau of Economic Analysis.[10]

For this analysis, my dataset excludes awards made to recipients in U.S. territories and foreign countries.[11] Awards to these locales total $2.4 billion or just 1.41 percent of the

[4] I used GovTrack.us's district finding tool at http://www.govtrack.us/congress/findyourreps.xpd
[5] http://www.naics.com/search.htm
[6] I used GovTrack.us to find the representative of each district, their party affiliation, and their committee membership.
[7] I used 2008 presidential election results by district compiled by SwingStateProject.com. It in turn used official local government sources for its data.
http://www.swingstateproject.com/showDiary.do;jsessionid=88ADE21A3CEBD0E4D1E763AE531686E0?diaryId=4161
[8] http://www.msa-zip.com/download.php?file=msa-zip-table.zip
[9] http://www.census.gov/popest/metro/metro.html
[10] http://www.bea.gov/newsreleases/regional/mpi/mpi_newsrelease.htm

total represented by all awards. Because I am interested in the political economy of the awards, I exclude these from most of my questions and use only the data for the 50 states plus the District of Columbia.

With that data, I ran a series of regression analyses using Stata, a widely used statistical software package. Regression analysis is a statistical tool that helps to understand the relationships between variables. Regression analysis is what helps to identify the causal effect of one variable, and one variable alone, upon another—for example, the effect of the unemployment level in a district upon the allocation of stimulus fund in that district, for example, or the effect of party affiliation upon the that same allocation of resources.

To explore such issues, I assembled data on the underlying variables of interest (in this case, a district's income, inclusion of the state's capital, representative's tenure, political affiliation, poverty rate, and prominence of manufacturing in the local economy). In order to avoid omitted variable bias, I examined a variety of economic indicators from the *2008 U.S. Census Bureau American Community Survey 1-Year Estimates*.[12] Then, I checked for correlation and computed the predictive power of economic indicators on stimulus fund allocation.

It is important to note that in this report I have changed the way I account for unemployment. Instead of using the unemployment rate by district, I have used as a proxy for the impact of the recession in a district the change in the unemployment rate in each district between 2007 and 2008. 2008 is the last year of the unemployment rate per district available at this point. Using change in unemployment rate allows us to check whether the relative deterioration in unemployment in a district can account of the allocation of stimulus funds as the rationale behind the bill would suggest. Regardless of this change however, I found no significant effect of unemployment on the allocation of stimulus dollars; therefore this variable has not been included in the specification of my model.

Also, in this report I have used the natural logarithm dollars in my regression rather than untreated dollars. Since this metric varies widely across the data set, taking the logarithm helps me to more accurately examine the effects of the various indicators on stimulus fund allocation.

Next, I used regression analysis to estimate the quantitative effect of the causal variables upon the variable that they influence. For example, when I found that the party affiliation had a causal effect of the allocation of stimulus funds, I looked for how much party affiliation mattered. The quantitative effects that I estimated are based on my model specification such that with a more completely specified model, these effects would likely change. Thus, more confidence should be placed on the relationship between the two variables (i.e., a causal factor exists) then on the quantification of that relationship.

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[11] Alberta, Canada; Puerto Rico; Guam; The Marshall Islands; Northern Mariana Islands; Palau; The Virgin Islands; American Samoa; Ontario, Canada; and four awards to "OTH," which we take to mean "other."
[12] http://www.census.gov/acs/www/Products/users_guide/2008/index.htm

Table 1: Determinants of Stimulus Fund Allocation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Capital	2.05 *(0.00)*	----	----		----	2.07 *(0.000)*	2.06 *(0.000)*
Logincome	----	.635 *(0.021)*	----	----	1.50 *(0.000)*	1.90 *(0.000)*	1.78 *(0.000)*
Povertyrate	----	----	.015 *(0.240)*	----	.062 *(0.003)*	.089 *(0.000)*	.081 *(0.000)*
Manufacturing	----	----	----	----	-.046 *(0.002)*	-.019 *(0.113)*	-.017 *(0.162)*
Republican	----	----	----	-.476 *(0.001)*	-.320 *(0.024)*	-----	-.279 *(0.015)*
Logtenure	----	----	----	----	.057 *(0.355)*	.118 *(0.020)*	.123 *(0.014)*
Adjusted R^2	.324	0.010	0.000	0.023	.083	.395	.400

The p-values are italicized in parentheses beneath coefficients. For complete regression tables, see appendix.

Table 2: Correlation Test of All Factors

```
. correlate logdollars  jobs  tenure leadership republican perobama permccain difference marginaly obamawin demlead gople
> ad appropriations unemployment construction manufacturing  unemploymentchange capital white black asian hispanic  rural
>  old young  publicassist logincome population povertyrate
(obs=435)
```

	logdol~s	jobs	tenure	leader~p	republ~n	perobama	permcc~n	differ~e	margin~y	obamawin	demlead
logdollars	1.0000										
jobs	0.5867	1.0000									
tenure	0.0485	-0.0123	1.0000								
leadership	-0.0006	-0.0106	0.4182	1.0000							
republican	-0.1599	-0.1023	-0.0333	0.0700	1.0000						
perobama	0.1717	0.0680	0.1561	0.0154	-0.6236	1.0000					
permccain	-0.1772	-0.0710	-0.1546	-0.0144	0.6241	-0.9980	1.0000				
difference	0.1188	0.0210	0.1859	0.0575	-0.3041	0.6069	-0.6015	1.0000			
marginaly	-0.1252	-0.0861	-0.0547	0.0383	0.1361	-0.1380	0.1366	-0.4691	1.0000		
obamawin	0.1374	0.0670	0.1195	-0.0280	-0.6161	0.7752	-0.7733	0.3131	-0.1273	1.0000	
demlead	0.0204	0.0009	0.4055	0.6852	-0.2036	0.2068	-0.2072	0.1963	-0.0813	0.1200	1.0000
goplead	-0.0212	-0.0153	0.1676	0.6852	0.2996	-0.1856	0.1874	-0.1175	0.1338	-0.1584	-0.0610
appropriat~s	0.0414	0.0268	0.1983	-0.0605	-0.0173	0.0037	-0.0063	0.0551	-0.0482	0.0065	-0.0701
unemployment	0.0007	0.0420	0.1209	0.0234	-0.2278	0.4867	-0.4864	0.3619	-0.0910	0.3244	0.0842
construction	-0.0891	-0.0583	-0.0910	-0.0229	0.1375	-0.3231	0.3223	-0.1889	0.0559	-0.2606	-0.0824
manufactur~g	-0.2185	-0.1168	-0.0035	-0.0142	0.1383	-0.2679	0.2606	-0.2254	0.0258	-0.1580	-0.0353
unemployme~e	0.0021	0.0238	-0.1215	-0.0737	0.0942	-0.0995	0.0918	-0.1226	0.0785	-0.0757	-0.1209
capital	0.5705	0.4655	-0.0958	-0.0436	-0.0325	-0.0243	0.0158	-0.0647	-0.0560	-0.0095	-0.0542
white	-0.1234	-0.0564	-0.0531	0.0011	0.2130	-0.3979	0.3974	-0.3237	0.1345	-0.3071	-0.0732
black	0.1290	0.0587	0.0025	-0.0101	-0.1347	0.2598	-0.2499	0.2381	-0.1119	0.1730	0.0646
asian	0.0838	0.0421	0.0853	0.0049	-0.1493	0.3185	-0.3287	0.2158	-0.0713	0.2656	0.0519
hispanic	-0.0957	-0.0382	0.0339	0.0099	-0.0400	0.0989	-0.1015	0.0309	0.0350	0.1242	-0.0020
rural	-0.1149	-0.0141	0.0293	0.0745	0.1555	-0.3772	0.3796	-0.1470	0.0332	-0.3535	0.0399
old	-0.0668	-0.0450	0.0099	-0.0118	0.0441	-0.0784	0.0849	-0.1212	0.1776	-0.1061	-0.0262
young	-0.1541	-0.0577	-0.0560	0.0272	0.0324	-0.0489	0.0456	-0.0051	-0.0652	-0.0237	0.0084
publicassist	0.0417	0.0204	0.0668	0.0031	-0.1115	0.0607	-0.0554	0.1166	-0.0751	0.0261	0.0464
logincome	0.1109	0.0029	-0.0585	-0.0376	-0.0081	0.0987	-0.0996	-0.0385	0.0333	0.1401	-0.0391
population	0.0997	0.0273	0.0698	0.0277	0.0357	-0.0274	0.0248	0.0256	-0.0644	-0.0510	0.0253
povertyrate	0.0565	0.0499	0.0745	0.0054	-0.1375	0.1353	-0.1319	0.1995	-0.0830	0.0729	0.0537

	goplead	approp~s	unempl~t	constr~n	manufa~g	unempl~e	capital	white	black	asian	hispanic
goplead	1.0000										
appropriat~s	-0.0128	1.0000									
unemployment	-0.0521	-0.0168	1.0000								
construction	0.0510	-0.0107	-0.1310	1.0000							
manufactur~g	0.0158	0.0032	0.0310	-0.1807	1.0000						
unemployme~e	0.0199	-0.1397	-0.2619	0.0812	-0.0621	1.0000					
capital	-0.0056	-0.0418	-0.0856	0.0486	-0.1490	0.0890	1.0000				
white	0.0747	-0.0564	-0.2657	0.0115	0.2092	0.3071	-0.0041	1.0000			
black	-0.0785	0.0688	0.2664	-0.0901	-0.1322	-0.4659	0.0277	-0.7689	1.0000		
asian	-0.0452	-0.0310	0.0109	-0.0914	-0.1131	0.2702	-0.0245	-0.4174	-0.1095	1.0000	
hispanic	0.0156	-0.0114	0.0680	0.2976	-0.2055	0.0400	-0.0731	-0.2923	-0.1258	0.2334	1.0000
rural	0.0622	0.0663	-0.1354	0.0276	0.2453	-0.1659	-0.0174	0.4898	-0.1905	-0.4836	-0.4418
old	0.0100	0.0319	-0.0500	-0.0622	-0.0426	-0.0026	-0.1201	0.3891	-0.1792	-0.2067	-0.3558
young	0.0290	-0.0253	0.1690	0.1547	0.1046	-0.2251	-0.0010	-0.2829	0.1485	-0.0991	0.4827
publicassist	-0.0421	0.1511	0.2716	-0.0255	0.0090	-0.7052	-0.0418	-0.3148	0.4698	-0.3326	0.0766
logincome	-0.0125	-0.1189	-0.2313	-0.1369	-0.1417	0.5425	0.0437	0.1518	-0.2471	0.4052	-0.2260
population	0.0127	0.0287	-0.0683	-0.0381	0.0025	-0.0571	0.0373	0.0100	0.0155	-0.0578	-0.0342
povertyrate	-0.0463	0.1519	0.3023	0.0734	-0.0693	-0.6533	-0.0579	-0.4395	0.4766	-0.2414	0.3146

	rural	old	young	public~t	loginc~e	popula~n	povert~e
rural	1.0000						
old	0.2444	1.0000					
young	-0.0767	-0.6194	1.0000				
publicassist	0.2135	-0.0309	0.2744	1.0000			
logincome	-0.3840	0.0458	-0.4912	-0.7215	1.0000		
population	0.0225	-0.0422	0.1040	0.0659	-0.0522	1.0000	
povertyrate	0.0956	-0.1192	0.2978	0.8582	-0.7558	0.0391	1.0000

Table 3: Correlation Test: Voting for Candidate Obama and Log Stimulus Dollars Spent

```
. pwcorr perobama logdollars, sig
```

	perobama	logdol~s
perobama	1.0000	
logdollars	0.1718 0.0003	1.0000

Table 4: Linear Regression with Model as Specified

```
. regress logdollars capital manufacturing povertyrate logincome logtenure repub
> lican
```

Source	SS	df	MS		
Model	380.461681	6	63.4102802	Number of obs	435
Residual	551.835772	428	1.28933592	F(6, 428)	49.18
				Prob > F	0.0000
Total	932.297454	434	2.14815081	R-squared	0.4081
				Adj R-squared	0.3998
				Root MSE	1.1355

logdollars	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
capital	2.057024	.1364303	15.08	0.000	1.788868	2.325181
manufactur~g	-.0168366	.0120243	-1.40	0.162	-.0404707	.0067976
povertyrate	.0813974	.0165976	4.90	0.000	.0487743	.1140204
logincome	1.778743	.3444249	5.16	0.000	1.101768	2.455718
logtenure	.1234841	.0500999	2.46	0.014	.0250116	.2219566
republican	-.2785231	.1142628	-2.44	0.015	-.5031092	-.0539369
_cons	-1.100662	3.7351	-0.29	0.768	-8.442083	6.240759

```
.
```

Regression Variable Definitions

“state”	String variable; state where congressional district is located
“district”	District number within the state
“dollars”	Stimulus dollars awarded to the congressional district
“jobs”	Jobs reported as saved or created
“num_contracts”	Number of contracts awarded to that congressional district
“member”	Representative of the district
“since”	Year in which the “member” began to represent that district
“tenure”	Difference between 2009 and “since”
“republican”	Dummy variable; republican=1 if “member” is a Republican, republican=0 if not
“leadership”	Dummy variable; leadership=1 if “member” is part of the majority or minority House political leadership or is a chairman or ranking member of a committee, leadership=0 if not
“perobama”	Percentage of votes won by candidate Obama within the congressional district in the 2008 presidential election
“permccain”	Percentage of votes won by candidate McCain within the congressional district in the 2008 presidential election
“difference”	The difference between “perobama” and “permccain”; the margin of victory within the congressional district in the 2008 presidential elections
“marginaly”	Dummy variable; marginaly=1 if the congressional district was decided by a margin of less than or equal to 5% of votes, marginally=0 if not
“obamawin”	Dummy variable; obamawin=1 if Obama won the district in

	the 2008 presidential elections, obamawin=0 if not
“demlead”	Dummy variable; demlead=1 if the congressional district’s representative is a member of Democratic Party leadership, demlead=0 if not
“goplead”	Dummy variable; goplead=1 if the congressional district’s representative is a member of Republican Party leadership, goplead=0 if not
“appropriations”	Dummy variable; appropriations=1 if the congressional district’s representative is a member of the House Appropriations Committee
“unemployment”	Percentage of the civilian labor force over the age of 16 that was unemployed as of December 2008
“unemploymentchange”	Percentage of the civilian labor force over the age of 16 that was unemployed as of December 2007 less the percentage of the civilian labor force over the age of 16 that was unemployed as of December 2008
“construction”	Percentage of the civilian labor force over the age of 16 employed in the construction industry
“manufacturing”	Percentage of the civilian labor force over the age of 16 employed in the manufacturing industry
“medianinc”	Median household income (dollars) as estimated by the U.S. Census Bureau
“meaninc”	Mean household income (dollars) as estimated by the U.S. Census Bureau
“capital”	A dummy variable where each district which contained part of the capital of the state in which it is located was tagged as *capital*=1
“white”	White population in a given district divided by the total population in that district
“black”	Black population in a given district divided by the total population in that district
“asian”	Asian population in a given district divided by the total population in that district
“hispanic”	Hispanic population in a given district divided by the total population in that district
“rural”	Rural population in a given district divided by the total population in that district
“old”	Population in a district over the age of 65 divided by the total population in that district
“young”	Population in a district under the age of 18 divided by the total population in that district
“publicassist”	Population in the district that have received some form of food stamps or public assistance divided by the total population in that district
“income”	Per capita income in the past 12 months (2008-inflation

	adjusted dollars)
“population”	Population in a given district
“povertyrate”	Population in a given district with earnings below 100% of the poverty line divided by the total population in a given district
“logincome”	Natural logarithm of income
“tenuremodified”	Tenure, with *tenure*=0 changed to *tenuremodified*=1
“logtenure”	Natural logarithm of *tenuremodified*

Appendix

Complete Regression Tables, Regressing on Log Stimulus Funds Received:

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Capital	----	-----	2.02 *(0.000)*	2.00 *(0.000)*	2.09 *(0.000)*	2.03 *(0.000)*	----
Logincome	----	----	----	.464 *(0.037)*	1.92 *(0.000)*	1.77 *(0.000)*	----
Povertyrate	----	-----	.015 *(0.164)*	----	.087 *(0.000)*	.084 *(0.000)*	.006 *(0.668)*
Manufacturing	-.066 *(0.000)*	-----	-.034 *(0.004)*	-.032 *(0.008)*	----	-.017 *(0.152)*	-.060 *(0.000)*
Republican	----	-----	-.357 *(0.002)*	-.388 *(0.001)*	-.291 *(0.011)*	-.266 *(0.021)*	-.388 *(0.006)*
Logtenure	----	.054 *(0.393)*	.117 *(0.023)*	.140 *(0.007)*	.125 *(0.013)*	----	.053 *(0.390)*
Adjusted R^2	.046	-.000	.363	.368	.398	.393	.058

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Capital	2.05 *(0.00)*	----	----	----	----	2.07 *(0.000)*	2.06 *(0.000)*
Logincome	----	.635 *(0.021)*	----	----	1.50 *(0.000)*	1.90 *(0.000)*	1.78 *(0.000)*
Povertyrate	----	----	.015 *(0.240)*	----	.062 *(0.003)*	.089 *(0.000)*	.081 *(0.000)*
Manufacturing	----	----	----	----	-.046 *(0.002)*	-.019 *(0.113)*	-.017 *(0.162)*
Republican	----	----	----	-.476 *(0.001)*	-.320 *(0.024)*	-----	-.279 *(0.015)*
Logtenure	----	----	----	----	.057 *(0.355)*	.118 *(0.020)*	.123 *(0.014)*
Adjusted R^2	.324	0.010	0.000	0.023	.083	.395	.400

	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Capital	2.01 *(0.000)*	2.06 *(0.000)*	2.10 *(0.000)*	2.04 *(0.000)*	----	2.07 *(0.000)*	2.07 *(0.000)*
Logincome	----	.547 *(0.014)*	2.06 *(0.000)*	1.88 *(0.000)*	----	----	.551 *(0.015)*
Povertyrate	----	----	.097 *(0.000)*	.091 *(0.000)*	----	----	----
Manufacturing	-.035 *(0.003)*	----	----	-.020 *(0.107)*	-.060 *(0.000)*	----	----
Republican	-.379 *(0.001)*	-.430 *(0.000)*	----	----	-.396 *(0.005)*	-.426 *(0.000)*	----

Logtenure	.125 *(0.014)*	.145 *(0.005)*	.119 *(0.019)*	----	.057 *(0.358)*	.129 *(0.012)*	.139 *(0.008)*
Adjusted R^2	.362	.358	.391	.387	.067	.350	.339

	(22)	(23)	(24)	(25)	(26)	(27)	(28)
Capital	2.07 *(0.000)*	----	2.08 *(0.000)*	2.04 *(0.000)*	----	----	----
Logincome	2.05 *(0.000)*	----	----	.493 *(0.029)*	.507 *(0.061)*	1.88 *(0.000)*	1.64 *(0.000)*
Povertyrate	.099 *(0.000)*	----	----	----	----	.078 *(0.000)*	.071 *(0.001)*
Manufacturing	----	----	----	----	-.057 *(0.000)*	----	-.048 *(0.001)*
Republican	----	-.480 *(0.001)*	----	----	-.403 *(0.004)*	-.357 *(0.012)*	----
Logtenure	----	.060 *(0.339)*	.125 *(0.017)*	----	.071 *(0.254)*	.058 *(0.354)*	.050 *(0.416)*
Adjusted R^2	.384	.023	.331	.330	.066	.065	.074

	(29)	(30)	(31)	(32)	(33)	(34)	(35)
Capital	----	2.08 *(0.000)*	2.03 *(0.000)*	1.99 *(0.000)*	2.00 *(0.000)*	1.97 *(0.000)*	2.06 *(0.000)*
Logincome	1.50 *(0.000)*	----	----	----	.452 *(0.045)*	.403 *(0.071)*	1.91 *(0.000)*
Povertyrate	.063 *(0.002)*	.017 *(0.122)*	.019 *(0.072)*	.018 *(0.096)*	----	----	.090 *(0.000)*
Manufacturing	-.046 *(0.002)*	----	-.039 *(0.001)*	-.035 *(0.004)*	-.038 *(0.002)*	-.033 *(0.006)*	----
Republican	-.314 *(0.026)*	-.400 *(0.001)*	----	-.346 *(0.003)*	----	-.377 *(0.001)*	-.279 *(0.015)*
Logtenure	----	.120 *(0.000)*	.110 *(0.034)*	----	.134 *(0.010)*	----	----
Adjusted R^2	.083	.352	.351	.357	.358	.364	.397