Supporting Online Material for

Politics and Funding in the U.S. Public Biomedical R&D System

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Supporting Online Material

1. Examples of Transfers from the Departments of Labor, Health and Human Services, and Education and Related Agencies (LHHE) subcommittee of the Appropriations Committee meeting reports

1.1 Transfers among Institutes and Centers at the NIH

LHHE members frequently appropriate funds that exceed the requested amounts for some Institutes and Centers, while maintaining or reducing the appropriations for others. Members sometimes recommend the creation of new Institutes and Centers to increase the level of funding for research areas supported by these new entities. Members of the House LHHE subcommittee altered the inter-Institute allocations requested by the NIH Director in all but four (FY 1996–99 were the exceptions) of the 20 appropriations bills that they produced between 1984 and 2003.

For example, for FY1994, the House appropriated $269 million over the amount requested by the President for the NIH (total appropriations of $10,937 million). For that year, while all other Institutes and Centers received at least the amounts they sought, the National Center for Human Genome Research received less than its requested amount. The relevant part of the committee report observed:

> "The bill includes $119,030,000 for the National Center for Human Genome Research, which is a decrease of $12,895,000 under the comparable amount requested for fiscal year 1994 and $12,896,000 over the comparable 1993 appropriation. The Committee supports expansion of the activities of the Genome Center, but was unable because of budgetary constraints to allocate funding to finance the full increase proposed in the budget." (House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1994).

Since Institutes and Centers are aligned with particular areas of research, reallocations among institutes affect resources available for research in particular diseases. For example the House LHHE meeting report related to appropriations for the National Cancer Institute contained the following language:

> "The bill includes $1,998,616,000 for the National Cancer Institute, a decrease of $11,823,000 below the amount requested but $47,075,000 over the comparable 1992 appropriation. Within the amount provided, the Committee directs that funding for research targeted on breast, ovarian, cervical and prostate cancer be increased by not less than one third above the 1992 level. This action is expected to result in at least a $70 million increase for research in these critical areas." (House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1993).

1.2. Transfers among biomedical research fields:

A second type of transfer involves Subcommittee support for specific fields of biomedical research that often are linked to particular diseases. A typical report during the period of our study contained 20-30 instances of such field-level transfers for the larger institutes at the NIH.

Example 1.2.1:

> "Neurofibromatosis (NF) is one of the most common serious genetic disorders. At present, there is no known cure. It is imperative that the NINCDS vigorously pursue research and research training in this area, in cooperation with other institutes. Areas of significant importance include efforts aimed at locating the gene that causes NF, increasing our understanding of its variability, and evaluating the role of various growth and hormonal factors in relation to the NF. In addition, the committee looks forward to the first solicitation of research proposals in the phakomatoses in the fiscal year 1984." (Directions to the National Institute of Neurological Disorders and Stroke in the House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1984, p. 52).

Example 1.2.2:

> "LYME DISEASE. Lyme disease is the nation's leading tick-borne illness. It affects many systems of the body and can require expensive, long-term treatment in some patients unless they are diagnosed and treated early. The Committee encourages NIAID to conduct broader outreach to the medical, scientific, and voluntary organizations involved in Lyme disease research, treatment, prevention, and education in order to better understand the broad range of views about this illness and the plight of the patients affected by the disease." (Directions to the National Institute of Allergy and Infectious Diseases in the House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 2001).

Example 1.2.3

> "The Committee believes that the Institute should actively solicit and encourage quality grant applications for Battens disease research and that it continues to take the steps necessary to assure that a vigorous research program is initiated and sustained. The Committee has provided up to $2,000,000 within the funds available for Battens disease research."(Directions to the National Institute of Neurological Disorders and Stroke in the Senate Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1992).

1.3. Transfers to research projects

Project-level transfers affect funding allocations among particular lines of research and/or research projects within a given disease field and tend to be highly targeted. A typical report during the period of our study contained 15-20 instances of project-level reallocations for the larger institutes at the NIH.

Example 1.3.1

> "Testimony presented to the committee indicates that mycoplasmas may be one of the infection causes of rheumatoid disease. Some research results have shown that mycoplasmas are probable suspects, that they may have a special affinity for joint tissues, and that they are causative factors in animal studies. The committee suggests that the NIH continue to monitor the work underway in the area of mycoplasma treatment for arthritis and give full consideration to therapeutic research grant efforts directed towards this end." (Directions to the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases in the House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1985, p. 44).

Example 1.3.2

> "Hematology -- Clinical studies have demonstrated the benefits of recombinant erythroprotein, developed with NIDDK support, to treat anemia of dialyzed patients and thereby increase their energy and sense of well-being…. The Committee is fully supportive of this research and encourages further studies of the benefit of this and other treatments on these patients. (Directions to the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases in the House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1989, p. 61).

Example 1.3.3

> "Study of campaign contributions. The Committee was disturbed to learn that NCI has funded a research grant studying tobacco industry campaign contributions to State legislators and voting records by those individuals on tobacco control initiatives. While the Committee is not rendering judgment on the merits of the grant proposal, it feels strongly that such research projects do not properly fall within the boundaries of the NCI portfolio, especially when nearly three-quarters of approved research projects go unfunded. Accordingly, the Committee does not provide any further funding for this research grant within the NCI appropriation." (Directions to the National Cancer Institute in the House Appropriations Committee meeting report related to the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, FY 1996).

2. The data

The primary data for this study are drawn from the National Institute of Health's "Consolidated Grant Applicant File" (CGAF) database which contains a record of every research proposal for which a grant was made by the NIH. After eliminating awards that supported "intramural" activities and research in non-U.S. locales, we identified 8,310 unique institutional recipients of NIH grants during the years 1984–2003. For each of these 20 years, we gathered the annual dollar amount of awards received by the 8,310 institutional research performers. These awards represent about 95% of the NIH's total extramural grants for the period. We identified the states of location of the 8,310 NIH research performers from their ZIP codes.

We collected data on congressional Appropriations Committee membership (members, congressional years, and the states they represent) from congressional directories for the years between 1983 and 2002. We then matched the appropriations committee data for each state and congressional year to the corresponding NIH grant receipts of the 8,310 research performers. Hence, for example, the House and Senate Appropriations Committee composition data for the 107th Congress (years 2001 and 2002) are matched to the NIH grants made during the years 2002 and 2003. Arranged in this manner, each row of our final "pooled cross-sectional" data contains the funds received by a research performer "*i*" during the congressional year "*t*", and the corresponding representation information for the performer's state for the Congress. Because not all 8,310 research performers received NIH funds during all the 10 congressional years between 1983 and 2002, we have 22,720 observations.

3. Empirical model

To test the influence of committee members on the amount of peer-reviewed funds for biomedical R&D received by performers, we estimate a "fixed effects" pooled least squares regression of the form:

$$\log(GRANT)_{ijt} = \alpha + \beta_1 HAC\_LHHE_{jt} + \beta_2 HAC\_nonLHHE_{jt} + \beta_3 SAC\_LHHE_{jt} + \beta_4 SAC\_nonLHHE_{jt} + \delta T_t + C_i + u_{ijt} \quad (1)$$

where "*i*" indexes the research performer receiving NIH grants, "*j*" the state of the research performer's location, and "*t*" the congressional year of the grant. The dependent variable is a logged measure of NIH research grant dollars. *HAC_LHHE* is the number of House appropriations committee members (from the state *j*) in the LHHE subcommittee, *HAC_nonLHHE* is the number of House appropriations committee members in subcommittees other than the LHHE. *SAC_LHHE* is the number of Senate appropriations committee members in the LHHE subcommittee, *SAC_nonLHHE* is the number of Senate appropriations committee members in subcommittees other than the LHHE.

We include research performer effects C_i to capture unobserved effects such as the research quality of performers, their size, or location in a state with a high demand for biomedical research funds to receive NIH funds. To eliminate the possibility of inferring a spurious relationship between performer receipts of NIH funds and representation simply because the two variables are trending up with time, we include *T* to capture trends in NIH grants that are common across all grant recipients.

4. Results

4.1 Baseline estimates and robustness checks

Table S1 presents pooled least squares estimates of the effect of LHHE and other HAC and SAC membership on the NIH's peer-reviewed biomedical research funds received by research performers represented on either chamber's LHHE subcommittee and other subcommittees of the appropriations committee. Column 1 estimates suggests that research performers in the states of House LHHE subcommittee members receive 5.3% more research funds than unrepresented performers. Other House appropriations committee members (i.e., non-LHHE HAC members) and Senate LHHE members have no statistically significant effect, but non-LHHE Senators increase the receipts of represented states by 5.3%.

To investigate this surprising result, we performed a sensitivity analysis to test the effect of individual congressional appropriators on our estimates. This analysis revealed that while no single HAC-LHHE member individually drives the HAC-LHHE effect, the effect of non-LHHE SAC members can be exclusively attributed to Senator Alfonse D'Amato. Alfonse D'Amato represented New York as a member of various non-LHHE subcommittees of the SAC through 1994 during the period of this study and was known as "Senator Pothole" for his delivery of constituency services. Column 2 of Table 1 and remaining estimations hence separate the effect of "outlier" D'Amato from those of other committee members by including a dummy variable to capture the former's effect. These estimates indicate the returns to House LHHE subcommittee membership as 5.9%. Hence, we conclude that barring the exceptional effect of Senator D'Amato, House LHHE members are more successful than their Senate counterparts in influencing the reallocation of NIH funds to benefit research performers in their states.

Next, we performed a series of robustness checks to control for the structure of the grant allocations process that may be systematically correlated with both representation and amount of grant receipts. Column 3 of Table S1 adds previous-year grant receipts to the specification in

Column 2 to control for spurious influences of multiyear grants and other dynamic grant related dynamic effects that are not captured by the time-constant performer fixed effects. Column 4 reports estimates with logged previous year funding in place of previous year dollar amounts (the log is transformed to 1+ previous year amount to include performers that did not receive any funding during the previous year). The number of observations does not drop in specifications that incorporate lagged values because we collected information on grants received by performers during the Congress-year 1981–82.

Finally, we limit the sample of research performers to those that received grants in more than one congressional year to identify the effect of representatives solely from observations with time variation in grant receipts and representation (Column 5). In summary, we find the influence of HAC LHHE members to be robust at 5.9% (in models that control for D'Amato) and statistically significant at the 99% confidence level.

The Table presented in the paper uses baseline estimates (from Column 2 of Table S1) to compute the total amount of additional funds received by institutions due to committee membership by using:

$$\sum_{ij} GRANT_{ij} \times \hat{\beta} \times REP_j$$

where $\hat{\beta}$ are the estimated coefficients of representation. *REP* indicates representatives that had a statistically significant effect (at $P < 0.01$) in estimations presented in Table S1 (HAC-LHHE members and Al D'Amato – See Table S2 below). We also calculated 95% confidence intervals for these estimates by using the standard errors of estimated coefficients. The coefficients and Huber-White standard errors (standard errors that are adjusted for covariance of error terms across observations) are estimated using the statistical software Stata.

4.2 Effect of representation for different types of research performers

Table S3 reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-years on the number of representatives in the research performer's states for various appropriations committee offices. Each column reports the effects of representation on the type of research performer indicated in the column headers. The estimates reported here use the set of variables specified in Column 2 of Table S1 although we have checked and confirmed that these estimates change only negligibly with the alternative specifications mentioned above.

4.3 Effect of representation for different types of research funds

Table S4 reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-years on the number of representatives in the research performer's states for the two major types of NIH awards on which we have data.

Note: "R-series" grants or awards for research projects make up the largest category of activities funded by the NIH (about 60% of the total NIH extramural grants). A second substantial category funds research centers and programs at research institutions (about 20% of the total NIH extramural grants). R-series grants are further divided into several subcategories: R01 is the traditional research grant supporting research initiated by investigators associated with research institutions. Research institutions typically are responsible for providing facilities necessary to conduct the research proposed by the investigator and are accountable for the grant funds. R03 or "Small Research Grants" support small

research projects such as pilot or feasibility studies and secondary analysis of existing data. R21 or exploratory/developmental research grants seek to broaden the base of inquiry in fundamental biomedical research. R41 to R44 are associated with the Small Business Innovation Research and Technology Transfer grants (SBIR and STTR), and so on. "P-" series awards can be P01 to support multidisciplinary or multifaceted research programs that have a focused theme; P30 -Center Core Grants support shared use of resources and facilities for research by investigators from different disciplines who pursue a multidisciplinary approach to a joint research effort, or by investigators from the same discipline who focus on a common research problem, etc.

4.4 Effect of representation on funding of research performers in different quartiles of the distribution of Institute grants

To test the extent to which an institution's historical strength in R&D mediates the influence of subcommittee membership on its NIH funding, we extend the model in (1) as follows. We use R&D performers' grants from individual NIH Institutes as a proxy for these performers' strength in specific research fields. This extended empirical model can be stated as follows:

$$\log(GRANT)_{ijkt} = \alpha + \beta_1 HAC\_LHHE_{jt} + \delta QUARTILE_{ijkt-1} + \theta(HAC\_LHHE_{jt} * QUARTILE_{ijkt-1}) + \beta_2 HAC\_nonLHHE_{jt} + \beta_3 SAC\_LHHE_{jt} + \beta_4 SAC\_nonLHHE_{jt} + \chi T_t + C_i + D_k + u_{ijkt} \quad (2)$$

where "*i*" indexes the research performer, "*j*" the state, and "*t*" the years of grant receipts as before. "*k*" represents the biomedical research field (based on the NIH Institute responsible for the grants). The dependent variable is a logged measure of the research funding received by performer "*i*" in state "*j,*" field "*k*" and year "*t*." *HAC_LHHE* is the number of HAC-LHHE members from the research performer's state. *QUARTILE* is the variable that proxies for a research performer's relative "strength" in a particular biomedical research field and is based on the performer's share of previous funding from a given Institute. Placements in lower quartiles (Quartiles 1 and 2) reflect low strength or a lower share of funding in the corresponding field-related institute and placements in top-quartiles (Quartiles 3 and 4) reflect historical strength in the corresponding field of biomedical research.

As in Eq. 1, the right-hand side includes variables that capture trends in NIH grants that are common across all recipients and research performer effects "C_i"control for time-constant performer- and state characteristics related to representation as discussed in a previous section. In addition, intercepts for the different institutes at the NIH "D_k" hold constant unobserved biomedical research field-specific attributes such as the health burden or importance of biomedical research fields that influence grant receipts and LHHE membership. Because our baseline results suggested that the primary source of influence was the House LHHE committee, we focus on the effect of *HAC_LHHE* variable and control for representation in other House and Senate positions.

Table S5 reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-biomedical field-years (1 congressional year or 2 grant years) on the number of LHHE and other appropriations committee representatives in the research performer's states. Quartiles are based on lagged receipts of R&D dollars received by the research performer in the biomedical field. Quartile-1 represents the lowest "strength" group (omitted base group) and Quartile-4 the highest. The coefficients on the interaction terms of the four quartiles with HAC LHHE membership capture the relationship between the strength of the fields favored for funding by the representatives.

TABLE S1: LEAST SQUARES REGRESSION ESTIMATES OF RETURNS TO HOUSE AND SENATE COMMITTEE REPRESENTATION
(98th – 107th CONGRESS OR FY1984–2003)

dependent variable = log of Total NIH grant $					
	–1	–2	–3	–4	–5
HAC LHHE members	0.053	0.059	0.059	0.059	0.059
	[0.018]**	[0.018]**	[0.018]**	[0.018]**	[0.017]**
Other HAC members	0.024	0.027	0.026	0.026	0.026
	[0.013]	[0.013]*	[0.013]*	[0.013]*	[0.012]*
SAC LHHE members	-0.002	-0.024	-0.027	-0.027	-0.027
	[0.030]	[0.031]	[0.031]	[0.031]	[0.028]
Other SAC members	0.053	0.009	0.006	0.006	0.006
	[0.023]*	[0.025]	[0.025]	[0.025]	[0.024]
trend	0.14	0.144	0.139	0.138	0.138
	[0.004]**	[0.004]**	[0.004]**	[0.004]**	[0.004]**
Al D'Amato		0.25	0.239	0.237	0.237
		[0.063]**	[0.063]**	[0.063]**	[0.059]**
Previous year receipts (in B$)			2.329		
			[0.365]**		
Log of previous year receipts				3.096	3.096
				[0.456]**	[0.425]**
Constant	12.166	12.138	12.159	12.162	12.423
	[0.038]**	[0.039]**	[0.039]**	[0.039]**	[0.037]**
Research performer FE	Y	Y	Y	Y	Y
N of performers	8310	8310	8310	8310	5115
Observations	24492	24492	24492	24492	16328
R^2	0.88	0.88	0.88	0.88	0.89

Table S1 Notes: The table contains estimates from pooled least squares regressions of the logged R&D dollars received by research performer-fiscal years on the number of representatives in the research performer's states for the various appropriations committee offices during the corresponding congressional appropriations years (1 congressional year = 2 fiscal years; hence congressional committee composition for years 1983–84, or the 98th Congress, is matched with research receipts of performers during 1984–85, and so on). Column 1 contains estimates of House & Senate representation with performer-fixed effects. We checked the sensitivity of our results to the influence of individual HAC & SAC members and found Senator Alfonso D'Amato (NY state, Other SAC member b/w 1984 and 1994 in the dataset) to be an outlier in terms of non-LHHE SAC members' influence on the allocation of NIH grants. Hence, column 2 (and following results) reports separately the effect of Senator Alfonso D'Amato. Column 3 reports estimates with past congressional year receipts of research performers (in B$) added on the RHS. Column 4, instead of using $ amounts of past year receipts, uses log amounts. Column 5 reports estimates with a sample that explicitly drops research performers that received funding during one congressional year and hence had no time series variation. R^2 correlation coefficient. Robust standard errors in brackets; *significant at 5%; **significant at 1%.

TABLE S2: ESTIMATES OF HOUSE AND SENATE APPROPRIATIONS COMMITTEE MEMBERSHIP EFFECTS IN BILLION $ (97th – 107th CONGRESS OR 1984–2003)

Congress year	HAC-LHHE effect (B$)	Al D'Amato effect (B$)	Total political effect (B$)	Total allocations (B $)	Political effect as% of Total
1983-84	0.29	0.28	0.57	8.46	6.74
	(±0.17)	(±0.14)	(±0.31)		±(3.66)
1985-86	0.35	0.33	0.68	10.45	6.50
	(±0.21)	(±0.16)	(±0.38)		±(3.63)
1987-88	0.43	0.39	0.81	12.80	6.33
	(±0.26)	(±0.19)	(±0.45)		±(3.51)
1989-90	0.49	0.42	0.91	14.95	6.09
	(±0.29)	(±0.21)	(±0.5)		±(3.34)
1991-92	0.55	0.46	1.01	16.81	6.01
	(±0.33)	(±0.23)	(±0.56)		±(3.33)
1993-94	0.7	0.48	1.18	18.73	6.30
	(±0.42)	(±0.24)	(±0.66)		±(3.52)
1995-96	0.74	0	0.74	20.43	3.62
	(±0.44)		(±0.44)		±(2.15)
1997-98	0.69	0	0.69	24.24	2.85
	(±0.42)		(±0.42)		±(1.73)
1999-00	1.13	0	1.13	30.44	3.71
	(±0.67)		(±0.67)		±(2.20)
2001-02	1.66	0	1.66	37.35	4.44
	(±0.99)		(±0.99)		±(2.65)

Table S2 Notes: The table uses the statistically significant (at 99% or above C.I.) estimates of LHHE and other appropriations committee representatives on the receipts of represented research performers to calculate the additional amounts received by research performers in the states of committee members, ceteris paribus . The fourth column reports the total extramural peer reviewed allocations made by the NIH during the corresponding congressional year (two fiscal years). Figures in parentheses indicate 95% confidence intervals calculated from regression coefficient estimates and standard errors.

TABLE S3: POOLED LEAST SQUARES ESTIMATES OF RETURNS TO COMMITTEE REPRESENTATION BY RESEARCH PERFORMER TYPE (98^{th} – 107^{th} CONGRESS OR FY1984–2003)

Dependent variable = log of Total NIH grant $					
	Public U.	Private U.	Small B.	Large B.	Nonprofits
HAC LHHE members	0.088	0.02	0.103	-0.233	0.031
	[0.032]**	[0.033]	[0.034]**	[0.263]	[0.030]
Other HAC members	0.018	0.044	0.012	0.202	0.01
	[0.019]	[0.023]	[0.026]	[0.219]	[0.023]
SAC LHHE members	0.046	-0.066	-0.099	0.043	0.008
	[0.042]	[0.077]	[0.060]	[0.488]	[0.053]
Other SAC members	-0.015	-0.057	-0.007	0.519	0.041
	[0.034]	[0.058]	[0.050]	[0.298]	[0.049]
Al D'Amato	0.185	0.322	-0.004	-0.175	0.25
	[0.104]	[0.125]*	[0.153]	[0.604]	[0.099]*
Trend	0.15	0.103	0.193	-0.096	0.13
	[0.005]**	[0.007]**	[0.009]**	[0.056]	[0.007]**
Constant	13.841	13.251	11.049	13.569	12.594
	[0.044]**	[0.077]**	[0.088]**	[0.488]**	[0.072]**
Research performer FE	Y	Y	Y	Y	Y
N of performers	438	433	5311	175	1953
Observations	2963	2210	12050	517	6752
R^2	0.94	0.95	0.71	0.75	0.88

Table S3 Notes: This table reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-years on the number of representatives in the research performer's states for various appropriations committee offices. Each column reports the effects of representation on the type of research performer indicated in the column headers. Robust standard errors in brackets; *significant at 5%; **significant at 1%.

TABLE S4: POOLED LEAST SQUARES ESTIMATES OF RETURNS TO HOUSE COMMITTEE REPRESENTATION FOR R-TYPE & P-TYPE FUNDS
(98^{th} – 107^{th} CONGRESS OR 1984–2003)

dependent variable = log of Total NIH grant $	log R-grant $	log R01-grant $	log P-grant $
HAC LHHE members	0.044	0.016	-0.008
	[0.018]*	[0.018]	[0.023]
Other HAC members	0.032	0.045	0.027
	[0.013]*	[0.012]**	[0.019]
SAC LHHE members	-0.018	0.001	-0.055
	[0.029]	[0.030]	[0.050]
Other SAC members	0	0.018	-0.04
	[0.026]	[0.027]	[0.042]
AlDAmato	0.288	0.253	0.678
	[0.065]**	[0.058]**	[0.105]**
trend	0.166	0.15	0.152
	[0.004]**	[0.003]**	[0.005]**
Constant	11.895	13.346	14.353
	[0.040]**	[0.037]**	[0.056]**
Research performer FE	Y	Y	Y
N of performers	6770	7528	457
Observations	19378	0.93	2659
R^2	0.89	0.92	0.88

Table S4 Notes: This table reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-years on the number of representatives in the research performer's states for various appropriations committee offices. Each column reports the effects of representation on the type of research fund indicated in the column headers. R-type funds support all types of Research Project" grants, R01 grants particularly support research initiated by investigators associated with research institutions and P-type funds are the "Program Projects and Centers" grants.
Robust standard errors in brackets; *significant at 5%; **significant at 1%.

TABLE S5: RETURNS TO HOUSE COMMITTEE REPRESENTATION BY RESEARCH STRENGTH OF BIOMEDICAL RESEARCH FIELD (98th–107th CONGRESS OR FY1984-03)

dependent variable = log of Total NIH grant $	
HAC LHHE X QUARTILE1	0.036
	[0.016]*
HAC LHHE X QUARTILE2	0.064
	[0.015]**
HAC LHHE X QUARTILE3	-0.002
	[0.013]
HAC LHHE X QUARTILE4	-0.004
	[0.012]
QUARTILE2	0.286
	[0.016]**
QUARTILE3	0.904
	[0.017]**
QUARTILE4	2.335
	[0.019]**
Other HAC MEMBERS	0.013
	[0.006]*
SAC LHHE members	0.003
	[0.015]
Other SAC members	-0.002
	[0.013]
Al D'Amato	0.096
	[0.031]**
TREND	0.103
	[0.002]**
Constant	12.037
	[0.073]**
PERFORMER FE	Y (8310)
INSTITUTE FE	Y (20)
Observations	70706
R^2	0.77

Table S5 Notes: This table reports estimates from pooled least squares regressions of the logged R&D dollars received by research performer-biomedical field-years (1 congressional year or 2 grant years) on the number of LHHE and other appropriations committee representatives in the research performer's states. Quartiles are based on lagged receipts of R&D dollars received by the research performer in the biomedical field. Quartile-1 represents the lowest recipient group (omitted base group) and Quartile-4 the highest. The coefficients on the interaction terms of the four quartiles with HAC LHHE membership capture the relationship between the strength of the fields and LHHE representation.*significant at 5%; **significant at 1%.