

# Getting Ahead in Academe: Very Preliminary Results on the Dimensions of Quality

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# I. Background

- Past research shows books, numbers of publications not very important
- Quality, measured by recognition, is what matters
- Main outcomes have been salary, status

# II. The Question

- Define quality as impressions made
- Psychology experiments on memory—suggestive, but not on point
- Does concentration of impressions matter—singles vs. a home run (for same RBIs)?



# III. Theoretical Alternatives

- One-sided matching—quality of dept is given, it chooses “players” along quality dimensions. What are returns to quality dimensions in this hiring—what are depts’ preferences?
- Two-sided matching—dept preferences and personal quality interact to generate outcomes. What are reduced-form returns to quality dimensions? Can one identify structure on each side of the market?

# IV. The Data

- Sample: All fulls in “Stengos-ranked” U.S. depts, observed 2007-08. 1339 faculty in 86 depts
- Count number of cites to articles, cites to each of person’s five most-cited articles as quality, number of articles as quantity
- Measure outcomes as:
  - 1) Stengos-ranking of dept—clearly two-sided. Endogeneity problems
  - 2) “Honored”—Nobel, Clark, AEA Pres or Distinguished Fellow— one-sided
  - 3) Moved—one sided.
  - 4) NRC ranking of dept in 1993—one-sided if concentrate on those not present in 1992

Simple characteristics of the sample—86 schools in  
U.S.

Tiny fraction honored, larger depts have higher  
rankings

**Table 1. Means and Their Standard Deviations, Outcome Measures, Full Professors in Top-Rated Departments, 2007-08, N=1339**

**Outcome**

Stengos-Ranking	61.16 (55.6)
NRC93Quality	3.25 (1.02)
Moved 93-08 (N=919 eligibles)	0.210
Honored	0.033
Honored (w/o Clark)	0.027

Tremendous skewness of all citation measures

Even at top, most-cited persons not identical to authors of most-cited articles



**Table 2. Descriptive Statistics, Personal Measures, Full Professors in Top-Rated Departments, 2007-08, N=1339**

Input	Mean	Minimum	Percentile					Maximum
			5	25	50	75	95	
Citations:								
Total	713	0	31	137	320	738	2614	14232
1st Paper	155	0	10	33	74	160	515	4580
2nd Paper	86	0	6	22	45	97	271	2212
3rd Paper	61	0	4	15	33	69	195	1059
4th Paper	48	0	2	12	26	55	156	879
5th Paper	39	0	1	9	21	44	132	717
No. Entries	32.14	1	7	14	24	39	84	283
Female	0.06							
No. of Full Professors	19.52	3	7	13	17	24	39	39

**Table 3. Top 20 Cited Authors, Top 20 1st Most Cited Papers**

<b>AUTHOR</b>	<b>Total Cites</b>	<b>AUTHOR</b>	<b>1st Most Cited Paper</b>
Stiglitz, Joseph E.	14232	White, Halbert L.	4580
Engle, Robert F.	12301	Engle, Robert F.	3592
Shleifer, Andrei	11038	Granger, Clive W.J.	3592
Becker, Gary S.	11010	Heckman, James J.	3201
Phillips, Peter C.B.	10805	Hausman, Jerry A.	2073
Heckman, James J.	10522	Newey, Whitney K.	1781
Barro, Robert J.	9941	West, Kenneth D.	1781
Lucas, Robert E.	9630	Akerlof, George A.	1746
Granger, Clive W.J.	8966	Hansen, Lars Peter	1738
White, Halbert L.	7834	Lucas, Robert E.	1681
Ross, Stephen	7082	Becker, Gary S.	1570
Milgrom, Paul R.	6945	Bollerslev, Tim	1568
Hausman, Jerry A.	6790	Phillips, Peter C.B.	1364
Williamson, Oliver E.	5963	Perron, Pierre	1364
Hansen, Lars Peter	5279	Sims, Christopher A.	1334
Feldstein, Martin	5252	Nelson, Charles R.	1197
Prescott, Edward C.	5166	Barro, Robert J.	1154
Hart, Oliver	5115	Stiglitz, Joseph E.	1147
Bollerslev, Tim	5021	Dixit, Avinash K.	1094
Stock, James H.	4973	Holmstrom, Bengt R.	1063

Stengos-ranking of dept—clearly two-sided.

Endogeneity problems

- 2) “Honored”—Nobel, Clark, AEA Pres or Distinguished Fellow—one-sided
- 3) Moved—one sided.
- 4) NRC ranking of dept in 1993—one-sided if concentrate on those not present in 1992

# Table 4—Stengos-Ranking

- Skewness matters—ranks better than linear or quadratic—Tournaments??
- Clearly, concentration helps
- No effect of quantity
- Total matters more at top quartile
- No alphabetical or female effect

**Table 4. Effects of Total Citations and Most-Cited Paper on Departmental Rankings, N = 1114**

	1	2	3	4	Top 5	Quartile Median 6	Bottom 7
<b>Personal Measure</b>							
Total Citations/100	-0.423 (0.269)	-1.175 (0.532)					
Total Citations <sup>2</sup> /100		0.0093 (0.0036)					
Citations to Most-Cited Paper/100	-1.202 (0.845)	-2.925 (1.119)					
Citations to Most-Cited Paper <sup>2</sup> /100		0.0629 (0.0236)					
Total Citations Rank			0.0143 (0.0101)	-0.0066 (0.0163)	0.0135 (0.0060)	0.0080 (0.0097)	0.0198 (0.0136)
Citations to Most-Cited Paper Rank			0.0293 (0.0126)	0.0206 (0.0099)	0.0058 (0.0051)	0.0279 (0.0089)	0.0428 (0.0128)
Citations to Second-Most Cited Paper Rank				0.0294 (0.0155)			
No. of Entries	-0.012 (0.065)	0.016 (0.070)	0.0199 (0.0487)	-0.0043 (0.0458)	-0.0165 (0.0350)	-0.0165 (0.0056)	0.0192 (0.0761)
Year of 1st Paper	-0.471 (0.147)	-0.550 (0.144)	-0.607 (0.148)	-0.598 (0.147)	-0.374 (0.096)	-0.5449 (0.1470)	-0.9298 (0.1939)
No. of Full Professors	-2.771 (0.500)	-2.57 (0.511)	-2.485 0.478	-2.461 (0.480)	-1.431 (0.085)	-2.083 (0.168)	-2.524 (0.261)
R <sup>2</sup>	0.304	0.325	0.364	0.369	0.156	0.233	0.272

\*Standard errors in parentheses. The sample is restricted to individuals in departments with 10 or more full professors. Robust standard errors in Columns (1)-(4). Also included in the regressions are: Rank in the alphabet and an indicator for female.

# Table 5--Honors

- Total citations matter most. Some effect of most-cited
- No effect of quantity
- Clean measure w/o Clark is only the old—but results are the same

**Table 5. Effects of Total Citations and Most-Cited Paper on Honors, Probit Derivatives, N=1258**

	1	2	3	4	5	6
		<b>All Honors</b>			<b>Without Clark</b>	
<b>Personal Measure</b>						
Total Citations/1000	0.253 (0.076)	0.516 (0.170)		0.291 (0.095)	0.616 (0.237)	
(Total Citations/1000) <sup>2</sup>		-0.031 (0.011)			-0.036 (0.014)	
Citations to Most-Cited Paper/1000	0.287 (0.271)	0.782 (0.661)		0.387 (0.323)	1.125 (0.906)	
(Citations to Most-Cited Paper/1000) <sup>2</sup>		-0.162 (0.146)			-0.207 (0.191)	
Total Citations Rank			-0.0020 (0.00097)			-0.0025 (0.0015)
Citations to Most-Cited Paper Rank			-0.00106 (0.00077)			-0.0026 (0.0012)
No. of Entries/100	0.122 (0.247)	0.117 (0.264)	0.0010 (0.0013)	-0.102 (0.287)	-0.075 (0.316)	0.00324 (0.00315)
Pseudo-R <sup>2</sup>	0.399	0.440	0.433	0.592	0.634	0.652

\*Standard errors in parentheses.

Also included in the regressions are: Rank in the alphabet, year of first published paper

## Table 6 Moved?

- Had to have first paper before 1986
- Quantity matters
- Most-cited effect is *negative*
- Ranking matters more than level



**Table 6. Effects of Total Citations and Most-Cited Paper on Moving Between 1992 and 2007, Probit Derivatives, N=871 Eligibles**

	1	2	3
<b>Personal Measure</b>			
Total Citations/1000	0.051 (0.020)	0.109 (0.036)	
(Total Citations/1000) <sup>2</sup>		-0.0074 (0.0026)	
Citations to Most-Cited Paper/1000	-0.146 (0.078)	0.120 (0.199)	
(Citations to Most-Cited Paper/1000) <sup>2</sup>		-0.211 (.115)	
Total Citations Rank			-0.00043 (.0001)
Citations to Most-Cited Paper Rank			.00016 (.00009)
No. of Entries/100	0.227 (0.052)	0.196 (.052)	0.131 (.050)
Year of 1st Paper	0.0188 (0.0021)	0.0186 (.0021)	0.0186 (.0021)
Pseudo-R <sup>2</sup>	0.115	0.145	0.157

\*Standard errors in parentheses.

# Table 7—1993 Rating Matched to “New Hires”

- Weaker results; but both matter
- No effect of *quantity*—*except at the upper quartile*
- Here and Table 4—year of 1<sup>st</sup> paper—what have you done for me later?!

**Table 7. Effects of Total Citations and Most-Cited Paper on  
1993 Departmental Rankings, N = 313 Movers**

	1	2	3	4	25th% 5	Quantile Regressions Median 6	75 <sup>th</sup> % 7
<b>Personal Measure</b>							
Total Citations/100	0.0177 (.0103)	0.0490 (.0146)					
(Total Citations/100) <sup>2</sup>		-0.00022 (.000071)					
Citations to Most-Cited Paper/100	0.00063 (.044)	0.0157 (.0722)					
(Citations to Most-Cited Paper/100) <sup>2</sup>		-0.0071 (.0044)					
Total Citations Rank			-0.00074 (.000374)	-0.000027 (.00052)	-0.00036 (0.00028)	-0.00046 (0.00039)	-0.00114 (0.00045)
Citations to Most-Cited Paper Rank			-0.00002 (.000366)	0.00027 (.00031)	-0.00030 (0.00027)	-0.000071 (0.000351)	0.00018 (0.00037)
Citations to Second-Most Cited Paper Rank				-0.00099 (.00042)			
No. of Entries/100	-0.0771 (.229)	-0.297 (.242)	0.00004 (.0021)	0.0789 (0.215)	0.0694 (0.1840)	0.347 (0.224)	0.0020 (0.0025)
Year of 1st Paper	0.0332 (.0085)	0.039 (.0086)	0.0419 (.00930)	0.0412 (0.0092)	0.0321 (0.0050)	0.0378 (0.0073)	0.0578 (0.0096)
No. of Full Professors	0.0761 (.0083)	0.0717 (.0082)	0.0756 (.0082)	0.0745 (0.0080)	0.0884 (0.0039)	0.06806 (0.0063)	0.0615 (0.0069)
R <sup>2</sup>	0.534	0.556	0.551	0.560	0.360	0.385	0.323

\*Standard errors in parentheses. Robust standard errors  
in Columns (1)-(4)

Also included in the regressions are: Rank in the alphabet and an indicator for female.